OCTA

BOARD AGENDA

Board Members
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Andrew Do
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Brian Goodell
Patrick Harper
Michael Hennessey
Steve Jones
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Joseph Muller
Tam Nguyen
Vicente Sarmiento
Donald P. Wagner
Ryan Chamberlain

Orange County Transportation Authority
Board Room
550 South Main Street
Orange, California
Monday, June 13, 2022 at 9:00 a.m.

Any person with a disability who requires a modification or accommodation in order to participate in this meeting should contact the Orange County Transportation Authority (OCTA) Clerk of the Board's office at (714) 560-5676, no less than two business days prior to this meeting to enable OCTA to make reasonable arrangements to assure accessibility to this meeting.

Agenda Descriptions

Agenda descriptions are intended to give members of the public a general summary of items of business to be transacted or discussed. The posting of the recommended actions does not indicate what action will be taken. The Committee may take any action which it deems to be appropriate on the agenda item and is not limited in any way by the notice of the recommended action.

Public Availability of Agenda Materials

All documents relative to the items referenced in this agenda are available for public inspection at www.octa.net or through the Clerk of the Board's office at the OCTA Headquarters, 600 South Main Street, Orange, California.

Meeting Access and Public Comments on Agenda Items

Members of the public can either attend in-person (subject to OCTA's Coronavirus (COVID-19) safety protocols) or listen to audio live streaming of the Board and Committee meetings by clicking the below link:

https://www.octa.net/About-OCTA/Who-We-Are/Board-of-Directors/Live-and-Archived-Audio/

Members of the public may address the Board of Directors regarding any item in two ways:

In-Person Comment

Members of the public may attend in-person (subject to OCTA's COVID-19 safety protocols) and address the Board regarding any item. Members of the public will be required to complete a COVID-19 symptom and temperature screening.

Please complete a speaker's card and submit it to the Clerk of the Board (or notify the Clerk of the Board the item number on which you wish to speak). Speakers will be recognized by the Chairman at the time the agenda item is to be considered. A speaker's comments shall be limited to three minutes.

Written Comment

Written public comments may also be submitted by emailing them to ClerkOffice@octa.net, and must be sent by **5:00 p.m. the day prior to the meeting**. If you wish to comment on a specific agenda Item, please identify the Item number in your email. All public comments that are timely received will be part of the public record and distributed to the Board. Public comments will be made available to the public upon request.

Call to Order

Invocation
Director Wagner

Pledge of Allegiance
Director Nguyen

OCTA

BOARD AGENDA

Special Calendar

Orange County Transportation Authority Special Calendar Matters

1. Public Hearing on Orange County Transportation Authority's Fiscal Year 2022-23 Budget and Personnel and Salary Resolution
Victor Velasquez/Andrew Oftelie

Overview

The Orange County Transportation Authority Fiscal Year 2022-23 Budget presents a balanced plan of sources and uses of funds while providing for the current and future transportation needs of Orange County. The Board of Directors may approve the Orange County Transportation Authority Fiscal Year 2022-23 Budget following the public hearing to be held at the Board of Directors' meeting on June 13, 2022, at the following Board of Directors' meeting on June 27, 2022, or in a special meeting convened at their discretion, on or before June 30, 2022. The Board of Directors are also asked to approve changes to the Personnel and Salary Resolution as part of the budget approval process.

Recommendations

A. Approve by Resolution the Orange County Transportation Authority's Fiscal Year 2022-23 Budget.

B. Approve the Personnel and Salary Resolution for fiscal year 2022-23.

C. Authorize the Chief Executive Officer, or his designee, to negotiate and execute the software and hardware licensing, maintenance, and emergency support purchase orders, and/or agreements.

D. Approve fiscal year 2022-23 Orange County Transportation Authority member agency contribution to the Southern California Regional Rail Authority, operating subsidy, in an amount up to $46,167,104, including authorization of federal funding to be drawn down directly by the Southern California Regional Rail Authority, in an amount up to $46,167,104, which includes federal supplemental funding of $26,624,520. In addition, approve the capital and rehabilitation expenditure budget contingent upon all member agencies' approval of their respective capital and rehabilitation budgets. The Orange County Transportation Authority portion of the costs for capital is $3,447,350 and $27,237,610 for rehabilitation.

Consent Calendar (Items 2 through 27)

All matters on the Consent Calendar are to be approved in one motion unless a Board Member or a member of the public requests separate action on a specific item.

Orange County Transportation Authority Consent Calendar Matters

2. Approval of Minutes

Approval of the Orange County Transportation Authority and affiliated agencies' regular meeting minutes of May 23, 2022.

3. Amendment to Cooperative Agreement with the County of Orange, Orange County Sheriff's Department
Jennifer L. Bergener/Katrina L. Faulkner

Overview

The Orange County Transportation Authority contracts with the County of Orange, Orange County Sheriff's Department to provide Transit Police Services. On July 13, 2020, the Board of Directors approved a five-year agreement with the County of Orange, Orange County Sheriff's Department, to provide these services. The contract is required to be amended annually to include the necessary firm-fixed cost for each fiscal year. Board of Directors' approval is requested to amend the agreement to include necessary funding for fiscal year 2022-23.

Recommendation

Authorize the Chief Executive Officer to negotiate and execute Amendment No. 3 to Cooperative Agreement No. C-0-2330 between the Orange County Transportation Authority and County of Orange, Orange County Sheriff's Department, in the amount of $11,674,866, for Transit Police Services, effective July 1, 2022, through June 30, 2023. This will increase the maximum obligation of the agreement to a total contract value of $33,414,261.

4. Amendments to the Cooperative User Fee Processing Agreement for Interoperable Toll Processing and Revenue Collection
Kirk Avila

Overview

The Orange County Transportation Authority enters into a cooperative user fee processing agreement with other California toll agencies to facilitate the interoperability process for toll collection. The agreement establishes a reciprocal arrangement for the exchange of data and establishes a settlement process for the exchange of funds between the toll agencies.

Recommendations

A. Authorize the Chief Executive Officer to negotiate and execute Amendment No. 9 to Agreement No. C-6-1510 between the Orange County Transportation Authority and Transportation Corridor Agencies, to extend the term until such time either agency no longer operates the toll facility.

B. Authorize the Chief Executive Officer to negotiate and execute Amendment No. 2 to Agreement No. C-2-1960 between the Orange County Transportation Authority and Los Angeles County Metropolitan Transportation Authority, to extend the term until such time either agency no longer operates the toll facility.

5. Agreement for Treasury Management Software System
Robert Davis/Andrew Oftelie

Overview

The Orange County Transportation Authority seeks the services of a firm for a treasury management software system to assist in compliance monitoring, performance measurement, audit, and reporting of the Orange County Transportation Authority's investment portfolio. A competitive procurement has been conducted and an offer was received in accordance with the Orange County Transportation Authority's procurement procedures for professional and technical services. Board of Directors' approval is requested to execute an agreement for a treasury management software system.

Recommendations

A. Approve the selection of Clearwater Analytics LLC, as the firm to provide a treasury management software system.

B. Authorize the Chief Executive Officer to negotiate and execute Agreement No. C-1-3860 between the Orange County Transportation Authority and Clearwater Analytics LLC, in the amount of $984,800, to provide a treasury management software system for a five-year initial term and one, two-year option term.

6. Resolution to Establish the Orange County Transportation Authority General Fund Appropriations Limit for Fiscal Year 2022-23
Sam Kaur/Andrew Oftelie

Overview

The State Constitution requires that each year the governing body of each local jurisdiction shall, by resolution, establish its appropriations limit for the following year pursuant to Article XIIIB.

Recommendation

Adopt Orange County Transportation Authority Resolution No. 2022-030 to establish the Orange County Transportation Authority General Fund appropriations limit at $14,071,204, for fiscal year 2022-23.

7. Orange County Transportation Authority Investment and Debt Programs Report - April 2022
Robert Davis/Andrew Oftelie

Overview

The Orange County Transportation Authority has a comprehensive investment and debt program to fund its immediate and long-term cash flow demands. Each month, the Treasurer submits a report detailing investment allocation, performance, compliance, outstanding debt balances, and credit ratings for the Orange County Transportation Authority's debt program. This report is for the month ending April 30, 2022.

Recommendation

Receive and file as an information item.

8. Fiscal Year 2021-22 Third Quarter Budget Status Report
Anthony Baruch/Andrew Oftelie

Overview

Orange County Transportation Authority staff has implemented the fiscal year 2021-22 budget. This report summarizes the material variances between the budget and actual revenues and expenses through the third quarter of fiscal year 2021-22.

Recommendations

A. Receive and file as an information item.

B. Approve a budget transfer of $6 million in the Orange County Transportation Authority Fiscal Year 2021-22 Budget from the Services and Supplies major object to the Capital/Fixed Assets major object to accommodate a change in accounting practices issued by the Governmental Accounting Standards Board.

9. Annual Update to Investment Policy
Robert Davis/Andrew Oftelie

Overview

The Treasurer is presenting the Orange County Transportation Authority's Proposed Fiscal Year 2022-23 Investment Policy. The governing body of a local agency is required to annually renew the delegation of authority for the Treasurer to invest, reinvest, purchase, exchange, sell, or manage public funds for a period of one year. Additionally, and as recommended under California Government Code Section 53646(a)(2), the Orange County Transportation Authority is submitting its Proposed Fiscal Year 2022-23 Investment Policy to be reviewed at a public meeting.

Recommendations

A. Adopt the Fiscal Year 2022-23 Investment Policy July 1, 2022.

B. Authorize the Treasurer, to invest, reinvest, purchase, exchange, sell, and manage Orange County Transportation Authority funds during fiscal year 2022-23.

10. Amendment to Agreement for Information Technology Contract Technical Staffing
Tom Young/Andrew Oftelie

Overview

On January 22, 2018, the Orange County Transportation Authority Board of Directors approved an agreement with Intratek Computer, Inc., to provide contract staffing services for information technology technical positions for a five-year term. An amendment is required to increase the maximum cumulative payment obligation to continue services due to increased workload requirements to replace three major systems.

Recommendation

Authorize the Chief Executive Officer to negotiate and execute Amendment No. 3 to Agreement No. C-7-1949 between the Orange County Transportation Authority and Intratek Computer, Inc., in the amount of $1,492,292, to continue providing contract staffing services for information technology technical positions. This will increase the maximum cumulative obligation of the agreement to a total contract value of $12,760,052.

11. SB 1196 (Umberg, D-Santa Ana) Update
Kristin Jacinto/Lance M. Larson

Overview

SB 1196 (Umberg, D-Santa Ana) seeks to make the Anaheim Transportation Network eligible for state transit funding. The bill was presented to the Orange County Transportation Authority Legislative and Communications Committee and Board of Directors with a recommended oppose position on March 17, 2022, and April 11, 2022, respectively. While no position was adopted at that time, pursuant to direction by the Orange County Transportation Authority Board of Directors, additional conversations have taken place with Senator Umberg and the Anaheim Transportation Network. An update is provided on the status of those discussions.

Recommendation

Provide staff direction on a position for SB 1196 (Umberg, D-Santa Ana).

12. Amendment to Agreement for Medical Clinic Services
Matthew DesRosier/Maggie McJilton

Overview

On September 9, 2019, the Orange County Transportation Authority Board of Directors approved an agreement with Akeso Occupational Health (formerly doing business as Cheshire Medical Corporation, doing business as ProCare Work Injury Center & Urgent Care), to provide medical clinic services for a three-year initial term with one, two-year option term. Board of Directors' approval is requested to exercise the option term effective August 1, 2022 through July 31, 2024.

Recommendation

Authorize the Chief Executive Officer to negotiate and execute Amendment No. 2 to Agreement No. C-9-1165 between the Orange County Transportation Authority and Akeso Occupational Health, to exercise the two-year option term, in the amount of $282,000, to continue providing medical clinic services, effective August 1, 2022 through July 31, 2024. This will increase the maximum obligation of the agreement to a total contract value of $855,000.

13. Agreement for Insurance Brokerage Services
Al Gorski/Maggie McJilton

Overview

On February 24, 2022, the Orange County Transportation Authority issued a request for proposals for insurance brokerage services. Offers were received in accordance with the Orange County Transportation Authority's procurement procedures for professional and technical services. Approval is requested to execute an agreement for these services.

Recommendations

A. Approve the selection of Marsh USA, Inc., as the firm to provide insurance brokerage services.

B. Authorize the Chief Executive Officer to negotiate and execute Agreement No. C-2-2257 between the Orange County Transportation Authority and Marsh USA, Inc., in the amount of $670,000, to provide insurance brokerage and insurance document tracking services for a five-year term effective July 1, 2022 through June 30, 2027.

14. Regional Planning Update
Warren Whiteaker/Kia Mortazavi

Overview

Updates on regional planning matters are provided regularly to highlight current transportation planning issues impacting the Orange County Transportation Authority and the Southern California region. This update focuses on the substitutions of Transportation Control Measure projects, the California Transportation Assessment, and a California Department of Transportation study to evaluate the conversion of carpool lanes to tolled express lanes on Interstate 5.

Recommendation

Receive and file as an information item.

15. Grant Acceptance for the Countywide Transportation Demand Management Strategic Plan
Roslyn Lau/Kia Mortazavi

Overview

The Orange County Transportation Authority was recently awarded $150,000 for the Countywide Transportation Demand Management Strategic Plan through the statewide Sustainable Transportation Planning Grant Program. To utilize these grant funds, Board of Directors' approval is requested to accept the award and enter into agreements with the granting agencies.

Recommendations

A. Adopt Orange County Transportation Authority Resolution No. 2022-034 and authorize the Chief Executive Officer to accept the Sustainable Transportation Planning Grant award and execute required grant-related agreements and documents with the California Department of Transportation.

B. Authorize the Chief Executive Officer to amend the Federal Transportation Improvement Program and process all necessary amendments to facilitate the recommendation above.

16. Capital Programming Update
Ben Ku/Kia Mortazavi

Overview

The Orange County Transportation Authority uses various funding sources to implement planning efforts, capital projects, and transit operations. Project costs can vary from the programmed amount in response to changing circumstances, which may require funding revisions. Board of Directors' authorization is required to provide funding for current or planned freeway and signal synchronization projects.

Recommendations

A. Authorize the use of $17.8 million in Surface Transportation Block Grant Program funds and $7 million in Measure M2 for the construction of the Interstate 605/Katella Interchange Improvement Project.

B. Consistent with approved Amendment 1 to Agreement No. C-0-2073, authorize the use of up to $1.97 million in 91 Express Lane excess revenue funds for the State Route 91 Improvement Project from Acacia Street to La Palma Avenue (Segment 3) for additional design support.

C. Consistent with pending Amendment 3 to Agreement No. C-8-1426, authorize the use of up to $1 million in additional Surface Transportation Block Grant Program funds for the Interstate 5 Widening Project from Oso Parkway to Alicia Parkway (Segment 2) for additional construction support.

D. Authorize the use of up to $1.8 million in Measure M2 funds for a regional traffic signal synchronization project in place of SB 1 (Chapter 5, Statues of 2017) Solutions for Congested Corridor Program funding.

E. Authorize staff to process all necessary amendments to the Federal Transportation Improvement Program and execute or amend all necessary agreements to facilitate the above actions.

17. Active Transportation Program Biannual Update
Peter Sotherland/Kia Mortazavi

Overview

The Orange County Transportation Authority coordinates regional active transportation efforts in Orange County. An update on recent and upcoming activities is provided for review.

Recommendation

Receive and file as an information item.

18. Draft 2022 State Route 91 Implementation Plan
Alison Army/Kia Mortazavi

Overview

The Orange County Transportation Authority and the Riverside County Transportation Commission annually prepare a plan for potential improvements along the State Route 91 corridor between State Route 57 in Orange County and Interstate 15 in Riverside County. The plan includes a listing of proposed improvements, preliminary cost estimates, and potential implementation timeframes. The Draft 2022 State Route 91 Implementation Plan is provided for information purposes

Recommendation

Receive and file as an information item.

Orange County Transit District Consent Calendar Matters

19. Radio Voice Over Internet Protocol Pilot for Paratransit Vehicles
Michael Beerer/Andrew Oftelie

Overview

The Orange County Transportation Authority's existing radio system for the paratransit vehicles will reach the end of its useful life and will need to be replaced in five years. Board of Directors' approval is requested for a pilot program using six paratransit vehicles to test functionality and operation of a new solution to replace the existing radio system.

Recommendation

Authorize the Chief Executive Officer to negotiate and execute sole source Agreement No. C-2-2165 between the Orange County Transportation Authority and Conduent Transport Solutions, Inc., in the amount of $250,000, for a one-year term, for an Intelligent Transportation Management System radio voice over internet protocol pilot program for paratransit vehicles.

20. Bus Operations Performance Measurements Report for the Third Quarter of Fiscal Year 2021-22
Johnny Dunning, Jr.

Overview

The Orange County Transportation Authority operates fixed-route bus and demand-response paratransit service throughout Orange County and into neighboring counties. The established measures of performance for these services assess the safety, courtesy, reliability, and overall quality of the services. This report summarizes the year-to-date performance of these services through the third quarter of fiscal year 2021-22.

Recommendation

Receive and file as an information item.

Orange County Local Transportation Authority Consent Calendar Matters

21. Cooperative Agreement with the California Department of Transportation for the Interstate 5 Improvement Project Between Yale Avenue and State Route 55 and Authority to Acquire Right-of-Way
Niall Barrett/James G. Beil

Overview

The Orange County Transportation Authority proposes to enter into a cooperative agreement with the California Department of Transportation to define roles, responsibilities, and funding obligations for right-of-way support services, right-of-way engineering, right-of-way acquisition, and utility relocation for the Interstate 5 Improvement Project between Yale Avenue and State Route 55.

Recommendations

A. Authorize the Chief Executive Officer to negotiate and execute Cooperative Agreement No. C-2-2232 between the Orange County Transportation Authority and the California Department of Transportation, in the amount of $1,230,000, to perform right-of-way services for the Interstate 5 Improvement Project between Yale Avenue and State Route 55.

B. Authorize the use of up to $22,706,000 in federal Surface Transportation Block Grant and Measure M2 funding for right-of-way capital and right-of-way services for the Interstate 5 Improvement Project between Yale Avenue and State Route 55.

C. Authorize staff to process all necessary amendments to the Federal Transportation Improvement Program and execute or amend all necessary agreements to facilitate the above actions.

D. Authorize the Chief Executive Officer to initiate discussions with property owners and utility owners, make offers, and execute agreements for the acquisition of all necessary real property interests and necessary utility relocations.

22. Amendment to Cooperative Agreement with the California Department of Transportation for the Interstate 5 Improvement Project from Oso Parkway to Alicia Parkway
Niall Barrett/James G. Beil

Overview

On February 12, 2018, the Orange County Transportation Authority Board of Directors approved a cooperative agreement between Orange County Transportation Authority and the California Department of Transportation to provide construction capital and construction management services for the Interstate 5 Improvement Project from Oso Parkway to Alicia Parkway as part of the Interstate 5 Improvement Project between State Route 73 and El Toro Road. Board of Directors' approval is requested to amend the cooperative agreement for additional funding for construction support services.

Recommendation

Authorize the Chief Executive Officer to negotiate and execute Amendment No. 3 to Cooperative Agreement No. C-8-1426 between Orange County Transportation Authority and the California Department of Transportation, in the amount of $1,000,000, for additional construction support services for the Interstate 5 Improvement Project from Oso Parkway to Alicia Parkway. This will increase the maximum cumulative obligation of the cooperative agreement to a total contract value of $172,796,000.

23. Resolution to Establish the Orange County Local Transportation Authority/Measure M2 Appropriations Limit for Fiscal Year 2022-23
Sam Kaur/Andrew Oftelie

Overview

The State Constitution requires that each year the governing body of each local jurisdiction shall, by resolution, establish its appropriations limit for the following year pursuant to Article XIIIB.

Recommendation

Adopt Orange County Local Transportation Authority/Measure M2 Resolution No. 2022-029 to establish the Orange County Local Transportation Authority/Measure M2 appropriations limit at $2,126,550,391, for fiscal year 2022-23.

24. Environmental Mitigation Program Endowment Fund Investment Report for March 31, 2022
Robert Davis/Andrew Oftelie

Overview

The Orange County Transportation Authority has developed a Natural Community Conservation Plan/Habitat Conservation Plan, acquired conservation properties, and funded habitat restoration projects to mitigate the impacts of Measure M2 freeway programs. The California Community Foundation manages the non-wasting endowment required to fund the long-term management of the conservation properties. Each quarter, the California Community Foundation publishes a comprehensive report detailing the composition of the pool and its performance.

Recommendation

Receive and file as an information item.

25. Measure M2 Quarterly Progress Report for the Period of January 2022 Through March 2022
Francesca Ching/Kia Mortazavi

Overview

Staff has prepared the Measure M2 Quarterly Progress Report for the third quarter of fiscal year 2021-22 as information for the Orange County Transportation Authority Board of Directors. This report highlights progress on Measure M2 projects and programs and is available to the public via the Orange County Transportation Authority website.

Recommendation

Receive and file as an information item.

26. Measure M2 Environmental Mitigation Program Update
Lesley Hill/Kia Mortazavi

Overview

Measure M2 includes a program to deliver comprehensive mitigation for biological impacts of 13 freeway projects in exchange for streamlined project approvals from state and federal resource agencies. The Environmental Mitigation Program has acquired conservation properties and provided habitat restoration projects funding as part of the Natural Community Conservation Plan/Habitat Conservation Plan. Updates on program activities for the first half of 2022 are provided.

Recommendation

Receive and file as an information item.

27. Measure M2 Eligibility Review Recommendations for Fiscal Year 2020-21 Expenditure Reports
Kelsey Imler/Kia Mortazavi

Overview

The Measure M2 Ordinance requires that all Orange County local jurisdictions annually satisfy specific eligibility requirements to receive Measure M2 net revenues. As part of this requirement, fiscal year 2020-21 expenditure reports and resolutions were submitted by the local jurisdictions. In April 2022, the Taxpayer Oversight Committee affirmed that all expenditure reports were received and reviewed, consistent with the Measure M2 Ordinance requirement. Board of Directors' approval is requested to find all Orange County local jurisdictions eligible to continue receiving Measure M2 net revenues.

Recommendation

Approve all 35 Orange County local jurisdictions as eligible to continue receiving Measure M2 net revenues.

Regular Calendar

Orange County Transportation Authority Regular Calendar Matters

28. South Orange County Multimodal Transportation Study Update
Warren Whiteaker/Kia Mortazavi

Overview

The Orange County Transportation Authority is conducting a long-range multimodal transportation study for the south Orange County area. Objectives of the study are to document transportation issues and opportunities, engage with key stakeholders, partner agencies, and the public to identify potential long-term multimodal solutions. A status report on the study is provided for information.

Recommendation

Receive and file as an information item.

Orange County Local Transportation Authority Regular Calendar Matters

29. Approval to Adopt the Mitigated Negative Declaration Finding for the Orange County Maintenance Facility Project
Lora Cross/James G. Beil

Overview

On July 21, 2020, the Orange County Transportation Authority, in cooperation with the Southern California Regional Rail Authority, entered into a Cooperative Agreement which defined roles, responsibilities, and funding for the preliminary engineering and environmental phase of the Metrolink Orange County Maintenance Facility. The Orange County Transportation Authority has been the lead agency for the preliminary engineering and environmental documentation. Board of Directors' adoption of the Mitigated Negative Declaration and Mitigation Monitoring and Reporting Program is required for the project to advance to the next phase.

Recommendation

Adopt Resolution No. 2022-025 to adopt the Mitigated Negative Declaration and Mitigation Monitoring and Reporting Program, pursuant to the California Environmental Quality Act, for the Metrolink Orange County Maintenance Facility.

Discussion Items

30. Public Comments

31. Chief Executive Officer's Report

32. Directors' Reports

33. Closed Session

A Closed Session will be held as follows:

Pursuant to Government Code Section 54956.9(d)(1) - Conference with General Counsel - Existing Litigation - Michael Brown v. Orange County Transportation Authority, et al. - OCSC Case No. 30-2020-01152939.

34. Adjournment

The next regularly scheduled meeting of this Board will be held at **9:00 a.m. on Monday, June 27, 2022,** at the Orange County Transportation Authority Headquarters, Board Room - Conference Room 07-08, 550 South Main Street, Orange, California.

OCTA

June 13, 2022

To: Members of the Board of Directors

From: Darrell E. Johnson, Chief Executive Officer

Subject: Public Hearing on Orange County Transportation Authority's Fiscal Year 2022-23 Budget and Personnel and Salary Resolution

Overview

The Orange County Transportation Authority Fiscal Year 2022-23 Budget presents a balanced plan of sources and uses of funds while providing for the current and future transportation needs of Orange County. The Board of Directors may approve the Orange County Transportation Authority Fiscal Year 2022-23 Budget following the public hearing to be held at the Board of Directors' meeting on June 13, 2022, at the following Board of Directors' meeting on June 27, 2022, or in a special meeting convened at their discretion, on or before June 30, 2022. The Board of Directors are also asked to approve changes to the Personnel and Salary Resolution as part of the budget approval process.

Recommendations

A. Approve by Resolution the Orange County Transportation Authority's Fiscal Year 2022-23 Budget.

B. Approve the Personnel and Salary Resolution for fiscal year 2022-23.

C. Authorize the Chief Executive Officer, or his designee, to negotiate and execute the software and hardware licensing, maintenance, and emergency support purchase orders, and/or agreements.

D. Approve fiscal year 2022-23 Orange County Transportation Authority member agency contribution to the Southern California Regional Rail Authority, operating subsidy, in an amount up to $46,167,104, including authorization of federal funding to be drawn down directly by the Southern California Regional Rail Authority, in an amount up to $46,167,104, which includes federal supplemental funding of $26,624,520. In addition, approve the capital and rehabilitation expenditure budget contingent upon all member agencies' approval of their respective capital and

rehabilitation budgets. The Orange County Transportation Authority portion of the costs for capital is $3,447,350 and $27,237,610 for rehabilitation.

Background

The preparation of the Orange County Transportation Authority's (OCTA) annual budget began in December 2021 with the development of initial revenue projections, a service plan, and program goals and objectives for the upcoming fiscal year (FY). Through sound financial planning, OCTA is in a strong position to propose a budget that has the flexibility to adapt to increased demand for services and programs. The service plan, program goals, and objectives included in the budget are in accordance with those of the Board of Directors (Board) and Chief Executive Officer (CEO).

Each division developed and submitted its budget requests in January 2022, which were subject to successive internal reviews. The proposed budget was reviewed by a CEO-appointed internal budget review committee, consisting of the Deputy CEO, Chief Financial Officer, and Executive Director of People and Community Engagement to ensure a balanced and fiscally responsible budget is delivered consistent with the Board's goals, CEO's goals, OCTA's Strategic Plan, the Comprehensive Business Plan, and the 2020 Next 10 Delivery Plan.

The development of the FY 2022-23 proposed budget was based on a series of programmatic assumptions that were presented to the Finance and Administration (F&A) Committee on March 23, 2022. The presentation covered the guiding principles and assumptions used to develop the budget for OCTA's major programs including: Measure M2 (M2), transit, motorist services, and the 91 Express Lanes.

Staff presented the FY 2022-23 budget in an informal workshop setting on May 9, 2022. The presentation included a discussion of program goals and objectives, proposed staffing plan, and the sources and uses of funds planned to meet specified program goals. The presentation was solely informational for the Board. No public hearing was held at the meeting, nor was the Board asked to vote on the budget at the meeting. A public hearing for the budget is scheduled to occur at the June 13, 2022, Board meeting, after which staff anticipates seeking Board approval of the budget.

Discussion

The FY 2022-23 proposed budget represents a balanced plan of sources and uses of funds. Sources of funds include new revenues received within the year, as well as planned uses of prior year designations. Planned uses of prior year designations are funds set aside (designated) in prior FYs to be utilized in the current FY. The uses of these funds are planned and do not represent a utilization of funds, as a result of deficit spending. Uses of funds include current year expenditures, as well as funds designated in the current FY to be used in a future FY.

The combination of estimated revenues and planned uses of prior year designations produces available funding of $1,650.2 million, while proposed expenditures and designations yield a total use of funds of $1,650.2 million. On a year-over-year comparison to the approved FY 2021-22 budget, the FY 2022-23 proposed budget is 30.2 percent, or $383.1 million, greater than the FY 2021-22 approved budget.

Under the M2 program, sales tax revenue growth is anticipated to remain strong, and the program will continue to improve freeways and streets and roads throughout Orange County, as well as fund transit programs. Included in the proposed budget are freeway improvement projects on State Route 55, Interstate 5, Interstate 405, State Route 57, and State Route 91. Streets and roads improvements include the Local Fair Share Program, the Regional Capacity Program, and Regional Traffic Signal Synchronization Program. In addition, the budget also includes funding for multiple M2 transit programs, including Metrolink and the OC Streetcar.

The FY 2022-23 budget assumes the continued use of federal supplemental funding to accommodate increased fixed-route service levels based on demand. Revenue hours of 1.6 million are budgeted with approximately 60 percent of the hours directly operated by OCTA and 40 percent of the hours provided by OCTA's contractor. Paratransit service trips are anticipated to increase from current levels of 980,000 to 1.2 million. In addition, OC Flex service will continue at current service levels.

The federal supplemental funding also provides OCTA with the capability to fund additional Metrolink service. Metrolink is currently operating 57 train trips within Orange County but plans to return to pre-pandemic trip levels during FY 2022-23. The budget includes the capacity to add 14 trips to reach pre-pandemic trip levels of 71 total trips. Train trips would include 55 weekday trips and 16 weekend trips within Orange County.

Staff has attended and will continue to attend and be available to present, review, and/or answer questions about the budget at the following committees, as well as to individual Board Members upon request.

Committee	**Date**
Finance and Administration	May 11
Transit Committee	May 12
Executive Committee	June 6
Regional Planning and Highways	June 6
Finance and Administration (Preview of Public Hearing)	June 8
Transit Committee	June 9

Personnel and Salary Resolution (PSR)

The FY 2022-23 PSR (Attachment C) governs administrative employees and is approved annually as part of the budget. Changes have been made to the PSR to include minor clarifications, where necessary.

The PSR includes a five percent merit pool and four percent special performance award (bonus pool) pool. The PSR also includes an adjustment of five percent to the maximum salary for each salary grade and a market-based adjustment of approximately 17 percent for Grade W. The larger increase included for Grade W positions is to provide Executive Management another tool to retain key staff in these positions. These positions include OCTA's Senior Program Manager and Senior Department Manager positions. Salary grade adjustments do not automatically increase employee salaries unless they are below the minimum of the new range. Currently, there are 22 OCTA employees that fall below the proposed minimum grade range, which would require an automatic salary increase totaling $38,480. The 22 employees represent a small percentage (1.6 percent) of OCTA's total workforce of 1,361.5 employees.

Information Systems Licensing and Maintenance Agreements

Each year, in conjunction with approving the budget, the Board approves OCTA's software and hardware licensing and maintenance agreements. OCTA follows industry practice to ensure proper maintenance and to receive critical product upgrades of its licensed software and purchased hardware. The annual and multi-year licensing and maintenance agreements are executed with each hardware and software developer on a sole source basis, for an amount not to exceed the contracted value for each vendor. The sole source list includes licensing and maintenance agreements, as well as emergency support after hours, weekends, and holidays.

The Carahsoft vendor listed on the sole source list provides security licenses for our active monitoring, detection, and response platform, which includes incident management response services. Though other firms offer this service, OCTA included them on the sole source list based on the criticality of their services and prior knowledge and experience with OCTA, as well as their standing in the industry regarding cyber security remediation. On a cumulative basis, the software and hardware licensing, maintenance, and emergency support agreements will not exceed $6.6 million. A list of the agreements is included as Attachment D.

Southern California Regional Rail Authority (SCRRA) Budget

Under the Joint Powers Agreement that governs the SCRRA, each member agency must approve its financial contribution to the SCRRA budget. The FY 2022-23 SCRRA budget estimates the OCTA operating funding allocation of in an amount up to $46,167,104, including authorization of federal funding to be drawn down directly by the SCRRA, in an amount up to $46,167,104, which includes federal supplemental funding of $26,624,520.

In addition to the annual operating funding allocation, OCTA is also responsible for a portion of the costs for capital and rehabilitation projects. These projects are typically led by the SCRRA, and the grant funds to pay for them are drawn down directly by the SCRRA. As a result, these projects are not typically included in OCTA's budget. The SCRRA budget (Attachment E) provides a detailed list of projects and the associated costs by member agency. OCTA's portion of the costs for capital is $3,447,350 and the cost for rehabilitation is $27,237,610.

Summary

The Orange County Transportation Authority Fiscal Year 2022-23 Budget was reviewed by the Board of Directors in a workshop setting on May 9, 2022. The Board of Directors may approve the Orange County Transportation Authority Fiscal Year 2022-23 Budget following the public hearing on June 13, 2022, at the regularly scheduled meeting on June 27, 2022, or in a special meeting convened at their discretion, on or before June 30, 2022.

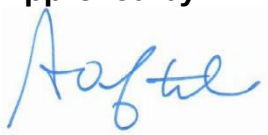
Attachments

A. Resolution of the Board of Directors for the Orange County Transportation Authority Approving an Operating and Capital Budget Fiscal Year 2022-23, OCTA Resolution No. 2022-024
B. Orange County Transportation Authority Budget Summary Fiscal Year 2022-23
C. Proposed Changes for the Personnel and Salary Resolution (PSR) FY2022-23
D. Orange County Transportation Authority Licensing and Maintenance Agreements Sole Source List - Fiscal Year 2022-2023
E. Transmittal of the Metrolink Southern California Regional Rail Authority Proposed FY 2022-23 Budget

Prepared by:

Victor Velasquez
Department Manager,
Financial Planning and Analysis
(714) 560-5592

Approved by:



Andrew Oftelie
Chief Financial Officer,
Finance and Administration
(714) 560-5649

ATTACHMENT A

RESOLUTION OF THE BOARD OF DIRECTORS FOR THE ORANGE COUNTY TRANSPORTATION AUTHORITY APPROVING AN OPERATING AND CAPITAL BUDGET FISCAL YEAR 2022-23

WHEREAS, the Chief Executive Officer and staff have prepared and presented to the Board of Directors a proposed operating and capital budget in the amount of $1,650.2 million for fiscal year 2022-23;

WHEREAS, said Chief Executive Officer and staff did conduct a public workshop before the Board of Directors on May 9, 2022, in the Board Chambers, at which time the proposed budget was considered;

WHEREAS, a public hearing was conducted on June 13, 2022, at which the public was invited to express its views and objections to said budget; and;

WHEREAS, the original of said proposed budget will be revised to reflect each and all of the amendments, changes, and modifications which the Board of Directors, up to the time of the approval of this resolution, believes should be made in said proposed budget as so submitted and to correct any non-substantive errors or omissions.

NOW, THEREFORE BE IT RESOLVED, by the Board of Directors of the Orange County Transportation Authority as follows:

1. The operating and capital budget of the Orange County Transportation Authority and all affiliated agencies for the fiscal year July 1, 2022 through June 30, 2023, is hereby approved, a copy of which is on file with the Clerk of the Board.
2. The Clerk of the Board shall certify to the passage and approval of this resolution, and it shall thereupon be in full force and effect.

ADOPTED, SIGNED, AND APPROVED this 13th day of June 2022.

AYES:

NOES:

ABSTAIN:

ABSENT:

ATTEST:

Andrea West Interim Clerk of the Board	Mark A. Murphy, Chairman Orange County Transportation Authority

OCTA Resolution No. 2022-024

ATTACHMENT B

Orange County Transportation Authority
Budget Summary
Fiscal Year 2022-23

$ in millions

Estimated Revenues		$ 1,234.7
Use of Prior Year Designations		415.5
	Total Sources of Funds	**$ 1,650.2**

Appropriate Funds to:

Salaries & Benefits		$ 191.2
Services & Supplies		339.6
Contributions to Other Agencies		181.3
Debt Service		97.8
Capital / Fixed Assets		635.2
	Total Expenses	$ 1,445.1
	Designation of Funds	$ 205.1
	Total Uses of Funds	**$ 1,650.2**

ATTACHMENT C

Proposed Changes for the Personnel and Salary Resolution (PSR) FY22-23

Subject	Page(s)	Section	Proposed Change	Reason
Various formatting and language changes			Change in name of division; page numbers and dates updated	Throughout document, removed reference to Human Resources and Organization Development (HROD) Division and replaced with People and Community Engagement (PACE) as two divisions were combined; page numbers and dates; clarity of document.
Educational Reimbursement	p. 19 - 20	4.6B	Increase annual maximum reimbursement	Increase from $3,675 to $5,250 to match the Internal Revenue Service tax free amount. Recruitment and retention tool.
Deferred Compensation	p. 20 - 21	4.7A	Lump sum contribution	Chief Executive Officer (CEO) may utilize this as a recruitment or retention tool.
Deferred Compensation	p. 21	4.7A	Changed years of hire qualification to receive Orange County Transportation Authority (OCTA) paid matching contributions to 401 (a) plan	Recruitment and retention tool.
Bereavement Leave	p. 22	4.8B	Change from 3 or 5 days to 5 days	Change all bereavement leave to 5 days regardless of location, consistent with market/survey research and to utilize as recruitment and retention tool.
Merit Adjustments	p. 30	5.6	5% Merit Pool	Proposes 5% Merit Pool
Special Performance Awards	p. 30	5.7	4% Special Performance Award Pool	Proposes 4% Special Performance Award Pool

Proposed Changes for the Personnel and Salary Resolution (PSR) FY22-23

Subject	Page(s)	Section	Proposed Change	Reason
Temporary Assignments	p. 30 - 31	5.8	Temporary Assignments	Added clarification language; added the ability for the CEO to provide a temporary increase or stipend to an employee who is performing duties critical to the organization during a crucial project or period of time to incentivize them to remain at OCTA. Can be in the form of a percentage of base salary, lump sum(s) or a non-matching deferred compensation contribution. These are temporary and their continuation will be reviewed annually or until the crucial duties are no longer being performed.
Salary Grade Structure	p. 32 – 43		5% Salary Structure Adjustment	Recommended 5% salary structure adjustment for all administrative ranges except for Salary Grade W.
Salary Grade W	p. 43		17% Salary Grade Adjustment	For the CEO to use as a tool for compensation and retention of critical staff.
Job Classifications Newly Added or Moving to Different Salary Grades	p. 32 – 43		Various job classification and salary grade assignment changes	Human Resources compensation market review and analysis recommends specific classifications be moved to different salary grades; the remainder of the Associate classifications are moved to the salary grade below the journey-level classifications; others are new titles proposed in and deleted from the budget.

PERSONNEL AND SALARY RESOLUTION

FISCAL YEAR 2022~~1~~-2023~~2~~

Effective: June 19~~20~~, 2022~~1~~

This document provides information on general policies regarding employment practices, employee benefits, compensation, and salary structure for administrative employees at the Orange County Transportation Authority and was approved by the Orange County Transportation Authority Board of Directors on June 13, 2022 ~~June 14, 2021~~.

Prepared by:

Human Resources and Organizational Development Division

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SECTION 1
PURPOSE AND PROCEDURES

1.1 PURPOSE OF PERSONNEL AND SALARY RESOLUTION

In an effort to establish an equitable and consistent plan for managing Human Resources matters, to attract, develop and retain top talent, and to ensure consistent selection, promotion, and compensation practices based on merit, ability, and performance, the following Human Resources policies for administrative employees are hereby adopted.

The Orange County Transportation Authority (OCTA) reserves and maintains the right to eliminate, modify or otherwise change, at any time, for any reason, any provision(s) of this Personnel and Salary Resolution (PSR), as established and approved by the Board of Directors, including, but not limited to, any employee benefit or right provided in this PSR.

1.2 HUMAN RESOURCES POLICIES AND PROCEDURES

The Chief Executive Officer (CEO), acting as the Appointing Authority (AA), may elect to delegate certain responsibilities. The CEO is charged with ensuring OCTA Human Resources policies and procedures provide for an effective and efficient organization, staffed with qualified employees receiving fair and equitable treatment. The Executive Director of People and Community Engagement ~~Human Resources and Organizational Development~~ (PACE~~HROD~~) is responsible for managing the Human Resources functions and is responsible for developing and administering Human Resources policies and procedures that are in the best interest of OCTA and its employees.

The CEO makes the final determination on the interpretation of OCTA Human Resources policies and is authorized to establish and maintain Human Resources procedures that are consistent with those policies.

Exceptions to the PSR may be authorized in writing by the CEO. This exception authority may not be delegated.

Please refer to specific policies and procedures for additional information.

SECTION 2
EMPLOYMENT

2.1 AT-WILL EMPLOYMENT

OCTA employees whose employment is governed by the provisions of this PSR are at-will. The AA has the right to reassign, dismiss, reduce pay, or suspend without pay any employee, at any time, for any reason. Similarly, OCTA employees may separate their employment at any time without prior notice.

2.2 APPROVAL AUTHORITY FOR EMPLOYEE ACTIONS

The CEO is the AA for the selection and separation of all employees in all positions except those reporting directly to the Board. The CEO is authorized to approve revisions in classification titles and grades, provided that any such changes are in accordance with established OCTA Policies and Procedures and the Board-adopted fiscal year budget.

2.3 COMPENSATION

OCTA will maintain a compensation philosophy and salary structure for full-time and part-time employees as stated in the PSR.

Salary ranges, rates, and employee benefits are reviewed and considered for adjustment annually and more frequently as necessary. This permits OCTA an opportunity to periodically assess the competitiveness of the compensation plan, including the salary structure, and make necessary adjustments to reflect changes in internal equity and labor market conditions.

2.4 INTERNSHIPS

A person employed in a College Intern position will be compensated at an hourly rate to be determined by the AA. A College Intern is not eligible for employee benefits paid by OCTA, except as required by law.

2.5 OUTSIDE EMPLOYMENT ACTIVITIES

An administrative employee may not engage in outside employment or other outside activities incompatible with the full and proper discharge of the duties and responsibilities of his/her OCTA employment. Before accepting or engaging in any outside employment, an employee must obtain written permission from the AA.

2.6 PERFORMANCE PLANNING AND REVIEW PROGRAM

The AA is responsible for developing and administering a formal performance planning and review program for all full-time and part-time administrative employees.

2.7 RELOCATION EXPENSES

OCTA may provide relocation assistance as defined in the "Reimbursement of Relocation Expenses Policy."

2.8 ELIMINATION OF POSITIONS AND WORKFORCE REDUCTIONS

Whenever it becomes necessary, the CEO may eliminate any position. The CEO has the authority to reduce the workforce and to layoff full-time or part-time employees because of the elimination of a position, lack of funds, lack of work, or for operational efficiencies. An employee who is laid-off because of the elimination of a position or reduction in the workforce may be placed in another position for which the employee is qualified at the same level or below, provided an opening exists. Workforce reductions may allow for the position to remain vacant until the AA finds it necessary to fill the position.

2.8A LAYOFF BENEFITS

An employee recalled within six months may be reinstated to the same position if the position is available. For purposes of this section, benefits based on length of service will be reinstated to the level prior to layoff if an employee is reinstated to the same or a different position within six months following the date of layoff.

An employee placed on layoff may be granted paid health insurance in accordance with the following schedule:

Years of Service	Length of Coverage
Less than 3	1 month
3 but less than 5	2 months
5 but less than 10	3 months
10 or more	4 months

Upon separation from OCTA due to layoff, all unused or unpaid vacation, personal paid holidays, and sick leave will be paid to the affected employee.

If employment is recalled within six months, health insurance coverage will take effect on the first day of the following month from the rehire date. However, if the granted paid health insurance is still in effect, then coverage will be effective the first day of the month from the return to work date.

2.8B LAYOFF SEVERANCE PAY

The CEO may authorize the payment of severance pay to full-time and part-time employees in accordance with the following schedule:

Years of Service	Weeks of Severance Pay
Less than 3	2 weeks
3 but less than 5	3 weeks
5 but less than 10	4 weeks
10 or more	5 weeks

Severance pay for part-time employees is prorated in accordance with their regularly scheduled pay.

SECTION 3
EXEMPT AND NON-EXEMPT EMPLOYEE, WORKWEEK, SCHEDULES, OVERTIME AND MAKE-UP TIME

3.1 EXEMPT EMPLOYEES

Exempt employees are those in positions that are not covered under the provisions of the Fair Labor Standards Act (FLSA) regarding minimum wage, overtime, maximum hours and recordkeeping.

An exempt employee, either part-time or full-time, is not eligible for overtime payment, compensatory time or any additional compensation for time worked in excess of eight hours per day or 40 hours per workweek, or time worked in excess of his/her regular schedule.

Sick leave and vacation accruals, as well as retirement service credits, accrue on paid hours.

3.2 NON-EXEMPT EMPLOYEES

Non-exempt employees are those in positions that are covered under the provisions of the FLSA regarding minimum wage, overtime, maximum hours and recordkeeping. All hours worked, holidays, and benefit time taken must be accurately recorded on a timesheet and approved by the supervisor. Sick leave and vacation accruals, as well as retirement service credits, accrue on paid hours excluding overtime.

Non-exempt employees are strictly prohibited from volunteering or donating their time to OCTA by performing any work or function that is the same or similar to their regularly scheduled duties while in an unpaid status.

3.3 WORKWEEK

The FLSA defines workweek as a period of 168 hours consisting of seven consecutive 24-hour periods. The employer can determine the day and hour that the workweek begins. Each workweek is considered on its own to determine minimum wage and overtime payments: there is no averaging of two or more workweeks. The Department of Labor uses workweek to determine compliance with federal regulations such as requirements for wage payments and overtime. Workweek and overtime will be administered consistent with any applicable state and federal laws.

The regular workweek for a full-time OCTA employee is 40 hours per week, Sunday through Saturday, unless otherwise established with an alternative work schedule. The workweek does not need to coincide with the calendar week.

3.4 ALTERNATIVE WORK SCHEDULES

The AA has the authority to designate flexible starting, ending, and core times for the performance of work during the standard workday consistent with OCTA's "Workweek and Overtime Policy."

The AA also has the authority to designate alternative workweek schedules, such as 4/10 or 9/80, provided the administration of such schedules is consistent with OCTA policy and any applicable state and federal laws.

The AA may establish necessary guidelines to administer alternative workweek schedules at the department and section level.

3.5 OVERTIME

Overtime must be authorized prior to performance of such work. Authorized work performed in excess of eight hours per day or in excess of 40 hours per workweek by a full-time or part-time non-exempt employee is considered overtime. This does not apply to a non-exempt employee who regularly works a 9/80 work schedule or who regularly works any other work schedule totaling 40 hours per workweek. All paid hours except sick time will be considered hours worked.

Excluding employees on an alternative work schedule, non-exempt employees will be paid 1-1/2 times their regular rate for all time worked in excess of eight (hours in a workday or 40 hours in a workweek). Non-exempt employees on alternative work schedules will be eligible for daily overtime for hours worked in excess of their regular schedule or 40 hours in a workweek.

For purposes of calculating overtime compensation, paid holidays not worked and pre-approved vacation not worked are treated as authorized work performed. If a designated holiday occurs on a regularly scheduled day off, these hours are not considered hours worked. Hours away from work due to illness, even when compensated, are not included in overtime calculations.

A non-exempt employee who is required to work on a designated holiday will be paid 1-1/2 times his/her regular rate for authorized work performed, in addition to regular holiday pay. Added pay for holiday hours worked will not be considered when calculating overtime on more than 40 hours in a workweek.

OCTA does not permit the accrual of compensatory time in lieu of payment of overtime.

In no case may a non-exempt employee's workweek be changed when the purpose of the change is to avoid compensating the employee at 1-1/2 times his/her regular rate for work performed in excess of his/her regular work schedule.

If, in the judgment of the employee's supervisor, work beyond the normal workday, workweek, or work period is required, such work may be authorized.

3.6 MAKE-UP TIME

Consistent with OCTA policy, when a non-exempt employee requests to leave or miss certain hours of a day and then to make it up by working longer hours on another day, it is called make-up time. Make-up time is permitted when requested by the employee due to the employee's personal obligation. The employee must request to use make-up time in writing before taking the time off or working the make-up hours, and the supervisor must approve it. The time must be made up within the same workweek as the time that was taken off. The made-up time cannot cause the employee to work more than 11 hours in a day or more than 40 hours in a workweek, as this will require overtime to be paid. Managers and/or Supervisors are prohibited from encouraging or soliciting an employee to request make-up time.

SECTION 4
EMPLOYEE BENEFITS

4.1 BOARD MEMBER BENEFITS

The AA may establish and be responsible for health (medical, dental, and vision), and life (life and accidental death and dismemberment) insurance benefits for Board Members at a cost not to exceed the amount established by the Board in the annual budget.

4.1A BENEFITS ELIGIBILITY

For Public Board Members and for Board Members who do not receive health benefits from the public entity they are elected to serve: The Board Members will have the same premium cost and the same health benefits as full-time employees paid by OCTA, which may change to reflect the current programs offered.

For Board Members who receive health benefits and/or a cash waiver from the public entity they are elected to serve: The Board Members may choose to receive the same health benefits as full-time employees, provided the Board Member pays 100 percent of the OCTA premium, which may change to reflect the current programs offered.

4.1B DEFERRED COMPENSATION

Board Members may participate in OCTA's Deferred Compensation Program.

4.1C RETIREMENT PLAN

Board Members are required to participate in the 3121 Federal Insurance Contributions Act (FICA) Alternative plan, because they are not eligible to participate in the Orange County Employee Retirement System. Board Members contribute 7.50 percent of OCTA pay. The 3121 FICA Alternative plan is required under the Omnibus Budget Reconciliation Act (OBRA) and is administered by a third-party administrator.

4.1D LIFE INSURANCE AND SUPPLEMENTAL LIFE INSURANCE

Life Insurance will be provided by OCTA in the amount of $50,000 coverage for each Board Member.

Voluntary Board Member-paid supplemental life insurance may be offered by OCTA for Board Members and/or their dependents.

4.1E REIMBURSEMENT OF EXPENSES

OCTA will reimburse Board Members and former Board Members who are serving on regional boards at the direction and request of the Board of Directors for actual and necessary expenses incurred in the performance of their duties, as provided in the "Policy for Compensation, Benefits, Reimbursement of Expenses and Mandatory Training for Members of the Board of Directors."

4.1F COMPENSATION

Board Members and former Board Members, who are serving on regional boards at the direction and request of the Board of Directors, are authorized to receive compensation in the amount of one hundred dollars ($100) per day, not to exceed five hundred dollars ($500) in any calendar month, for attending any of the activities outlined in section III of the Policy for Compensation, Benefits, Reimbursement of Expenses and Mandatory Training for Members of the Board of Directors.

4.2 GRANDFATHERED BENEFITS

The following exceptions to policy as otherwise outlined in this PSR result from the consolidation of the Orange County Transit District and the Orange County Transportation Commission.

The following benefits apply only to those employees who were employees of the Orange County Transportation Commission, as of June 19, 1991.

4.2A GRANDFATHERED LEAVE

Each non-exempt employee covered under this section will be entitled to 16 hours of paid Administrative Leave per fiscal year. Each exempt employee covered under this section will be entitled to 32 hours of paid Administrative Leave per fiscal year.

Approval will be by the AA. Any unused Administrative Leave for the current fiscal year will be paid to the employee in the event of separation or retirement. The maximum accrual amount for non-exempt employees will be 24 hours. The maximum accrual amount for exempt employees will be 48 hours.

4.2B GRANDFATHERED RETIREMENT

An employee covered under this section may continue to participate in the California Public Employees' Retirement System and shall be governed by its rules and regulations.

Commencing January 1, 2017, employees shall pay 100 percent of the employee contribution.

4.3 HEALTH, LIFE, AND DISABILITY INSURANCE BENEFITS

4.3A HEALTH INSURANCE

The AA will offer health (medical, dental, and vision), life (life and accidental death and dismemberment), and disability insurance programs for all full-time and part-time employees as determined by the Board.

Employees who are scheduled to work a minimum of 20 hours per week or more and meet the criteria under the Affordable Care Act, are eligible to participate in the health, life and disability insurance programs on the first day of the month following 30 days of employment. Employees may be required to pay a portion of the premiums. Part-time employees will pay the same portion of the premiums as full-time employees.

Administrative and Transportation Communications International Union (TCU) employees who elect to waive an OCTA medical, dental and vision plan are eligible to receive an employer contribution of $92.31 per pay period into a 401(a) deferred compensation plan, not to exceed the annual IRS maximum contribution. The employee must provide verification annually from the employer or the insurance carrier which verifies proof of other medical plan coverage in order to receive a contribution into the 401(a) plan. An employee who is a spouse, child or any other dependent of an OCTA Administrative/TCU employee is not eligible if he/she is covered under an OCTA medical, dental or vision plan.

4.3B LIFE INSURANCE AND SUPPLEMENTAL LIFE INSURANCE

Life insurance will be provided by OCTA to full-time and part-time employees in the amount of two times the annual salary, for a maximum benefit of $500,000. Voluntary employee-paid supplemental life insurance may be offered by OCTA for employees and/or eligible dependents (IRS).

4.3C DISABILITY INSURANCE

Employer-paid short-term disability and long-term disability insurance programs will be provided to full-time and part-time employees. Coordination of state provided disability payments may be required.

4.3D SURVIVOR BENEFIT

When OCTA is notified of the death of an employee, his/her dependents who were previously enrolled dependents, may be eligible for coverage in accordance with the provisions of the Consolidated Omnibus Budget Reconciliation Act (COBRA). If eligible for COBRA, OCTA will reimburse the cost of the OCTA-sponsored health benefit plan premium to the dependent(s) for a maximum of three months.

4.3E COBRA AND CONTINUED COVERAGE

All full-time or part-time employees separating employment may elect continuing health (medical, dental, and vision) insurance pursuant to the governing provisions of the program in which they are enrolled. The employee will be required to pay the premium for the coverage selected in accordance with the provisions of COBRA, except as provided in the "Layoff and Workforce Reduction Policy". Health coverage ends the last day of the month in which the employee separates employment.

4.3F CONTINUATION OF HEALTH BENEFITS FOR RETIREES

An employee who retires from OCTA is eligible to continue medical, dental, and/or vision coverage, provided the retiree continues to pay 100 percent of the full monthly premium. Current group health benefits may continue up to age 65.

An employee who defers retirement is not eligible for this benefit.

For additional information regarding retiree health benefits that may apply under the Additional Retiree Benefit Account Plan (ARBA) please refer to section 4.7C.

4.4 MISCELLANEOUS BENEFITS

4.4A EMPLOYEE RECREATION ASSOCIATION

The AA will be responsible for monitoring the Employee Recreation Association (ERA), which is administered by the Human Resources Department. The ERA is a council of 11 members who meet to discuss various employee recognition activities and events and how best to fund them.

4.4B EMPLOYEE USE OF TRANSPORTATION SYSTEM

The AA has established policies and procedures regarding employees and eligible dependents' free transportation on OCTA's transportation services. See the "Employee Identification Cards and Dependent Transportation Passes Policy".

4.4C MILEAGE REIMBURSEMENT

An employee will be reimbursed for use of his/her private automobile for official business of OCTA at the rate established by the Internal Revenue Service (IRS).

The AA will determine what constitutes official OCTA business, which would require use of an employee's private automobile. Local travel for mileage reimbursement purposes

will include travel in Los Angeles, Orange, San Bernardino, Riverside, and San Diego counties. Executive employees are referenced in section 4.6A.

4.4D OUT-OF-POCKET EXPENSES

OCTA will reimburse its employees for out-of-pocket expenses incurred while conducting official business for OCTA as provided in the policies regarding travel and conference expenses.

4.4E PROFESSIONAL LICENSES AND CERTIFICATES

OCTA will pay for any work-related professional licenses, certificates, or renewal fees as approved by the AA.

4.4F RECOGNITION AND AWARD PROGRAMS

The AA may establish and maintain an employee service award program and employee appreciation programs to provide recognition to employees for performance, continuous service, safety, and commitment to public transportation.

4.5 LEAVES OF ABSENCE

Leaves of absence may be granted by the AA to employees with or without pay. This policy will be interpreted and applied in accordance with all applicable state and federal laws. For a detailed description of the various leaves of absence, please refer to the "Leave of Absence Policy" and the "Military Leave Policy."

4.5A PERSONAL LEAVE

When requested, the AA may grant a personal leave of absence without pay for an initial period of 30 calendar days and extensions may be granted to a maximum of six months from the beginning date of the personal leave.

A personal leave of absence may be granted once all accrued/benefit hours have been exhausted, including vacation hours, sick hours, and Personal Paid Holiday (PPH) hours.

If the personal leave of absence extends for 30 calendar days or less, an employee will be returned to his/her original classification. If the personal leave of absence extends for more than 30 calendar days, OCTA will not guarantee the employee's classification or employment with OCTA but will attempt to reinstate the employee to a like or similar classification.

During the initial 30 calendar days following the date on which the personal leave of absence begins, OCTA will continue to offer life insurance, medical, dental and vision

benefits at the same employee coverage cost and the same contribution for dependent premiums at the current applicable rate. To continue health coverage, employees on an unpaid status are responsible for submitting health insurance contributions, at the same rate and frequency as active employees. Failure to pay the employee's contribution may result in a lapse of coverage.

After the initial 30-day period, the employee will be required to remit in advance each month, 100 percent of the monthly cost of the group insurance premiums incurred during the remainder of the leave of absence in order to continue group insurance. Non-receipt of premium reimbursements will result in the termination of the employee's insurance.

If an employee returns to work from a personal leave of absence, the employee will be responsible for 100 percent of the monthly cost of the group insurance premiums for the month in which the employee returns to work.

4.6 REIMBURSEMENTS AND ALLOWANCES

4.6A AUTOMOBILE ALLOWANCE AND ASSIGNMENT OF AUTOMOBILES

OCTA may elect to provide both an assigned automobile and all related expenses, or to provide a monthly automobile allowance to Executive employees. The monthly allowance will be in lieu of the IRS standard mileage reimbursement rate that would otherwise apply in the use of his/her personal automobile in the performance of his/her duties. An Executive employee may not receive the automobile allowance for any month during which the employee's driver license has expired, been revoked, or suspended for a moving violation while operating an automobile.

The automobile allowance will be in the same amount as is provided to the County of Orange managers at the department head or agency head level as determined by the Orange County Board of Supervisors.

OCTA may assign vehicles on a 24-hour basis to designated positions, in accordance with the "Non-Revenue Vehicle Fleet Policy". Each OCTA operating base and administrative facility will be assigned a pool of non-revenue vehicles for authorized OCTA business. Special purpose vehicles will be assigned to a division based on business need as referenced in the "Non-Revenue Vehicle Fleet Policy".

4.6B EDUCATIONAL REIMBURSEMENT PROGRAM

OCTA may provide an Educational Reimbursement Program to reimburse a full-time employee for reasonable educational expenses for work-related courses. The AA will be responsible for developing, administering, and maintaining the program.

As authorized by the "Educational Reimbursement Plan Policy", a full-time employee who satisfactorily completed approved, work-related educational courses as defined in the

Educational Reimbursement Program Policy, will be reimbursed in full for eligible expenses up to a maximum of $~~3,675~~5,250 per calendar year. Increases to the tuition reimbursement amount will ~~be indexed to California State University system tuition rates not to~~ not exceed the IRS tax-free amount (currently $5250). If an employee separates employment or gives notice of separation prior to completion of the course, no reimbursement will be made. Newly hired employees may be eligible for educational reimbursement after six months of employment.

4.6C TABLET PURCHASE REIMBURSEMENT PROGRAM

OCTA may reimburse an employee for up to $400 or 50 percent, whichever is less, of actual expenditures for the cost of a personal tablet as authorized by the "Business Equipment Use Policy".

An employee may not receive more than $400 during any 24-month period. Newly hired employees may be eligible for tablet reimbursement after six months of employment.

4.6D UNIFORMS

An Administrative employee who is required to wear a uniform on the job will be granted an allowance up to $500 per year for the purchase of uniforms at OCTA's authorized uniform supplier. Uniform purchases must comply with the guidelines established by the appropriate division.

4.6E SAFETY SHOES

Executive Directors are authorized to approve the cost of a pair of work-required safety shoes approved by the employee's manager.

4.7 RETIREMENT AND DEFERRED COMPENSATION

4.7A DEFERRED COMPENSATION

OCTA may provide all full-time, part-time, and extra-help employees, including those covered by a collective bargaining agreement, with a deferred compensation program. The Deferred Compensation program is a benefit available to eligible employees to help them to save for retirement. The AA will be responsible for the establishment and administration of this program, utilizing the services of an outside administrator. This service will be provided at no cost to OCTA.

The Deferred Compensation Program is overseen by the Deferred Compensation Plan Committee. The Charter of the Deferred Compensation Plan Committee for the OCTA Retirement Plan Program constitutes the articles governing the operation of the committee. The Authority has delegated to the CEO the responsibility of determining the

committee members which comprise the Deferred Compensation Plan Committee, as well as the duties and responsibilities of the committee members.

Enrollment in this program will be offered to employees on a voluntary basis, unless mandated by state or federal law. Employee contributions to the program will be made by a payroll deduction. The CEO may authorize OCTA to pay ~~all or~~ a lump sum ~~part of the employee~~ contribution for designated ~~classes of employees~~positions.

Administrative employees will receive OCTA-paid matching contributions to 401 (a) plans based on years of service as set forth below, provided employees are making contributions of at least that amount to the OCTA 457 (b) plan:

Years of Service	Percent of Base Pay
New Hire but less than ~~5~~3	1%
3~~5~~ but less than 5~~10~~	2%
5~~10~~ or more	3%

In addition to the above scale, employees in Salary Grade V and above will receive an employer-paid matching contribution of up to two percent of base salary to the 401 (a) plan upon hire or promotion, provided employees are making contributions of at least that amount to the OCTA 457(b) plan.

4.7B RETIREMENT

All full-time and part-time employees of OCTA will participate in the Orange County Employees Retirement System (OCERS) and will be governed by its rules and regulations. All employees shall pay 100 percent of the OCERS employee contribution rate each pay period.

4.7C ADDITIONAL RETIREE BENEFIT ACCOUNT PLAN

An employee who retires from OCTA after January 1, 1995 who is in good standing with OCTA may be eligible for a benefit under the Additional Retiree Benefit Account Plan (ARBA). The retiring employee is eligible if the following conditions are met:

- at least ten years of service and at least 50 years of age at retirement, and
- receives a retirement benefit under OCERS within 30 days from the date of separation.

The benefit amount represents $10.00 per month, per year of service, not to exceed a monthly benefit of $150.00

OCTA reserves the right to modify or terminate this plan at any time by action of the Board. Administration of the ARBA Plan will be in accordance with the plan document.

Exceptions to the above policy resulting from the consolidation of the Orange County Transit District and the Orange County Transportation Commission are addressed in Grandfathered Benefits referenced in section 4.2.

4.8 TIME OFF BENEFITS

4.8A TIME OFF ACCRUALS

All paid time-off benefits will accrue during a leave of absence for only the period during which the employee is paid. An employee on unpaid leave of absence does not earn service credit for purposes of retirement benefits. An employee who returns to work from a leave of absence retains all accumulated service credit. Service credit for retirement benefits will be based on the specifications of the retirement system.

4.8B BEREAVEMENT LEAVE

In accordance with the "Bereavement Leave Policy", a full-time or part-time employee will be granted paid bereavement leave~~ for time actually lost~~, up to ~~three~~ five regularly scheduled workdays, upon the death of an immediate family member.

Immediate family member includes: spouse, parent, child, brother, sister, father-in-law, mother-in-law, son-in-law, daughter-in-law, stepchild, stepparent, stepbrother, stepsister, grandparent, grandchild, legal guardian/ward, or registered domestic partner. Bereavement leave may be granted for each occurrence.

~~An eligible employee who travels outside the state of California or outside a 350-mile radius from the OCTA Headquarters following the death of an immediate family member, will be granted up to five days paid bereavement leave.~~

The paid bereavement leave will not be chargeable to sick leave or vacation. The AA will authorize such absence from work.

Additional leave, if required, to make arrangements and/or attend the funeral, cremation, or memorial service of an immediate family member may be approved by the AA and will be charged against accrued sick or vacation leave.

4.8C CATASTROPHIC LEAVE DONATIONS

Employees may elect to donate accrued sick and/or vacation leave for use by an employee who has met the eligibility requirements under the Catastrophic Leave policy. For a detailed description, please refer to the "Catastrophic Leave Donation Policy."

4.8D HOLIDAYS AND PERSONAL PAID HOLIDAYS

OCTA will observe 12 paid holidays consisting of designated holidays and Personal Paid Holidays (PPH) as determined by the CEO. Annually, the listing of holidays observed for the year will be posted on the OCTA Intranet.

A full-time, non-exempt employee will receive the equivalent of 12 days of holiday pay at his/her regular rate during the calendar year. A full-time non-exempt employee who works an alternative work schedule will receive holiday pay for each of the above holidays based on his/her normally scheduled workday.

When a holiday falls on a Saturday, the previous day will be observed as the holiday, and when a holiday falls on a Sunday, the next day will be observed as the holiday, unless otherwise designated by the CEO. When a holiday falls on an employee's scheduled day off, either the previous working day or the next scheduled working day will be observed by the employee as the holiday.

A full-time or part-time non-exempt employee who is required to work on a holiday will be paid at 1-1/2 times his/her regular hourly rate for all hours worked in addition to pay for his/her regularly scheduled workday. An exempt employee will receive no premium pay for work on a scheduled OCTA holiday.

A full-time, exempt employee will receive holiday pay for each of the holidays observed and will be paid based on his/her normally scheduled workday.

All part-time employees will receive holiday pay for each holiday at his/her regular rate on a pro-rated basis.

PPHs are taken at an employee's discretion following supervisory approval. An employee will be paid for any unused PPHs for the current calendar year in the event of separation or retirement. The maximum number of PPHs that an employee may accrue will be two days over the current calendar year's entitlement. For new hires, the PPH accrual schedule for their first year will be posted on the OCTA Intranet and given to them during orientation.

4.8E JURY DUTY

A full-time or part-time employee who is called for jury duty or for examination for jury duty will receive compensation at his/her regular rate of pay for those days that coincide with the employee's regularly scheduled workdays.

Full-time and part-time employees are not eligible to receive additional compensation from the court system.

4.8F SICK LEAVE – FULL-TIME AND PART-TIME EMPLOYEES

OCTA provides a plan for full-time and part-time employees to accrue sick leave.

Sick leave may be used for an absence from employment for any of the following reasons:

- the employee is physically or mentally unable to perform his/her duties due to illness, injury, or medical condition of the employee;
- the absence is for the purpose of obtaining professional diagnosis or treatment for a medical condition of the employee;
- the employee is a victim of domestic abuse, sexual assault and/or stalking;
- the absence is to care for a qualified family member. A qualified family member is defined as a spouse, registered domestic partner, parent, child, grandparent, grandchild, or sibling.

An employee will accrue sick leave with pay for each paid hour in a regularly scheduled workweek at the rates as provided in the following table:

Years of Service	Accrual Rates	Approximate Accrual
Less than 3 years	.0347 Hours	9 days per year
3 years or more	.0462 Hours	12 days per year

Sick leave will be paid consistent with an employee's regularly scheduled workday. Accrued sick leave will be added to the employee's sick leave accumulation account upon the completion of the pay period, with no credit to be applied during the progress of the pay period or for a fraction of the pay period during which an employee separates service.

An employee who separates from OCTA with ten years or more of continuous service and who is in good standing with OCTA will receive payment of any earned but unused sick leave up to a maximum of 160 hours.

Upon the death of an employee, the employee's estate will be paid 100 percent of the employee's unused or unpaid sick leave.

Upon retirement from OCTA, provided the employee has ten years or more of continuous service and is in good standing with OCTA, the employee will be paid a maximum of 240 hours of his/her unused sick leave. An employee is considered retired if he/she begins receiving a retirement benefit from OCERS at the time of his/her separation. This benefit does not apply to deferred retirement.

Upon separation from OCTA due to layoff, all unused or unpaid sick leave will be paid to the affected employee.

An employee, who is injured on the job, resulting in loss of time, will be paid for the balance of the assignment on the day of injury at the regular rate of pay. The employee will also be paid for the time lost during the waiting period (first three days following date of injury, for which no Workers' Compensation benefits are provided). This payment will be at benefit rates provided under the Workers' Compensation Act. Payments under this section will not be charged against the employee's accumulated sick leave. Vacation and

sick leave accruals will continue during the three-day period and the employee will be credited as if he/she had worked his/her regularly scheduled hours each day.

For group insurance purposes only, time lost due to an on-the-job injury will not be considered an unpaid leave of absence. OCTA will continue to maintain and pay for the employee's group health coverage at the same level as active employees. To continue health coverage, an employee will be responsible for submitting health insurance contributions at the same rate and frequency as active employees. Failure to pay the employee's contribution may result in a lapse of coverage.

Extra-Help Employees and Interns

OCTA provides a plan for extra-help employees and interns to accrue sick leave. The employee will be eligible to use their sick leave on the 90th day of employment.

Sick leave may be used for an absence from employment for any of the following reasons:

- the employee is physically or mentally unable to perform his/her duties due to illness, injury or medical condition of the employee;
- the employee is a victim of domestic violence, sexual assault, and/or stalking;
- the absence is to care for a qualified family member. A qualified family member is defined as a spouse, registered domestic partner, parent, child, grandparent, grandchild, or sibling.

An employee will accrue sick leave with pay for each paid hour in a regularly scheduled workweek at the rate as provided in the following table:

Accrual Rate	Approximate Accrual
.0334 Hours	3 days per year

4.8G SICK LEAVE SELLBACK

An employee who has accumulated sick leave in excess of 120 hours, as of the close of the first pay period ending in November, may choose to retain all unused accumulated sick leave and continue to accrue sick leave or to receive a single payment at his/her current rate of pay for any amount in excess of 120 hours. If the employee elects to receive payment, it will be paid no later than the pay date of the final payroll of that year.

4.8H VACATION

OCTA provides vacation leave with pay for full-time and part-time employees. Vacation leave is differentiated from other types of leave because it is intended for the rest, relaxation, and renewal of employees.

Accrued vacation leave will be applied to the employee's vacation accumulation account only upon completion of each pay period, except when an employee separates employment.

Upon separation, all unused vacation leave accrued through the employee's separation date will be paid.

Upon hire, an employee with less than two years of service will earn .0577 hours of vacation leave for each straight time hour of pay in a regularly scheduled workweek, unless otherwise approved by the AA and authorized by the Department Manager, Human Resources.

Accrual rates change beginning with the pay period following the pay period that begins the next year of service.

The maximum allowable accrued vacation leave at any time for full-time or part-time employees is listed below.

At the Beginning of Year:	The Employee Shall Earn:	To a Maximum Per Year of:	Maximum Accrued Vacation Leave
0 through year 2	.0577 hours	120 hours	240 hours
3 through year 4	.0577 hours	120 hours	300 hours
5 through year 9	.0770 hours	160 hours	300 hours
10 through year 14	.0962 hours	200 hours	390 hours
15 through year 18	.1039 hours	216 hours	390 hours
19 or more	.1154 hours	240 hours	440 hours

An employee will not accrue vacation leave in excess of the maximum amount unless authorized by the CEO. The CEO is exempt from a maximum accrual. Vacations will be scheduled consistent with efficient OCTA operations.

4.8I VACATION SELLBACK

An employee has the option of selling back up to 200 hours of vacation pay each calendar year for accrued but unused vacation. An employee must use at least 40 hours of vacation during the previous 12 months before exercising the sellback option.

The sellback option may be exercised twice in any given calendar year and may not exceed 200 hours.

Under unusual circumstances involving verifiable emergencies, the AA may authorize a cash value payment to an employee for an amount up to the total amount of accrued vacation.

An employee separating from OCTA will be paid, in a lump sum payment, for all unused vacation leave accrued through his/her separation date at his/her current rate of pay.

SECTION 5
COMPENSATION

5.1 COMPENSATION PHILOSOPHY

OCTA's objective is to provide competitive wages based on the market value for comparable work. Human Resources strives to administer the compensation program in a flexible but consistent manner. The purpose of the compensation program is to attract, retain, and motivate employees.

Employees are recognized for their contributions through performance-based merit increases.

5.1A SALARY RESOLUTION

The purpose of the Salary Resolution is to:

- attract and retain a workforce dedicated to excellence, thereby ensuring OCTA's ability to meet the present and future business objectives of the organization;
- maintain a salary program that will give maximum incentive to real accomplishments and compensate individuals on the basis of merit without discrimination, while providing necessary administrative control of salary costs; and
- provide salary structures that are internally equitable and externally competitive.

5.1B SALARY STRUCTURE

The Salary Structure is designed to provide:

- salary grade ranges for classifications based upon the scope and level of responsibility of work performed in comparison to other work performed within OCTA, and in comparison, to the external market; and
- salaries paid to employees that reflect the level of responsibilities of the classification and the performance of the individual.

5.2 ADMINISTRATION OF COMPENSATION

The AA is responsible for the establishment of definitive guidelines for adjusting individual salaries and salary ranges. The development and administration of these guidelines may be delegated to appropriate staff.

Within guidelines established by the AA, compensation adjustments may be given:

- as an increase to base pay; and
- in a lump sum payment.

The AA is authorized to adjust an incumbent's salary. The salary of each Executive employee will be determined by the CEO.

5.3 NEWLY HIRED/PROMOTED EMPLOYEES

An employee may be hired or promoted into a position at any salary within the range for the classification; such salary is to be determined based on individual qualifications. Approval by the Division Executive Director is required for starting salaries at or above the midpoint of the salary grade for external hires. Approval by the CEO is required for starting salaries at or above the midpoint of the salary grade for external hires in salary grade V or for employee salary increases over ten percent. All promotions and salary increases must have an effective date that is the first day of a pay period.

For new hires, after six months of employment, the employee's performance will be evaluated.

The performance of promoted employees may be evaluated after six months, as determined by the hiring manager prior to the job offer. The six-month review date is calculated from the beginning of the pay period in which they were promoted. 5

Subsequent performance reviews will be conducted annually on a common review date and merit increases may be authorized at that time.

5.4 RECLASSIFICATIONS

When a position is changed to a different classification in a higher salary grade, a lower salary grade, or in the same salary grade, it will be considered a reclassification. This action is based on substantial changes in the kind, difficulty, and/or responsibility level of the duties performed. (Refer to the Reclassification Policy).

Any employee in a position that is reclassified to a higher salary grade will be paid at least the minimum of the new salary grade. An employee in a position that is reclassified to a lower salary grade may have his/her salary reduced to the maximum of the new salary grade or with approval of the AA, may retain his/her salary paid prior to the reclassification.

5.5 CLASSIFICATION TITLES

All filled positions must have classification titles that are included in the PSR. The CEO or the Board may authorize the addition of new classification titles to the PSR and assign or authorize changes to classification salary grade assignments at any time during the year.

5.6 MERIT ADJUSTMENTS

For fiscal year 2022~~1~~-23~~2~~, a pool for merit-based salary increases ~~–~~of ~~4~~5% has been established for administrative positions, based on the availability of financial resources, as approved by the Board of Directors.

An employee may receive a merit increase based on his/her performance evaluation rating at the time of the common review unless the overall rating is "Does Not Meet Expectations."

Individual merit increases may vary in amount depending on performance.

An employee's performance may be reviewed at any time during the year as appropriate, but his/her salary may not be adjusted other than as provided in this PSR.

5.7 SPECIAL PERFORMANCE AWARDS

For fiscal year 2022~~1~~-23~~2~~, a special performance award pool of ~~3~~4% has been stablished for administrative positions based on the availability of financial resources, as approved by the Board of Directors.

Should a special performance award pool be established, the AA may authorize special performance awards for full-time and part-time employees based on individual employee performance. Each award will be a single lump sum payment and will not increase an employee's base salary. Employees who have not completed six months of employment are not eligible to receive a Special Performance Award.

5.8 TEMPORARY ASSIGNMENTS

Performing Additional Duties of a Different Classification

When an employee is temporarily assigned duties of a different position with the same or higher salary grade, the employee's salary may be increased by an amount not to exceed five percent per salary grade for the difference between the employee's current classification and the temporary assignment. Same salary grade temporary increases are limited to a maximum of five percent. Such increases may be made only in those instances where the assignment will last at least 30 days and will not, in any event, be paid for a period in excess of 180 days, without written authorization by the CEO. Temporary increases must be effective the first day of a pay period.

Performing ~~Higher Level~~ Duties Critical to the Organization

At the sole discretion of the CEO, when an employee is performing duties critical to the organization during a crucial project or period of time, a temporary increase or stipend can be used to incentivize the key employee to remain at OCTA. This

compensation can be in the form of a percentage of base salary, ~~or~~ one or more lump sum amounts, or an additional employer non-matching deferred compensation contribution. The CEO must provide written authorization, by way of a memo, which includes the justification and time period for which this will be in effect. The amount and type of compensation will be determined by the CEO and reviewed annually or when ~~higher levels~~the critical duties are no longer being performed

5.9 EQUITY ADJUSTMENTS

The AA is authorized to adjust an incumbent's base salary to resolve a significant salary disparity manifested by internal salary compression, external market pressure(s), or both, whereby the individual is no longer appropriately compensated and a base salary adjustment is appropriate.

Equity adjustments should be used sparingly and should not be done in lieu of or in combination with, a promotion, reclassification, transfer, or merit adjustment. The types of situations in which an equity adjustment is appropriate include, but are not limited to:

a. retention of critical staff;
b. salary compression issues;
c. impact of new hires whose hiring rate exceeds those of current staff;
d. offer from another employer;
e. assignment of more complex duties that do not meet the criteria for reclassification; and
f. equity with peers in the same classification with similar education and experience levels.

Equity adjustments may not increase an incumbent's salary outside the specified salary range. Additionally, equity adjustments do not affect any established merit pool approved by the Board.

Equity adjustments may only be approved by the CEO.

SALARY GRADE STRUCTURE

Grade	Period	Minimum	Midpoint	Maximum
C	Hourly Intern	17.00	18.00	20.00

Grade	Period	Minimum	Midpoint	Maximum
F	Hourly Monthly Annual ~~General Services Specialist, Assistant~~ ~~Office Specialist, Assistant~~ On-Board Evaluator	~~18.73~~20.03 ~~3,246.54~~3,471.87 ~~38,958.40~~41662.40	~~22.35~~23.65 ~~3,874.00~~4,099.34 ~~46,488.00~~49,192.00	~~25.96~~27.26 ~~4,499.74~~4,725.07 ~~53,996.80~~56,700.80

Grade	Period	Minimum	Midpoint	Maximum
G	Hourly Monthly Annual Customer Relations Representative General Services Specialist, Assistant Office Specialist, Assistant	~~19.81~~21.20 ~~3,433.74~~3,674.67 ~~41,204.80~~44,096.00	~~23.73~~25.12 ~~4,113.20~~4,354.14 ~~49,358.40~~52,249.60	~~27.65~~29.04 ~~4,792.67~~5,033.60 ~~57,512.00~~60,403.20

Grade	Period	Minimum	Midpoint	Maximum
H	Hourly Monthly Annual ~~Accounting Specialist, Associate~~ General Services Specialist Office Specialist Schedule Checker	~~21.09~~22.57 ~~3,655.60~~3,912.14 ~~43,867.20~~46,945.60	~~25.33~~26.81 ~~4,390.54~~4,647.07 ~~52,686.40~~55,764.80	~~29.56~~31.04 ~~5,123.74~~5,380.27 ~~61,484.80~~64,563.20

Grade	Period	Minimum	Midpoint	Maximum
J	Hourly Monthly Annual	~~22.35~~23.93 ~~3,874.00~~4,147.87 ~~46,488.00~~49,774.40	~~26.95~~28.53 ~~4,671.34~~4,945.20 ~~56,056.00~~59,342.40	~~31.55~~33.13 ~~5,468.67~~5,742.54 ~~65,624.00~~68,910.40
	Accounting Specialist, Associate Customer Relations Representative, Senior Digital/Reprographic Specialist General Services Specialist, Senior ~~Marketing Specialist, Assistant~~ Office Specialist, Senior Schedule Checker, Senior ~~Warranty Coordinator, Associate~~			

Grade	Period	Minimum	Midpoint	Maximum
K	Hourly Monthly Annual	~~23.83~~25.53 ~~4,130.54~~4,425.20 ~~49,566.40~~53,102.40	~~28.84~~30.54 ~~4,998.94~~5,293.60 ~~59,987.20~~63,523.20	~~33.85~~35.55 ~~5,867.34~~6,162.00 ~~70,408.00~~73,944.00
	Accounting Specialist Asset Management Administrator ~~Buyer, Associate~~ Digital/Reprographic Specialist, Senior Grants Technician Help Desk Technician, Associate HR Assistant Marketing Specialist, Assistant Warranty Coordinator, Associate			

Grade	Period	Minimum	Midpoint	Maximum
L	Hourly	~~25.78~~27.63	~~31.36~~33.21	~~36.93~~38.78
	Monthly	~~4,468.54~~4,789.20	~~5,435.74~~5,756.40	~~6,401.20~~6,721.87
	Annual	~~53,622.40~~ 57,470.40	~~65,228.80~~ 69,076.80	~~76,814.40~~ 80,662.40
	Accounting Specialist, Senior Administrative Specialist ~~Benefits Analyst, Associate~~ Buyer, Associate Clerk of the Board Specialist, Assistant Business Unit Analyst, Associate Claims Representative, Associate Community Relations Specialist, Associate ~~Contract Administrator, Associate~~ Creative Services Specialist, Associate Customer Relations Specialist, Associate DBE Specialist, Associate Executive Assistant I ~~Fleet Analyst, Associate~~ ~~Health, Safety & Compliance Specialist, Associate~~ Help Desk Technician ~~Human Resources Representative, Associate~~ LOSSAN Marketing Specialist, Associate Marketing Specialist, Associate Public Records Administrator, Associate Pass Sales Coordinator Records Administrator ~~Schedule Analyst, Associate~~ ~~Service Planning Analyst, Associate~~ Stops and Zones Analyst, Associate Stops and Zones Planner, Associate Section Supervisor I ~~Talent Acquisition Specialist, Associate~~ Transportation Funding Specialist Warranty Coordinator Web Data Analyst, Associate			

Grade	Period	Minimum	Midpoint	Maximum
M	Hourly	~~28.32~~30.35	~~34.45~~36.48	~~40.57~~42.60
	Monthly	~~4,908.80~~5,260.67	~~5,971.34~~6,323.20	~~7,032.14~~7,384.00
	Annual	~~58,905.60~~ 63,128.00	~~71,656.00~~ 75,878.40	~~84,385.60~~ 88,608.00
	Accountant, Associate			
	Benefits Analyst, Associate			
	~~Business Systems Analyst, Associate~~			
	Business Unit Analyst			
	Buyer			
	Claims Representative			
	Clerk of the Board Specialist			
	~~Code Administrator, Senior~~			
	~~Communications Specialist, Associate~~			
	Community Relations Specialist			
	Compensation Analyst, Associate			
	Contract Administrator, Associate			
	Creative Services Specialist			
	Customer Relations Specialist			
	DBE Specialist			
	Desktop Support Technician, Associate			
	Employee Programs Specialist			
	Executive Assistant II			
	~~Financial Analyst, Associate~~			
	Fleet Analyst, Associate			
	Help Desk Technician, Senior			
	Human Resources Representative, Associate			
	Learning and Development Administrator, Associate			
	LOSSAN Accounting Analyst, Associate			
	LOSSAN Marketing Specialist			
	Marketing Specialist			
	Payroll Administrator			
	Programmer Analyst, Associate			
	Public Records Administrator			
	Rail Maintenance-of-Way Administrator			
	~~Revenue Administrator, Associate~~			
	Records Administrator, Senior			
	Schedule Analyst, Associate			
	Section Supervisor II			
	~~Security Systems Administrator, Associate~~			
	Service Planning Analyst, Associate			
	Stops and Zones Analyst			
	Stops and Zones Planner			
	Talent Acquisition Specialist, Associate			
	Warranty Coordinator, Senior			
	Web Data Analyst			

Grade	Period	Minimum	Midpoint	Maximum
N	Hourly	~~31.16~~33.40	~~37.91~~40.15	~~44.65~~46.89
	Monthly	~~5,401.07~~5,789.34	~~6,571.07~~6,959.34	~~7,739.34~~8,127.60
	Annual	~~64,812.80~~ 69,472.00	~~78,852.80~~83,512.00	~~92,872.00~~97,531.20
	Accountant			
	Benefits Analyst			
	Bus Operations Supervisor			
	~~Business Relations Administrator~~			
	Business Systems Analyst, Associate			
	Business Unit Analyst, Senior			
	Clerk of the Board Specialist, Senior			
	Communications Specialist, Associate			
	Compensation Analyst			
	Contract Administrator			
	Creative Services Specialist, Senior			
	Cyber Security Compliance Analyst, Associate			
	DBE Specialist, Senior			
	Desktop Support Technician			
	Employee Relations Representative, Associate			
	Executive Assistant III			
	Field Administrator			
	Financial Analyst, Associate			
	Fleet Analyst			
	GIS Analyst, Associate			
	Government Relations Representative, Associate			
	Health, Safety & Compliance Specialist, Associate			
	HR Business Partner, Associate			
	Human Resources Representative			
	~~Internal Auditor, Associate~~			
	~~IS Security Analyst, Associate~~			
	Learning and Development Administrator			
	LOSSAN Accounting Analyst			
	LOSSAN Executive Administrative Assistant			
	~~Network Administrator, Associate~~			
	~~Network Analyst, Associate~~			
	Program Management Analyst, Associate			
	Programmer Analyst			
	Project Controls Analyst			
	Rail Maintenance-of-Way Administrator, Senior			
	Real Property Agent, Associate			
	Revenue Administrator, Associate			
	Schedule Analyst			
	Section Supervisor III			
	Security Systems Administrator, Associate			
	Service Planning Analyst			
	Stops and Zones Analyst, Senior			
	Stops and Zones Planner, Senior			
	Talent Acquisition Specialist			
	Transportation Analyst, Associate			
	Transportation Funding Analyst, Associate			
	Transportation Modeling Analyst, Associate			
	Web Data Analyst, Senior			

Grade	Period	Minimum	Midpoint	Maximum
P	Hourly	~~34.53~~36.99	~~41.86~~44.32	~~49.18~~51.64
	Monthly	~~5,985.20~~6,411.60	~~7,255.74~~7,682.14	~~8,524.54~~8,950.94
	Annual	~~71,822.40~~ 76,939.20	~~87,068.80~~92,185.60	~~102,294.40~~ 107,411.20
	Applications Analyst, Associate			
	Business Computing Solutions Specialist, Associate			
	Business Intelligence Analyst, Associate			
	Business Systems Analyst			
	Business Unit Analyst, Principal			
	Buyer, Senior			
	Civil Engineer			
	Claims Representative, Senior			
	Clerk of the Board Specialist,			
	Communications Specialist			
	Community Relations Specialist, Senior			
	Community Transportation Coordinator			
	Creative Services Specialist, Principal			
	Customer Relations Specialist, Senior			
	Cyber Security Analyst, Associate			
	Cyber Security Compliance Analyst			
	Cyber Security Intrusion Analyst, Associate			
	~~Data Warehouse Architect, Associate~~			
	Desktop Support Technician, Senior			
	Employee Programs Administrator			
	Employee Relations Representative			
	Executive Assistant IV			
	Field Administrator, Senior			
	Financial Analyst			
	GIS Analyst			
	Government Relations Representative			
	Health, Safety & Environmental Compliance Specialist			
	Human Resources Business Partner			
	Human Resources Representative, Senior			
	Internal Auditor, Associate			
	Learning & Development Administrator, Senior			
	LOSSAN Marketing Specialist, Senior			
	Maintenance Field Administrator			
	Maintenance Resource Analyst			
	Maintenance Instructor			
	Marketing Specialist, Senior			
	Network Administrator, Associate			
	Network Analyst, Associate			
	Program Management Analyst			
	Real Property Agent			
	Revenue Administrator			
	Schedule Analyst, Senior			
	Section Supervisor IV			
	Security Systems Administrator			
	Stops and Zones Analyst, Principal			
	~~Systems Software Analyst, Associate~~			
	Talent Acquisition Specialist, Senior			
	Telecommunications Administrator			
	Telecommunications Technician			
	Transportation Analyst			
	Transportation Funding Analyst			

Transportation Modeling Analyst
Web Developer
Wellness Coordinator
Worker's Compensation Program Specialist

Grade	Period	Minimum	Midpoint	Maximum
R	Hourly	~~38.28~~41.03	~~46.60~~49.35	~~54.92~~57.67
	Monthly	~~6,635.20~~7,111.87	~~8,077.34~~8,554.00	~~9,519.47~~9,996.14
	Annual	~~79,622.40~~85,342.40	~~96,928.00~~102,648.00	~~114,233.60~~ 119,953.60
	Accountant, Senior			
	Applications Analyst			
	Benefits Analyst, Senior			
	Business Computing Solutions Specialist			
	Business Intelligence Analyst			
	Business Systems Analyst, Senior			
	Communications Specialist, Senior			
	Community Relations Specialist, Principal			
	Community Transportation Coordinator, Senior			
	Compensation Analyst, Senior			
	Contract Administrator, Senior			
	Cyber Security Analyst			
	Cyber Security Compliance Analyst, Senior			
	Cyber Security Intrusion Analyst			
	Cyber Security Risk Analyst			
	Data Warehouse Architect, Associate			
	Database Administrator			
	Employee Relations Representative, Senior			
	Executive Assistant V			
	Facilities Maintenance Supervisor			
	Financial Analyst, Senior			
	Fleet Analyst, Senior			
	GIS Analyst, Senior			
	Government Relations Representative, Senior			
	Health, Safety & Environmental Compliance Specialist, Senior			
	Human Resources Business Partner, Senior			
	Internal Auditor			
	Inventory Analyst			
	IS Project Manager I			
	~~IS Security Analyst~~			
	LOSSAN Accounting Analyst, Senior			
	LOSSAN Marketing Specialist, Principal			
	LOSSAN Transportation Analyst, Senior			
	LOSSAN Transportation Funding Analyst, Senior			
	Maintenance Field Administrator, Senior			
	Maintenance Instructor, Senior			
	Maintenance Planner			
	Maintenance Resource Analyst, Senior			
	Maintenance Supervisor			
	Marketing Specialist, Principal			
	Materials Management Planner			
	Network Administrator			
	Network Analyst			
	Operations Analyst, Principal			
	Program Management Analyst, Senior			
	Project Controls Analyst, Senior			
	Project Manager I			
	Revenue Administrator, Senior			
	Section Manager I			
	Security Systems Administrator, Senior			
	Service Planning Analyst, Senior			
	~~Social Media Manager~~			

	Systems Software Analyst, Associate Talent Acquisition Specialist, Principal Transit Project Manager I Transportation Analyst, Senior Transportation Funding Analyst, Senior Transportation Modeling Analyst, Senior Web Developer, Senior			
Grade	**Period**	**Minimum**	**Midpoint**	**Maximum**
S	Hourly Monthly Annual	~~43.00~~46.09 ~~7,453.34~~7,988.94 ~~89,440.00~~95,867.20	~~52.33~~55.42 ~~9,070.54~~9,606.14 ~~108,846.40~~115,273.60	~~61.65~~64.74 ~~10,686.00~~11,221.60 ~~128,232.00~~ 134,659.20
	Accountant Principal Applications Analyst, Senior Assistant Base Manager Benefits Analyst, Principal Business Computing Solutions Specialist, Senior Business Intelligence Analyst, Senior Business Systems Analyst, Principal Civil Engineer, Senior Claims Manager Communications Specialist, Principal Community Transportation Coordinator, Principal Compensation Analyst, Principal Construction Safety Specialist, Principal Cyber Security Analyst, Senior Cyber Security Engineer Cyber Security Intrusion Analyst, Senior Cyber Security Risk Analyst, Senior Data Warehouse Architect Database Administrator, Senior Emergency Management Specialist Employee Relations Representative, Principal Financial Analyst, Principal Government Relations Representative, Principal GIS Analyst, Principal Health, Safety & Environmental Compliance Specialist, Principal Internal Auditor, Senior IS Project Manager II Learning & Development Administrator, Principal LOSSAN Marketing and Communications Manager LOSSAN Transportation Analyst, Principal Maintenance Field Administrator, Principal Network Administrator, Senior Network Analyst, Senior Program Management Analyst, Principal Programmer Analyst, Senior Project Controls Analyst, Principal Project Manager II Real Property Agent, Senior Revenue Administrator, Principal Section Manager II SharePoint System Architect Systems Software Analyst			

Transit Project Manager II
Transportation Analyst, Principal
Transportation Funding Analyst, Principal
Transportation Modeling Analyst, Principal
Web Developer, Principal

Grade	Period	Minimum	Midpoint	Maximum
T	Hourly	~~48.31~~51.77	~~58.68~~62.14	~~69.04~~72.50
	Monthly	~~8,373.74~~8,973.47	~~10,171.20~~10,770.94	~~11,966.94~~12,566.67
	Annual	~~100,484.80~~107,681.60	~~122,054.40~~129,251.20	~~143,603.20~~ 150,800.00
	Analysis Project Manager Applications Analyst, Principal Base Manager Business Computing Solutions Specialist, Lead Civil Engineer, Principal Construction Safety Section Manager Contract Administrator, Principal Cyber Security Engineer, Senior Cyber Security Risk Analyst, Principal Data Warehouse Architect, Senior Database Administrator, Principal Deputy Treasurer Internal Auditor, Principal IS Business Strategist IS Enterprise Architect IS Project Manager III ~~IS Security Analyst, Senior~~ LOSSAN Equipment and Mechanical Manager Operations Project Manager Project Manager III Rail Systems Safety Specialist, Principal Real Property Agent, Principal Section Manager III Service Planning Analyst, Principal SMS Program Manager ~~Streetcar Program Manager~~ Systems Software Analyst, Senior Transit Project Manager III			

Grade	Period	Minimum	Midpoint	Maximum
U	Hourly	~~55.42~~59.42	~~67.63~~71.63	~~79.84~~83.84
	Monthly	~~9,606.14~~10,299.47	~~11,722.54~~12,415.87	~~13,838.94~~14,532.27
	Annual	~~115,273.60~~123,593.60	~~140,670.40~~148,990.40	~~166,067.20~~174,387.20
	Cyber Security Engineer, Principal Data Warehouse Architect, Principal Internal Audit, Senior Manager IS Project Manager, Senior LOSSAN Planning and Analysis Manager LOSSAN Project Manager, Senior Project Manager, Senior Section Manager, Senior Strategic Plan Administrator			

Grade	Period	Minimum	Midpoint	Maximum
V	Hourly	~~64.23~~68.77	~~77.43~~81.97	~~90.63~~95.17
	Monthly	~~11,133.20~~11,920.14	~~13,421.20~~14,208.14	~~15,709.20~~16,496.14
	Annual	~~133,598.40~~143,041.60	~~161,054.40~~170,497.60	~~188,510.40~~197,953.60
	Department Manager LOSSAN Finance and Administration Manager LOSSAN Operations Compliance and Safety Manager LOSSAN Planning & Communication Manager LOSSAN Program Manager LOSSAN Programming & Grants Manager Program Manager			

Grade	Period	Minimum	Midpoint	Maximum
W	Hourly	~~69.83~~87.17	~~86.35~~103.69	~~102.86~~120.20
	Monthly	~~12,103.87~~15,109.46	~~14,967.34~~17,972.93	~~17,829.07~~20,834.66
	Annual	~~145,246.40~~181,313.60	~~179,608.00~~215,675.20	~~213,948.80~~250,016.00
	Communications Manager Department Manager, Senior LOSSAN Senior Manager, Finance & Administration Program Manager, Senior			

GLOSSARY OF TERMS

ADMINISTRATIVE EMPLOYEE	Any employee of OCTA not covered by a collective bargaining agreement.
APPOINTING AUTHORITY	The CEO; he/she may delegate this responsibility.
AT-WILL EMPLOYMENT	An employee's employment status may be changed, including, but not limited to, separation of employment, by OCTA or the employee, at any time for any reason.
BOARD	The Board of Directors of OCTA.
CATASTROPHIC LEAVE	An extended leave due to an employee's own serious illness or medical condition, or that of an immediate family member where the employee is the primary caregiver, that incapacitates the employee and where the employee is expected to use up his/her entire accrued leave.
CLASSIFICATION OR CLASSIFICATION TITLE	The title that identifies the type of work being performed by one or more incumbents in a position.
DOMESTIC PARTNER	A domestic partnership is established in California when both persons file a Declaration of Domestic Partnership with the Secretary of State. A domestic partner is further defined by California's Family Code, Section 297-297.5.
ELIGIBLE DEPENDENT	Spouse, registered domestic partner, and dependent children up to the age 26.
EQUITY INCREASE	An adjustment to an employee's base salary to resolve a significant salary disparity manifested by internal salary compression, external market pressure(s), or both, whereby the individual is no longer appropriately compensated and a base salary adjustment is appropriate.
EXECUTIVE EMPLOYEE	An employee classified as CEO, Deputy CEO, COO, CFO, Executive Director, Director, and General Manager.

EXEMPT EMPLOYEE	An employee in a position that is not covered under the provisions of the FLSA regarding minimum wage, overtime, maximum hours, and recordkeeping.
EXTRA-HELP EMPLOYEE	An employee hired to serve as part-time augmentation of staff in which the duty or task defined generally requires less than 20 hours of work per week and no more than 1,000 work hours within a continuous 12-month period. An extra-help employee is not eligible for employee benefits.
FULL-TIME EMPLOYEE	An administrative employee in a position with a normal workweek that totals at least 40 hours.
INTERN	An employee enrolled as a full-time student at a two- or four-year college or university pursuing a course of study that will lead to an undergraduate or graduate degree, or a recent graduate, in a field of study applicable to the hiring department's specialty. The intern provides assistance to departments by performing a variety of duties related to the intern's career field. Guidelines for extra-help employees also apply to interns.
NON-EXEMPT EMPLOYEE	An employee in a position that is covered under the provisions of the FLSA regarding minimum wage, overtime, maximum hours, and record keeping.
PART-TIME EMPLOYEE	An administrative employee in a position with a normal workweek that totals at least 20 hours but not more than 39 hours, and not more than 1040 hours annually.
POSITION	Full-time and part-time positions in the Board-approved fiscal year budget.
PROMOTION	Movement of an employee from one position to a different position in a higher salary grade through the recruitment process.
PROMOTION – "IN-FAMILY"	Movement of an employee through recruitment to a similar position within the same specialty or "family" series. The duties performed are similar in nature and they continue to be reviewed during the Annual Performance Review Cycle.
RECLASSIFICATION	When a position is changed to a different classification in a higher, lower, or the same salary grade, as a result of an evaluation process.

REHIRE	To employ someone who previously separated his/her employment with OCTA (normally following a voluntary resignation) without restoring prior service.
REINSTATE	To return, within six months, an employee, previously separated due to layoff, to active employment with OCTA and to restore prior service and benefit eligibility, with no formal break in service. Vacation, sick, and holiday hours for which the employee was paid at the time of separation are not restored. (This action is unrelated to retirement service credit).
SALARY RANGE	The minimum and maximum of the salary grade for a position. It is based upon the scope and responsibility of work performed in comparison with other work performed within OCTA and in comparison with the competitive labor market.
TEMPORARY HELP	A person acquired through a temporary help agency to perform work on a limited term basis, not an OCTA employee.
TRANSFER	When an employee retains the same job title and work responsibilities but is moved from one location or section/department to a different location or section/department.

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ATTACHMENT D

ORANGE COUNTY TRANSPORTATION AUTHORITY LICENSING AND MAINTENANCE AGREEMENTS SOLE SOURCE LIST - FISCAL YEAR 2022/2023

The Standard Contracts

Vendor Name	Software / Hardware Product	Sole Source Amount	Budgeted FY 22/23	Owner
1st Run Computer Services	Enterprise Content Management Scanner Maintenance	$ 32,000	$ 29,400	Lloyd Sullivan
Anderson Howard	Audio Visual Maintenance and Support	$ 30,000	$ 10,000	Ron Wolf
AvePoint	Cloud BackUp	$ 150,000	$ 150,000	Barry Reynolds
Bytemark	License and Maintenance for the Bytemark Mobile Ticketing Solution	$ 90,000	$ 85,360	Isaac Herrera
Carahsoft Single-year	Salesforce Customer Relations Case Management Software	$ 120,000	$ 120,000	Ryan Maloney
Citrix	XenDesktop, XenApp, Access Gateway, Citrix Repeater Plug-in, Premier Support	$ 80,000	$ 80,000	Barry Reynolds
Clever Devices	Ridecheck Plus, Replaced Passenger Counting Ridership	$ 70,000	$ 61,600	Tom Young
Computer SOS	Point of Sale Web Site Hosting	$ 43,000	$ 42,500	Tom Young
Conduent (aka Xerox Corporation)	Annual Maint & Support for Intelligent Transportation Management System	$ 575,000	$ 575,000	Michael Beerer
County of Orange	Countywide Coordinated Communication Systems	$ 100,000	$ 100,000	Tim Beseau
Dun & Bradstreet, Inc.	Business Credit Reporting	$ 68,000	$ 66,000	Laura Foster
Ecointeractive	OCfundTracker Subscription Service	$ 210,000	$ 200,000	Ben Ku
Everbridge	Transit NOTO	$ 80,000	$ 70,000	Tom Young & Katrina Faulkner
Franklin Covey (Three Years)	Training Licenses	$ 65,000	$ 60,000	Julie Espy
Giro	Map / HASTUS / Vehicle/ Crew/ Crew Opt/ Roster/ Minbus/ ATP/ Interface Program/ Geo Hastus Map/ Hastinfo/ Hastinfo - Web/DailyVehicle/DailyCrew/Bid/BidWeb/ SelfService/EPM/Bing/ Plus Annual Hosting Fees	$ 400,000	$ 297,000	Tom Young
Granicus	Hosting Services for Granicus Board and Committee Meeting Webcasts for OCTA and LOSSAN, eForms	$ 100,000	$ 74,800	Tom Young
GovQA/WebQA/AKA Granicus	Hosting and Maintenance for Public Records Request and Subpoena Apps	$ 100,000	$ 82,500	Tom Young
Halogen	Performance Management Application	$ 135,000	$ 131,250	Karen DeCrescenzo
Harris Insite Telecom	Intelligent Transportation Management System Fixed Radio Components	$ 60,000	$ 50,000	Michael Beerer
ICIMS	Applicant Tracking Application	$ 160,000	$ 150,000	Karen DeCrescenzo
INIT	Third Option Term - Extended Warranty and Annual Maintenance	$ 175,000	$ 166,437	Isaac Herrera
Intellitime	Electronic Timesheet, Annual Hosting, Maintenance and Support	$ 97,000	$ 60,500	Tom Young
Kronos/UKG	Workforce Central Software & Hardware Annual Hosting, Eductation, Training Maintenance and Support	$ 100,000	$ 75,900	Tom Young
March Networks	On-Board Video Surveillance System Maintenance and Administration Contract	$ 1,200,000	$ 1,100,000	Michael Beerer
McLean AKA Info-Tech Research Group Inc.	Employee Engagement, Pulse, and Exit Surveys	$ 32,000	$ 31,500	Karen DeCrescenzo
MHC Software, Inc. AKA Safeguard	Check Printing Software, W2 and1099 Printing, ACA Reporting, Electronic W2/Paystubs, Document Express 1099-NEC and MHC DSS mhcKBA	$ 50,000	$ 42,000	Cherie Finona & Karen DeCresenzo

Oracle	Oracle Annual Software Support, Maintenance and Training	$ 390,000	$ 300,000	Michael Beerer
Origami Risk LLC	Origami Risk Software	$ 100,000	$ 50,000	Tom Young
Payscale	Human Resources Contracted Salary Research Service	$ 38,000	$ 36,750	Lynn Huson
Salesforce AKA ExactTarget	Proprietary Platform for Email and Text Messaging Services	$ 225,000	$ 189,000	Ryan Armstrong & Jacqueline Moon
Santa Catalina Conservancy	Catalina Radio Frequency Site and Service	$ 55,000	$ 50,000	Michael Beerer
SAP America, Inc. (Previously Business Objects)	Annual Maintenance & Support for Crystal and Business Objects WEB Intelligence	$ 60,000	$ 52,500	Lloyd Sullivan
Sprinklr	Social Media Management System for Advertising, Tracking and Reporting Marketing Programs	$ 60,000	$ 55,650	Ryan Armstrong & Jacqueline Moon
SPX Corp.	Annual Support Services for GFI Genfare.	$ 100,000	$ 77,000	Tom Young
Swiftly	Insights (GPS Playback & On-Time Performance) Transitime (Real Time Passenger Info, Rider Alerts, SMS Text4Next)	$ 550,000	$ 521,500	Lloyd Sullivan/Tim Beseau
Talentwise	Hosted Onboarding Solution	$ 38,000	$ 36,750	Karen DeCrescenzo
Trackit	Training Assignment and Evaluator Software	$ 30,000	$ 28,600	Tom Young
Trapeze AKA Vontas	Trapeze EZ Wallet, TripSpark (RidePro, RidePro App Vanpool), Drivermate, Trapeze Pass 4, IVR Confirm/Cancel & Real-time & Call back & Trip booking & Gateway & Viewpoint & Map Maker & Eligibility Suite(Pass-Cert) & Srv Infractions (Pass-SUS) & 2 MDT-MON/MDC Software & Hardware with Map Maker and VoiceGenie, PASS-MON-SPV up to 12 Paratransit vehicles, Trapeze 14 ODB & DCC 14 Units, ViewPoint for PASS, SUS -Trip Broker Trip Licensing; PASS-MON Vehicle (MDT); PASS Trapeze User Licenses - Work Stations; Maps & Service Area Polygons; Trapeze Web - Online Booking; Trapeze Viewpoint – Dashboard; IPA Module	$ 700,000	$ 654,200	Tom Young
Trinet	CAMMNET Support	$ 80,000	$ 80,000	Marcus Estrada
Vertosoft LLC	Comprehensive Annual Financial Report Preparation Software	$ 59,000	$ 57,750	Changsu Lee
Virtual Consulting	Crystal, Business Objects, and Java Support for DataWarehouse and Occurrence Tracking Systems. Annual Maintenance and Support for Qlikview & Qliksense Licenses.	$ 185,000	$ 151,000	Lloyd Sullivan
Xerox Corporation	Xerox Maintenance, Printing Equipment, Software, Parts and Supplies	$ 595,000	$ 275,000	Sara Belovsky
	Subtotal	**$ 7,587,000**	**$ 6,527,447**	

With Emergency Support

(The vendors listed below have been detailed to reflect the cost of the emergency support that is required for these vendors. This support is not covered in the basic contract. It will be used for emergency support during after hours, weekends & holidays.)

Infor (US), Ciber	Annual Certified Support: Lawson Custom Interfaces & Modifications	$ 55,000	$ 50,000	Tom Young
	Certified On-Call Support	$ 5,000	$ 3,000	
	Lawson HR/Payroll Software & Lawson Business Intelligence	$ 175,000	$ 145,000	
	Educational Services - Lawson Learning Suite Subscription (CloudSuite)	$ 7,000	$ 5,500	
Hitachi/ABB/Ventyx	Ellipse Software Hosting	$ 400,000	$ 302,500	Tom Young
	Maintenance	$ 200,000	$ 150,000	
	Ellipse Interface and Emergency Support	$ 50,000	$ -	
CAI	UI Path Licenses, UIPATH Advanced Robotics Process Automation (RPA)	$ 100,000	$ 100,000	Lloyd Sullivan
	Emergency Support	$ 150,000	$ 150,000	
Informatica	PowerCenter SE (4-7) & Partitioning Option (4-7) AKA **Test** Environment and **Production** Environment (known as two separate contracts)	$ 130,000	$ 126,000	Lloyd Sullivan
	Emergency Support	$ 50,000	$ 30,000	
IFAS/Superion/One Solution/ Central Square/ Finance Enterprise	ONESolution Enterprise Core SQL-SQL-IFAS Maintenance One Solution / CentralSquare Contract Management module MKS SQL Annual Maintenance Fee TEST: IFAS - MKS Connectivity Suite Maintenance MicroFocus Server Express Runtime Annual Maintenance Fee OS and TEST: QS - MicroFocus Runtime COBOL NetExpress 3.1 Annual maintenance and support for IFAS application Emergency support on an as-needed basis with no guaranteed usage	$ 225,000	$ 205,000	Tom Young
	Ellipse Interface Support	$ 20,000	$ 20,000	
Hewlett Packard Enterprise	Hewlett-Packard Computers Maintenance	$ 40,000	$ 40,000	Barry Reynolds
	Emergency Support	$ 20,000	$ 20,000	
Konica Minolta	Nintex, Kofax, Valo & Adobe Esign Maintenance	$ 230,000	$ 209,000	Lloyd Sullivan
	Emergency Support	$ 150,000	$ 150,000	
	Business Process Outsourcing (BPO)	$ 100,000	$ -	
XenaTech Software Integration Service LLC	Motorist Services Hosting and Maintenance for Freeway Service Patrol's LATATrax / InteliTraxx System	$ 40,000	$ 36,500	Patrick Sampson
	Support	$ 50,000	$ 50,000	Patrick Sampson
Zenger Folkman 5 year term	Zenger Folkman provides the 16 core competencies used for the agency. With the licensing agreement we are able to use the core competencies, Extraordinary Leader model which have been implemented into the OCTA Academies, training programs, interview questions	$ 92,825	$ 92,825	Mark Schaff
	Subtotal	**$ 2,289,825**	**$ 1,885,325**	
	Grand Total of Contracts	***$ 9,876,825***	***$ 8,412,772***	

ATTACHMENT E

METROLINK
SOUTHERN CALIFORNIA REGIONAL RAIL AUTHORITY
900 Wilshire Blvd. Suite 1500 Los Angeles, CA 91767
metrolinktrains.com

May 27, 2022

TO: Martin Erickson, *Executive Director, VCTC*
Darrell Johnson, *Chief Executive Officer, OCTA*
Anne Mayer**,** *Executive Director, RCTC*
Stephanie N. Wiggins, *Chief Executive Officer, Metro*
Dr. Raymond Wolfe, *Executive Director, SBCTA*

FROM: Darren M. Kettle, *Chief Executive Officer, SCRRA*

SUBJECT: SCRRA Request for Adoption of the Authority's FY 2022-23 (FY23) Budget

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On May 27, 2022, the SCRRA Board approved the transmission of the Proposed FY23 Budget for your consideration and adoption. The Board further approved the transmission of the Forecast Operating Statement for years FY24, YF25, FY26 and FY27 for your review and programming.

The FY23 Budget Operating Revenue is projected to be $64.0M while the Operating Expenses are projected to be $296.6M. The total Operating Support requested from Member Agencies is $232.6M. Operating expenses will continue to be supported by CARES/ARPA/CRRSAA as funding is available. The FY23 Capital Program includes $94.4M for Rehabilitation, $12.1M for New Capital, and $102.5M ($5.9M of which is expected from Member Agencies) for Rolling Stock replacement.

As we navigate through the financial challenges presented by the pandemic and continue our ridership recovery efforts in the post-COVID "new normal", and the changes to work patterns, staff will be monitoring Ridership recovery, Farebox Revenues and Expenses very closely. The first quarter financial report will provide a thorough analysis of the current situation and our estimates of near-term performance, with recommendations for actions to deal with real-time conditions.

The Proposed FY23 Budget documentation, which was presented at the AFCOM Committee on May 13, 2022, and at the Board of Directors Meeting on May 27, 2022, is attached for your review. It includes:

- Board Item # 7A Approved at the Board of Director's Meeting on May 27, 2022
- Board item # 7A attachments, which includes:
    - Attachment A - Ridership Recovery Forecast

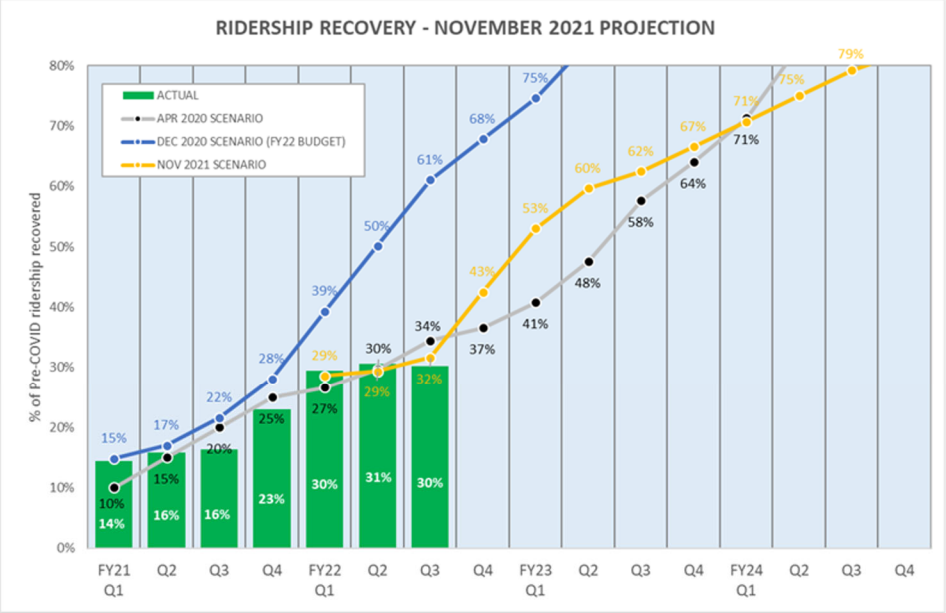
- Attachment B - FY23 Proposed Operating Budget with Comparison to FY22
- Attachment C - Historical Actual and Budgeted Operating Statements
- Attachment D - FY23 Proposed Operating Budget by Member Agency
- Attachment E - FY23 Proposed Operating Budget by Line
- Attachment F - History of Actual and Budgeted Operating Subsidy by Member Agency
- Attachment G - FY23 Proposed Rehabilitation Projects by Member Agency, Line, and Project Detail List
- Attachment H - FY23 Proposed New Capital by Member Agency, Line, and Project Detail List
- Attachment I - FY23 Proposed Capital Program Cashflow
- Attachment J - FY24 Forecasted Operating Budget
- Attachment K - FY25 Forecasted Operating Budget
- Attachment L - FY26 Forecasted Operating Budget
- Attachment M - FY27 Forecasted Operating Budget Detail List
- Attachment N - FY23 Proposed Operating Budget for ARROW Service for 4 Months (July-October)

Next Steps

May – June 2022	Staff present at Member Agencies' Committee and Board meetings as requested
June, 2022	FY23 Proposed Budget to SCRRA Board for Adoption

Thank you for your ongoing support and active participation in the development of the FY23 Proposed Budget. If you have any comments or concerns, please do not hesitate to contact me directly at (213) 452-0405. You may also contact Arnold Hackett, Chief Financial Officer at 213-452-0345.

Ridership Recovery Forecast



FY23 Proposed Operating Budget

($000s)	FY 21-22 Amended Budget	FY 22-23 Proposed Budget	Variance FY23 Proposed vs FY22 Amended	
			$ Variance	% Variance
Operating Revenue				
Farebox Revenue	42,604	44,585	1,980	4.65%
Fare Reduction Subsidy	1,126	1,511	385	34.21%
Other Train Subsidies	2,352	2,500	148	6.30%
Special Trains	150	-	(150)	-100.00%
Subtotal-Pro Forma FareBox	**46,232**	**48,595**	**2,364**	**5.11%**
Dispatching	2,054	2,777	723	35.20%
Other Revenues	575	773	198	34.35%
MOW Revenues	11,556	11,879	323	2.80%
Total Operating Revenue	**60,416**	**64,023**	**3,607**	**5.97%**
Operating Expenses				
Operations & Services				
Train Operations	46,202	51,311	5,108	11.06%
Equipment Maintenance	37,594	41,054	3,460	9.20%
Fuel	20,686	32,524	11,838	57.22%
Non-Scheduled Rolling Stock Repairs	100	100	-	0.00%
Operating Facilities Maintenance	1,654	2,218	564	34.08%
Other Operating Train Services	916	934	18	1.94%
Rolling Stock Lease	-	-	-	n/a
Security	13,533	15,738	2,205	16.30%
Public Safety Program	102	103	1	1.13%
Passenger Relations	1,870	1,911	41	2.19%
TVM Maintenance/Revenue Collection	4,614	5,365	752	16.29%
Marketing	2,868	3,097	230	8.02%
Media & External Communications	362	372	10	2.89%
Utilities/Leases	2,965	3,914	949	32.00%
Transfers to Other Operators	3,276	3,276	-	0.00%
Amtrak Transfers	824	824	-	0.00%
Station Maintenance	2,065	2,185	120	5.80%
Rail Agreements	4,218	5,305	1,087	25.78%
Holiday Trains	265	-	(265)	-100.00%
Special Trains	92	500	408	443.48%
Subtotal Operations & Services	**144,206**	**170,732**	**26,526**	**18.39%**
Maintenance-of-Way				
MoW - Line Segments	49,034	51,480	2,446	4.99%
MoW - Extraordinary Maintenance	697	1,048	350	50.23%
Subtotal Maintenance-of-Way	**49,731**	**52,527**	**2,796**	**5.62%**
Administration & Services				
Ops Salaries & Benefits	16,817	18,066	1,250	7.43%
Ops Non-Labor Expenses	8,654	11,983	3,329	38.47%
Indirect Administrative Expenses	19,889	21,546	1,656	8.33%
Ops Professional Services	2,398	2,685	287	11.97%
Subtotal Admin & Services	**47,758**	**54,280**	**6,522**	**13.66%**
Contingency	**90**	**90**	**-**	**0.00%**
Total Operating Expenses	**241,785**	**277,629**	**35,844**	**14.82%**
Insurance and Legal				
Liability/Property/Auto	14,677	16,088	1,411	9.61%
Net Claims / SI	990	1,000	10	1.01%
Claims Administration	1,172	1,856	684	58.30%
Total Net Insurance and Legal	**16,840**	**18,944**	**2,104**	**12.50%**
Total Expense	**258,625**	**296,573**	**37,948**	**14.67%**
Loss / Member Support Required	**(198,209)**	**(232,550)**	**(34,341)**	**17.33%**

Numbers may not foot due to rounding

Attachment C

Historical Actual and Budgeted Operating Statements

($000s)	FY 18-19 Actual	FY 19-20 Actual	FY 20-21 Actual	FY 21-22 Amended Budget	FY 22-23 Proposed Budget	Variance FY23 Proposed vs FY22 Amended $ Variance	% Variance
Operating Revenue							
Farebox Revenue	79,007	61,843	13,811	42,604	44,585	1,980	4.65%
Fare Reduction Subsidy	3,147	1,090	164	1,126	1,511	385	34.21%
Other Train Subsidies	-	-	2,306	2,352	2,500	148	6.30%
Special Trains	-	171	-	150	-	(150)	-100.00%
Subtotal-Pro Forma FareBox	**82,154**	**63,104**	**16,256**	**46,232**	**48,595**	**2,364**	**5.11%**
Dispatching	2,136	2,300	2,079	2,054	2,777	723	35.20%
Other Revenues	790	254	345	575	773	198	34.35%
MOW Revenues	13,017	13,301	11,545	11,556	11,879	323	2.80%
Total Operating Revenue	**98,097**	**78,958**	**30,225**	**60,416**	**64,023**	**3,607**	**5.97%**
Operating Expenses							
Operations & Services							
Train Operations	43,093	45,701	42,885	46,202	51,311	5,108	11.06%
Equipment Maintenance	36,642	36,861	37,041	37,594	41,054	3,460	9.20%
Fuel	23,582	21,150	18,640	20,686	32,524	11,838	57.22%
Non-Scheduled Rolling Stock Repairs	87	92	112	100	100	-	0.00%
Operating Facilities Maintenance	1,683	1,569	2,130	1,654	2,218	564	34.08%
Other Operating Train Services	1,069	863	945	916	934	18	1.94%
Rolling Stock Lease	230	231	230	-	-	-	n/a
Security	8,715	9,367	13,597	13,533	15,738	2,205	16.30%
Public Safety Program	209	55	64	102	103	1	1.13%
Passenger Relations	1,769	1,786	1,787	1,870	1,911	41	2.19%
TVM Maintenance/Revenue Collection	7,871	7,594	3,503	4,614	5,365	752	16.29%
Marketing	4,304	1,359	2,092	2,868	3,097	230	8.02%
Media & External Communications	348	410	219	362	372	10	2.89%
Utilities/Leases	2,775	2,762	2,899	2,965	3,914	949	32.00%
Transfers to Other Operators	5,608	5,394	662	3,276	3,276	-	0.00%
Amtrak Transfers	1,497	1,166	41	824	824	-	0.00%
Station Maintenance	1,847	1,980	1,960	2,065	2,185	120	5.80%
Rail Agreements	5,696	5,159	4,812	4,218	5,305	1,087	25.78%
Holiday Trains	-	57	-	265	-	(265)	-100.00%
Special Trains	-	524	-	92	500	408	443.48%
Subtotal Operations & Services	**147,026**	**144,081**	**133,621**	**144,206**	**170,732**	**26,526**	**18.39%**
Maintenance-of-Way							
MoW - Line Segments	43,112	43,375	43,756	49,034	51,480	2,446	4.99%
MoW - Extraordinary Maintenance	801	864	599	697	1,048	350	50.23%
Subtotal Maintenance-of-Way	**43,913**	**44,239**	**44,355**	**49,731**	**52,527**	**2,796**	**5.62%**
Administration & Services							
Ops Salaries & Benefits	13,484	15,497	15,578	16,817	18,066	1,250	7.43%
Ops Non-Labor Expenses	6,725	7,645	7,334	8,654	11,983	3,329	38.47%
Indirect Administrative Expenses	16,151	18,254	17,695	19,889	21,546	1,656	8.33%
Ops Professional Services	2,423	3,019	2,311	2,398	2,685	287	11.97%
Subtotal Admin & Services	**38,784**	**44,415**	**42,917**	**47,758**	**54,280**	**6,522**	**13.66%**
Contingency	**-**	**11**	**-**	**90**	**90**	**-**	**0.00%**
Total Operating Expenses	**229,723**	**232,745**	**220,893**	**241,785**	**277,629**	**35,844**	**14.82%**
Insurance and Legal							
Liability/Property/Auto	9,429	9,870	12,447	14,677	16,088	1,411	9.61%
Net Claims / SI	1,212	2,303	1	990	1,000	10	1.01%
Claims Administration	682	367	682	1,172	1,856	684	58.30%
Total Net Insurance and Legal	**11,324**	**12,540**	**13,129**	**16,840**	**18,944**	**2,104**	**12.50%**
Total Expense	**241,046**	**245,285**	**234,023**	**258,625**	**296,573**	**37,948**	**14.67%**
Non-Recurring Settlement Expense 1	**-**	**-**	**3,234**	**-**	**-**	**-**	**n/a**
Non-Recurring Settlement Expense 2	**-**	**-**	**2,370**	**-**	**-**	**-**	**n/a**
Loss / Member Support Required	**(142,949)**	**(166,327)**	**(209,402)**	**(198,209)**	**(232,550)**	**(34,341)**	**17.33%**
Member Support Payments	**150,550**	**156,578**	**163,176**	**TBD**	**TBD**	**TBD**	**TBD**
CARES Funding Utilized	**-**	**9,748**	**46,226**				
Surplus / (Deficit)	**7,600**	**-**	**-**				

Numbers may not foot due to rounding

Attachment D

FY23 Proposed Operating Budget by Member Agency

($000s)	METRO	OCTA	RCTC	SBCTA	VCTC	TOTAL
Operating Revenue						
Farebox Revenue	19,838	11,721	4,926	6,313	1,788	44,585
Fare Reduction Subsidy	904	-	-	607	-	1,511
Other Train Subsidies	2,500	-	-	-	-	2,500
Special Trains	-	-	-	-	-	-
Subtotal-Pro Forma FareBox	**23,241**	**11,721**	**4,926**	**6,920**	**1,788**	**48,595**
Dispatching	1,318	1,040	15	99	304	2,777
Other Revenues	395	171	72	111	24	773
MOW Revenues	6,206	3,041	729	1,473	430	11,879
Total Operating Revenue	**31,160**	**15,973**	**5,741**	**8,603**	**2,546**	**64,023**
Operating Expenses						
Operations & Services						
Train Operations	28,085	10,575	4,721	5,852	2,077	51,311
Equipment Maintenance	19,280	9,771	5,153	4,996	1,854	41,054
Fuel	17,492	7,112	2,975	3,741	1,203	32,524
Non-Scheduled Rolling Stock Repairs	49	25	10	12	3	100
Operating Facilities Maintenance	1,082	559	232	270	75	2,218
Other Operating Train Services	464	128	111	156	74	934
Rolling Stock Lease	-	-	-	-	-	-
Security	7,688	3,207	2,338	1,742	764	15,738
Public Safety Program	49	18	15	11	10	103
Passenger Relations	965	464	168	271	44	1,911
TVM Maintenance/Revenue Collection	2,232	1,245	944	601	343	5,365
Marketing	1,603	694	278	447	75	3,097
Media & External Communications	177	64	55	39	37	372
Utilities/Leases	1,857	674	582	411	389	3,914
Transfers to Other Operators	1,824	752	235	398	69	3,276
Amtrak Transfers	276	504	-	-	44	824
Station Maintenance	1,358	326	127	282	92	2,185
Rail Agreements	2,345	996	1,349	345	269	5,305
Holiday Trains	-	-	-	-	-	-
Special Trains	238	99	56	72	36	500
Subtotal Operations & Services	**87,062**	**37,214**	**19,350**	**19,647**	**7,460**	**170,732**
Maintenance-of-Way						
MoW - Line Segments	28,546	10,187	3,308	6,501	2,937	51,480
MoW - Extraordinary Maintenance	614	150	100	112	73	1,048
Subtotal Maintenance-of-Way	**29,159**	**10,337**	**3,408**	**6,613**	**3,009**	**52,527**
Administration & Services						
Ops Salaries & Benefits	8,570	3,126	2,680	1,899	1,791	18,066
Ops Non-Labor Expenses	6,041	2,499	1,397	1,328	719	11,983
Indirect Administrative Expenses	10,221	3,712	3,206	2,262	2,144	21,546
Ops Professional Services	1,274	463	400	282	267	2,685
Subtotal Admin & Services	**26,106**	**9,800**	**7,682**	**5,771**	**4,921**	**54,280**
Contingency	**43**	**16**	**13**	**9**	**9**	**90**
Total Operating Expenses	**142,370**	**57,366**	**30,454**	**32,040**	**15,399**	**277,629**
Insurance and Legal						
Liability/Property/Auto	7,850	4,054	1,684	1,958	541	16,088
Net Claims / SI	488	252	105	122	34	1,000
Claims Administration	906	468	194	226	62	1,856
Total Net Insurance and Legal	**9,244**	**4,774**	**1,983**	**2,306**	**637**	**18,944**
Total Expense	**151,614**	**62,140**	**32,437**	**34,346**	**16,036**	**296,573**
Loss / Member Support Required	**(120,455)**	**(46,167)**	**(26,696)**	**(25,742)**	**(13,490)**	**(232,550)**

Numbers may not foot due to rounding

FY23 Proposed Operating Budget by Line

($000s)	San Bernardino	Ventura County	Antelope Valley	Riverside	Orange County	IEOC	91/PVL	TOTAL
Operating Revenue								
Farebox Revenue	12,352	4,201	5,453	2,524	8,831	6,448	4,775	44,585
Fare Reduction Subsidy	1,511	-	-	-	-	-	-	1,511
Other Train Subsidies	798	99	969	318	194	-	123	2,500
Special Trains	-	-	-	-	-	-	-	-
Subtotal-Pro Forma FareBox	**14,660**	**4,299**	**6,422**	**2,842**	**9,026**	**6,448**	**4,898**	**48,595**
Dispatching	336	587	341	2	1,485	6	21	2,777
Other Revenues	228	57	150	47	130	101	60	773
MOW Revenues	3,348	1,285	3,032	183	1,942	1,322	767	11,879
Total Operating Revenue	**18,571**	**6,228**	**9,945**	**3,074**	**12,582**	**7,877**	**5,746**	**64,023**
Operating Expenses								
Operations & Services								
Train Operations	12,285	5,503	11,580	3,400	8,020	5,524	4,999	51,311
Equipment Maintenance	9,554	4,230	7,022	2,616	7,302	5,586	4,744	41,054
Fuel	7,434	3,146	6,824	2,230	6,026	3,931	2,933	32,524
Non-Scheduled Rolling Stock Repairs	25	8	17	6	19	14	10	100
Operating Facilities Maintenance	552	186	386	128	431	314	220	2,218
Other Operating Train Services	298	124	135	112	71	91	104	934
Rolling Stock Lease	-	-	-	-	-	-	-	-
Security	3,283	1,497	3,327	1,207	2,254	1,977	2,194	15,738
Public Safety Program	15	17	19	15	10	13	14	103
Passenger Relations	575	108	391	88	334	270	145	1,911
TVM Maintenance/Revenue Collection	951	780	865	422	758	865	723	5,365
Marketing	954	189	621	155	519	403	258	3,097
Media & External Communications	54	62	67	56	35	46	52	372
Utilities/Leases	571	650	707	586	372	479	548	3,914
Transfers to Other Operators	867	196	757	173	817	166	301	3,276
Amtrak Transfers	-	123	-	-	700	-	-	824
Station Maintenance	606	373	452	165	397	14	177	2,185
Rail Agreements	-	728	-	2,044	758	878	898	5,305
Holiday Trains	-	-	-	-	-	-	-	-
Special Trains	110	76	80	69	84	67	15	500
Subtotal Operations & Services	**38,135**	**17,996**	**33,249**	**13,471**	**28,907**	**20,637**	**18,336**	**170,732**
Maintenance-of-Way								
MoW - Line Segments	14,962	8,183	11,853	1,109	7,180	4,558	3,635	51,480
MoW - Extraordinary Maintenance	230	158	167	145	177	141	31	1,048
Subtotal Maintenance-of-Way	**15,192**	**8,341**	**12,019**	**1,254**	**7,357**	**4,698**	**3,666**	**52,527**
Administration & Services								
Ops Salaries & Benefits	2,646	2,991	3,271	2,696	1,732	2,209	2,522	18,066
Ops Non-Labor Expenses	2,384	1,500	2,312	1,184	1,841	1,432	1,329	11,983
Indirect Administrative Expenses	3,144	3,581	3,891	3,228	2,049	2,635	3,019	21,546
Ops Professional Services	392	446	485	402	255	328	376	2,685
Subtotal Admin & Services	**8,565**	**8,518**	**9,959**	**7,510**	**5,877**	**6,605**	**7,245**	**54,280**
Contingency	**13**	**15**	**16**	**13**	**9**	**11**	**13**	**90**
Total Operating Expenses	**61,905**	**34,870**	**55,244**	**22,249**	**42,150**	**31,951**	**29,260**	**277,629**
Insurance and Legal								
Liability/Property/Auto	4,007	1,353	2,797	930	3,123	2,278	1,599	16,088
Net Claims / SI	249	84	174	58	194	142	99	1,000
Claims Administration	462	156	323	107	360	263	185	1,856
Total Net Insurance and Legal	**4,718**	**1,593**	**3,293**	**1,095**	**3,678**	**2,683**	**1,883**	**18,944**
Total Expense	**66,623**	**36,463**	**58,537**	**23,345**	**45,828**	**34,634**	**31,143**	**296,573**
Loss / Member Support Required	**(48,052)**	**(30,236)**	**(48,592)**	**(20,271)**	**(33,246)**	**(26,757)**	**(25,397)**	**(232,550)**

Numbers may not foot due to rounding

History of actual and budgeted Operating Subsidy with variances of FY23 vs FY22

Support by Member Agency

	Total Support	METRO Share	OCTA Share	RCTC Share	SBCTA Share	VCTC Share
FY22 Amended Budget	$198,208,745	$101,451,894	$39,084,641	$21,923,093	$23,181,207	$12,567,910
FY23 Proposed Budget	$232,549,743	$120,454,841	$46,167,104	$26,695,637	$25,742,176	$13,489,985

Year-Over-Year Change	Total Support	METRO Share	OCTA Share	RCTC Share	SBCTA Share	VCTC Share
FY23 vs FY22						
$ increase	$34,340,998	$19,002,947	$7,082,463	$4,772,545	$2,560,969	$922,074
% increase	17.3%	18.7%	18.1%	21.8%	11.0%	7.3%

Whole numbers are provided as requested by Member Agencies for their board approval and budget adoption.

REHABILITATION PROJECT PROPOSALS FOR FY2023 BUDGET

Attachment G

REVISED: 02/11/22

ROW#	CREATOR	PROJECT #	TYPE	ROUTE LINE	SUB DIVISION	MILE POSTS	CONDITION	IMPACT	ASSET TYPE	PROJECT	SCOPE	TOTAL REQUEST	METRO	OCTA	RCTC	SBCTA	VCTC
1	HOLMANS	2417	Rehab	ALL	All	NA	Worn	High	Rolling Stock	BOMBARDIER RAILCAR REBUILD	Bombardier Railcar Rebuild and rehabilitation addresses the revenue fleet of railcars and cab cars. Specific work includes: Bombardier Railcar Rebuild - Option order for 38 Generation 1 cars	30,000,000	14,250,000	5,940,000	3,330,000	4,320,000	2,160,000
2	HOLMANS	2556	Rehab	ALL	All	NA	Worn	High	Facilities	FACILITIES REHABILITATION	Facilities rehabilitation addresses components and subcomponents that support the maintenance of rolling stock and offices for staff duties. Specific work to include: - Phase 2: MOW health and welfare facilities installation, rehab and utility connections. Designs and replace rented crew trailer including furniture, equipment and repositioning to meet CPUC mandated clearances as well as connect to utilities. - Automate and install predictive failure notifications to some of the facilities equipment to detect and repair failures before they become impact to rail operation. Include some title 24 upgrades. - Add and update ground power at yards and Laguna Niguel siding. - Rehab ground air in the yards. - Fall protection/roof platform rehab CMF. - Phase 1: Replacement of 30 year old south electrical switchgear at CMF. - Install permanent power at Lang Yard. - Systemwide facilities and yard paving, striping, fencing, access carts, signage, paint rehab.	5,200,000	2,470,000	1,029,600	577,200	748,800	374,400
3	HOLMANS	2557	Rehab	ALL	All	NA	Worn	High	Non-Revenue Fleet	MAINTENANCE-OF-WAY (MOW) VEHICLES & EQUIPMENT - REPLACEMENT & OVERHAUL	MOW vehicles and equipment major overhaul and replacement via new acquisition or lease-to-purchase addresses the fleet of specialized & operations vehicles, equipment and tools that support the timely repair and rehabilitation of the overall rail corridor right-of-way. Replacement of MOW equipment and vehicles; Rehabilitation of MOW equipment. Project budget to cover cost of zero emission light and potentially medium duty vehicles (subject to manufacture production schedules). Heavy - 2 Medium - 4 Light Duty - 25 Equipment - 4	3,510,000	1,667,250	694,980	389,610	505,440	252,720
4	HOLMANS	2558	Rehab	ALL	All	NA	Worn	High	Train Control	SYSTEMWIDE TRAIN CONTROL SYSTEMS REHABILITATION	Systemwide Train Control Systems Rehabilitation addresses PTC, Centralized Train Control systems and equipment to sufficiently rehabilitate aging infrastructure and growing backlog. See the justification section for discussion on aged assets and standard life. Train Control Back Office: 1) DOC/MOC Backup Systems 2) Workstations/Laptops 3) CAD/BOS/MDM/IC3 4) Routers/Switches 5) On-Board Train Control Systems 6) Software/Hardware for Locomotives & Cab Cars	5,000,000	2,375,000	990,000	555,000	720,000	360,000
5	HOLMANS	2559	Rehab	ALL	All	NA	Worn	High	Track	SYSTEMWIDE TRACK REHABILITATION	Systemwide Track Rehabilitation addresses the following recurring requirements to sufficiently rehabilitate aging infrastructure and growing backlog: - Rail Grinding: ongoing systemwide program - Surfacing Program to restore track profiles and cross sections - Infrastructure planning and data collection for condition assessments	5,000,000	2,375,000	990,000	555,000	720,000	360,000
6	HOLMANS	2597	Rehab	ALL	All	NA	Worn	High	Rolling Stock	ROLLING STOCK DAMAGE REPAIR	Rolling Stock Damage Repair – Oxnard accident cars – see attached STV report. The cost estimate includes the following considerations and assumptions: 1) The estimated costs to repair are based solely on visible damages during the inspection and engineering estimations made accounted for anticipated hidden damages. 2) The estimated costs to repair is to restore the cars to an “as-new condition” for revenue service. 3) The estimated costs to repair do not consider internal structural, air piping, cabling damages due to inaccessibility during the visual inspection, however, engineering assumptions were made to estimate likely hidden damages. 4) The estimate costs to repair do not consider underfloor air piping and cabling damages due to inaccessibility during the visual inspection, however, engineering assumptions were made to estimate likely hidden damages. 5) The estimated costs to repair does not include “non-recurring engineering cost” and production setup cost. 6) Engineering costs are a rough order of magnitude and do not account for influences such as market forces. 7) Market Adjustments: STV report says $5M but it is almost 5 years old. Considering 7% of market price increase for 7 years, it is $5.35M. 8) Additional Adjustments: STV report does not include structural inspection and repair. Due to the heavy accident, it will require engineering analysis on the structural integrity to ensure its road-worthy – estimation is $2M, including engineering consultant and actual repair. 10% for internal costs.	8,000,000	3,800,000	1,584,000	888,000	1,152,000	576,000

ROW#	CREATOR	PROJECT #	TYPE	ROUTE LINE	SUB DIVISION	MILE POSTS	CONDITION	IMPACT	ASSET TYPE	PROJECT	SCOPE	TOTAL REQUEST	METRO	OCTA	RCTC	SBCTA	VCTC
7	HOLMANS	2598	Rehab	ALL	All	NA	Worn	High	Rolling Stock	ROLLING STOCK REHABILITATION	Rolling Stock rehabilitation addresses the revenue fleet of locomotives, railcars and cab cars. Specific work includes: 1) Rotem HVAC Overhaul/Rebuild - $2M a. Continuous cashflow for 4 rebuilt HVAC units every 30 days b. Risk - termination of equipment for faulty HVAC units - this is already an issue c. This is an ongoing program with funding to be requested in future budget years 2) Fleetwide Condition-based Maintenance Program (CBM) - $3M a. Program targeting a proactive approach to identify, plan and perform repair/replacement of parts prior to failure and a tailored schedule to each component. 1. Document the CBM program for user manuals, process, flow-chart, training and support algorithm. 2. Develop the reliability and availability algorithm along with RBA process. 3. Deliver on-hand tools and add-on sensors to the maintenance end-users and rolling stocks. 4. Re-structure the maintenance process and facility support for CBM. 5. Analysis and develop the daily maintenance onsite process to accommodate the best efficiency in CBM program. 6. Code the algorithm and process for an application to Metrolink configurational management tool. 7. Code the system for an automatic notification, RBA alert and predictive failure warning. 8. Send notification of resolution to reporting source of any issues or failures. 9. Run development for the supply quality assurance. 3) Communication System Overhaul - $640K a. Upgrade the communication control system for wireless control, onboard Ethernet network. b. Upgrade the destination panel. c. Overhaul the minor components such as speakers, microphone, etc. d. This is an ongoing program with funding to be requested next year to complete 4) HVAC Air Quality Solution - COVID-19 - $2.3M a. Mitigation for COVID-19. b. F125 & MP36 locomotive and Rotem passenger car. c. This is already underway for Bombardier cars. d. This is an ongoing program with funding to be requested in future budget years. 5) MP36 Loco lifecycle management - $3.6M a. MP36s are approaching their midlife in 2023. b. Highest priority systems to be addressed in order to keep these locomotives serviceable. c. This is an ongoing program with funding to be requested in future budget years.	11,600,000	5,510,000	2,296,800	1,287,600	1,670,400	835,200
8	WONGS	2631	Rehab	ALL	All	NA	Worn	Low	Information Technology	GENERAL INFORMATION TECHNOLOGY EQUIPMENT AND SYSTEM REHABILITATION	The Metrolink IT environment is in need of rehabilitation. The scope involves the replacement of end-user equipment and systems (e.g. laptops, desktops, tablets, monitors, cellphones, software systems), office equipment (e.g. multifunction printers, plotters, audio/video conferencing systems), and infrastructure equipment.	485,000	230,375	96,030	53,835	69,840	34,920
											ALL SHARE PROJECT PROPOSAL REQUEST	**68,795,000**	**32,677,625**	**13,621,410**	**7,636,245**	**9,906,480**	**4,953,240**
9	HOLMANS	2386	Rehab	ALL	River Sub - West Bank	0 - 485.20	Worn	High	Structures	RIVER SUBDIVISION STRUCTURES REHABILITATION - WEST BANK	River Sub Structures Rehabilitation addresses three major subcomponents to sufficiently rehabilitate aging infrastructure and growing backlog: - Bridges - Culverts - Tunnels Specific work for this request is for rehabilitation of the Arroyo Seco Bridge.	6,900,000	3,277,500	1,366,200	765,900	993,600	496,800
											RIVER SUBDIVISION-WEST BANK PROJECT PROPOSAL REQUEST	**6,900,000**	**3,277,500**	**1,366,200**	**765,900**	**993,600**	**496,800**

ROW#	CREATOR	PROJECT #	TYPE	ROUTE LINE	SUB DIVISION	MILE POSTS	CONDITION	IMPACT	ASSET TYPE	PROJECT	SCOPE	TOTAL REQUEST	METRO	OCTA	RCTC	SBCTA	VCTC
10	HOLMANS	2617	Rehab	Antelope Valley Line	Valley	3.67 - 76.63	Worn	High	Track	VALLEY SUBDIVISION TRACK REHABILITATION	Valley Sub Track Rehabilitation addresses five major subcomponents to sufficiently rehabilitate aging infrastructure and growing backlog: - Rail - Ties - Crossings - Special Trackwork - Ballast Specific work includes Tunnel 25 Rehabilitation: Option 1: Partial funding necessary for the complete track rehabilitation of Track in the Tunnel. (Additional $8M would need to be secured elsewhere). Option 2: Take advantage of economies of scale and perform major maintenance in the Tunnel by combining scope, equipment and labor forces with the work coming on Tunnel 26 which is funded through separate outside FRA Grant. Work would remove & replace approximately 20% of ties and ballast.	4,000,000	4,000,000	-	-	-	-
11	HOLMANS	2627	Rehab	Antelope Valley Line	Valley	3.67 - 76.63	Worn	High	Train Control	VALLEY SUBDIVISION TRAIN CONTROL SYSTEMS REHABILITATION	Valley Sub Train Control Systems Rehabilitation addresses major subcomponents to sufficiently rehabilitate aging infrastructure and growing backlog: - Signal systems - Crossing systems - Communication systems COMMUNICATIONS: WMS-UPGRADE, AC REHAB, BATTERY REHAB, FIBER - REHAB, RADIO REHAB - PTC/VHF/UHF, CIS REHAB SIGNALS WORK WILL BE REASSESSED FOR CHANGE CONDITIONS IN THE YEAR OF APPROVED FUNDING WITH PRIORITIES LISTED: 1) CP Courrier MP 6.4 - Replace CP House, internal control equipment, and power switch machine $550,000 2) EC Repeater & Switch Leaving Signal MP 7.51 - Replace house, internal control equipment and battery back-up - $250,000 3) Int Signal 71-73 MP 7.9 Replace Signal House, internal control equipment - $350,000 4) Int Signal 141-142 MP 14.2 Replace Signal House, internal control equipment - $350,000 5) DED MP 15.10 - Replace detector and control equipment - $250,000 6) Int Signal 191-192 MP 19.22 Replace Signal House, internal control equipment - $350,000 7) Int Signal 201-202 MP 20.8 Replace Signal House, internal control equipment - $350,000 8) EC4 Repeater MP 21.8 Replace Signal House, internal control equipment - $350,000 9) EC4 Repeater MP 22.6 Replace Signal House, internal control equipment - $350,000	2,500,000	2,500,000	-	-	-	-
											METRO PROJECT PROPOSAL REQUEST	**6,500,000**	**6,500,000**	**-**	**-**	**-**	**-**
12	HOLMANS	2620	Rehab	Orange County Line	Orange	NA	Worn	High	Track	ORANGE SUBDIVISION TRACK REHABILITATION	Orange Sub Track Rehabilitation addresses five major subcomponents to sufficiently rehabilitate aging infrastructure and growing backlog: - Rail - Ties - Crossings - Special Trackwork - Ballast Specific work includes Metrolink Share of NCTD Turnout at Basilone Spur Rail replacement, and upgrade from 115 lb rail to 136 lb rail from Beach Rd to CP Serra (Scope removed from 2021 due to SCORE coordination issues). Riprap and track protection along the coast.	6,700,000	-	6,700,000	-	-	-
13	HOLMANS	2626	Rehab	Orange County Line	Orange	165.08 - 207.4	Worn	High	Structures	ORANGE SUBDIVISION STRUCTURES REHABILITATION	Orange Sub Structures Rehabilitation addresses three major subcomponents to sufficiently rehabilitate aging infrastructure and growing backlog: - Bridges - Culverts - Tunnels Specific work includes construction funding for Culverts designed and environmentally cleared in FY20, but do not have sufficient construction funding. Culverts MP 205.8 and 207.2 Orange Sub, and Olive Sub MP 5.4.	2,220,000	-	2,220,000	-	-	-

ROW#	CREATOR	PROJECT #	TYPE	ROUTE LINE	SUB DIVISION	MILE POSTS	CONDITION	IMPACT	ASSET TYPE	PROJECT	SCOPE	TOTAL REQUEST	METRO	OCTA	RCTC	SBCTA	VCTC
14	HOLMANS	2630	Rehab	Orange County Line	Orange	NA	Worn	High	Train Control	ORANGE SUBDIVISION TRAIN CONTROL SYSTEMS REHABILITATION	Orange Sub Train Control Systems Rehabilitation addresses major subcomponents to sufficiently rehabilitate aging infrastructure and growing backlog: - Signal systems - Crossing systems - Communication systems COMMUNICATIONS: WMS-UPGRADE, AC REHAB, BATTERY REHAB, FIBER - REHAB, RADIO REHAB - PTC/VHF/UHF, CIS REHAB SIGNALS WORK WILL BE REASSESSED FOR CHANGE CONDITIONS IN THE YEAR OF APPROVED FUNDING WITH PRIORITIES LISTED: 1) CP La Palma MP 167.3 - Replace CP House, internal control equipment, and power switch machine $600,000 2) CP College MP 169.8 - Replace CP House, internal control equipment, and power switch machine $550,000 3) CP Maple MP 172.4 - Replace CP House, internal control equipment, and power switch machine $600,000 4) CP Lincoln MP 174.7 - Replace CP House, internal control equipment, and power switch machine $600,000 5) CP Aliso MP 178.9 - Replace CP House, internal control equipment, and power switch machine $550,000 6) CP Tinkham MP 184.5 - Replace CP House, internal control equipment, and power switch machine $600,000	3,330,000	-	3,330,000	-	-	-
											OCTA PROJECT PROPOSAL REQUEST	**12,250,000**	**-**	**12,250,000**	**-**	**-**	**-**
											FY2023 PROPOSED REHABILITATION REQUEST	**94,445,000**	**42,455,125**	**27,237,610**	**8,402,145**	**10,900,080**	**5,450,040**

NEW CAPITAL PROJECTS PROPOSALS FOR FY2023 BUDGET

Attachment H

REVISED: 03/22/22

ROW#	CREATOR	PROJECT #	TYPE	ROUTE LINE	SUB DIVISION	MILE POSTS	CONDITION	IMPACT	ASSET TYPE	PROJECT	SCOPE	TOTAL REQUEST	METRO	OCTA	RCTC	SBCTA	VCTC	OTHER	PURSUING RAISE GRANT	OTHER-SECURED CARL MOYER GRANT
1	CHAKLADARA	2456	Capital	ALL	All	NA	NA	NA	Information Technology	AGENCYWIDE CYBERSECURITY IMPLEMENTATION	Cyber threats have proliferated and have become more sophisticated over the years. Most organizations have a dedicated cybersecurity team led by a CISO (Chief Information Security Officer). A Cybersecurity Manager was approved in the FY22 budget, however the position once hired, will not have a dedicated team of cybersecurity experts. Instead, the Cybersecurity Manager will have to rely on several part-time resources from the Infrastructure, Networking and HelpDesk teams in the IDTS team. This project aims to build a cybersecurity framework, monitor evolving security threats, build a mitigation strategies for incidence management, and proactively harden the security posture of the agency from cyberthreats. The project envisions deploying contract services and software and hardware products.	439,000	208,525	86,922	48,729	63,216	31,608			-
2	STEWARTM	2476	Capital	ALL	All	NA	NA	NA	Facilities	CENTRAL MAINTENANCE FACILITY (CMF) MODERNIZATION PHASE I DESIGN & ENVIRONMENTAL	Improvements to the CMF have a system-wide impact through improving the functionality, productivity, and overall demand for fleet inspection, service, repair, storage and rehabilitation. Additionally, Metrolink has committed to the CMF Action Plan, which promises continuous improvements to ensure Metrolink is a good neighbor. This budget request will allow Metrolink to design the CMF projects identified in the CMF Modernization Study effort. Modernizing the 30-year-old CMF will increase the operational efficiency of the facility because the improvements identified through the CMF Modernization Study effort will bring the facility up to date with safety, technological improvements, addition work platforms, cranes, tables use of Wi-Fi and improve layouts for warehousing parts. Many of the projects that would increase operational efficiency of maintenance activities also contribute to addressing the community concerns by reducing the number of idling locomotives in the yard and the duration of their idling reducing the noise and emissions from locomotives. Due to the limitations of the property situated between San Fernando Road and the LA River which is built out with the current buildings and tracks and the need to maintain service while any project is constructed there are some limitations to the improvements that can be made and any construction to the existing site and buildings needs carefully planned staging plans.	3,721,000	1,767,475	736,758	413,031	535,824	267,912			-
3	STEWARTM	2477	Capital	ALL	All	NA	NA	NA	Facilities	CENTRAL MAINTENANCE FACILITY (CMF) MODERNIZATION EARLY ACTION TO ADDRESS COMMUNITY CONCERNS	Improvements to the CMF have a system-wide impact through improving the functionality, productivity, and overall demand for fleet inspection, service, repair, storage and rehabilitation. Metrolink has committed to the CMF Action Plan, which promises continuous improvements to ensure Metrolink is a good neighbor. This budget request will allow Metrolink to advance an additional sound barrier at CMF. Following a successful demonstration of steel sound barriers at the service and inspection track (pilot barriers face the Elysian Valley community), additional sound barriers will be installed on the other side of the servicing area to dampen the noise generated by idling locomotives. This investment has been repeatedly requested by the Cypress Park community.	515,000						515,000		-

ROW#	CREATOR	PROJECT #	TYPE	ROUTE LINE	SUB DIVISION	MILE POSTS	CONDITION	IMPACT	ASSET TYPE	PROJECT	SCOPE	TOTAL REQUEST	METRO	OCTA	RCTC	SBCTA	VCTC	OTHER	PURSUING RAISE GRANT	OTHER-SECURED CARL MOYER GRANT
4	VEGAR	2576	Capital	ALL	All	NA	Worn	High	Business Systems	ENTERPRISE ASSET MANAGEMENT (EAM) IMPROVEMENT PROJECT - PHASE II	Metrolink is building out the use of Trapeze Enterprise Asset Management System (EAM) as part of an effort to consolidate a series of standalone asset management systems into a single repository in a phased approach. The Metrolink Board approved a single source procurement back in May 2021 with Trapeze Software Group to add 2 new modules, optimization, implementation services, and Organizational Change Management as part of Phase I for $1.5M. While Phase I (Project No. 519093) has been launched in FY2022, staff anticipates the project timeline will extend beyond the current fiscal year and into FY2023. As staff works to deliver Phase I of this EAM Improvement Project, there is a possibility of potential change orders that will be needed. Approximately $200K of this budget request would be a placeholder in the capital budget for any unexpected consulting services, interfaces, customization, and configuration needs. Furthermore, Phase II would include the purchase of additional licenses and modules, implementation services, additional Organizational Change Management support, and other expenses as needed. The modules included in Phase II include: Application Interface Programming (API), Telematics, Mobile Focus Enterprise, Network Restrictions, Linear Visualization, and Illustrated Parts Catalog. This new phase will also require the support of a project management consultant, agency staff time, and project reserve at a similar percentage as budgeted for Trapeze EAM Phase I. In addition to building out the use of its prominent EAM System; Metrolink staff is also exploring software solutions that can be integrated in its EAM system to support prescriptive rail maintenance and allow the agency to measure the life extension and cost savings from rail grinding, milling and friction management allowing Metrolink to make well-informed investment decisions. The agency is seeking a software solution that will provide track engineering data, economics, and physics-based models that can be easily integrated into capital planning, budgeting and work execution processes. A prescriptive rail maintenance solution will enhance the agency's ability to develop the business case and identify the optimal rail maintenance strategy. This will allow Metrolink to more easily plan, approve, and fund rail maintenance, ultimately reducing maintenance costs and extending rail life and support the agency's State of Good Repair objectives. This effort combined with the investment in new modules and interfaces as part of Phase II of the EAM Improvement Project is anticipated to cost approximately $1.7M.	1,700,000	807,500	336,600	188,700	244,800	122,400			-
5	HOLMANS	2636	Capital	ALL	All	NA	Marginal	High	Business Systems	PMIS PURCHASE AND CONFIGURATION	Implementation of a robust project management information, (PMIS), providing program controls support for ongoing and future work associated with capital improvement and rehabilitation projects initiated by SCRRA. The scope of the PMIS includes: Project Controls, Schedule Management, Cost Management, Estimating, Risk Management, Reporting Management, Contract Management and Document Management. The implementation phase tasks include: o Configuring the PMIS system to provide the following functionalities: Contract Mgmt., Cost Mgmt., Scheduling Mgmt., Risk Mgmt., Reporting, Document Control, etc. o Pilot project o Data Migration o Training & Roll out The planning phase tasks include those already funded in prior FY21 project: o Requirements gathering and documentation o Gap analysis o Updating Business processes o Support in documenting and development of technical requirements that will be included in the forthcoming RFP for PMIS software and integration o Develop a comprehensive implementation plan	5,725,000	2,719,375	1,133,550	635,475	824,400	412,200			-
											FY2023 PROPOSED NEW CAPITAL REQUEST	**12,100,000**	**5,502,875**	**2,293,830**	**1,285,935**	**1,668,240**	**834,120**	**515,000**	**-**	**-**
6	STEWARTM	2479	Capital	ALL	All	NA	Marginal	High	Rolling Stock	*MP36 LOCOMOTIVE REPLACEMENT - 10 OUT OF 15 LOCOMOTIVES - **SUBJECT TO GRANT PURSUIT**	The Tier 2 MP36 fleet of 15 locomotives was deployed in 2008-2009 and is now approaching its mid-life and the RAMs metrics are trending down as expected for locomotives at this age and use. This project request is for replacement of the MP36 fleet with new Tier 4 locomotives. (Agency is pursuing the goal to fund with grants up-to 94.3% with Member Agency contribution of 5.7%. This project proposal #2479 covers the first 10 out of a total of 15 locomotives with a 5.7% Member Agency contribution of $5.82M out of this total $102.52M funding request. The Agency has already secured $51.6M in Carl Moyer grant funding for this project. Currently pursuing RAISE grant of $45.0M.)	102,521,951	2,767,283	1,153,520	646,670	838,924	419,462	-	45,000,000	51,696,093
											FY2023 PROPOSED NEW CAPITAL TOTAL REQUEST	**114,621,951**	**8,270,158**	**3,447,350**	**1,932,605**	**2,507,164**	**1,253,582**	**515,000**	**45,000,000**	**51,696,093**

NOTE:
*Staff will continue to secure additional grant funding for this project.

FY23 PROPOSED CAPITAL PROGRAM CASHFLOW

as of 03.18.22

Cash Basis

	METRO	OCTA	RCTC	SBCTA	VCTC	OTHER	TOTAL
FY23 Rehabilitation	$42.5M	$27.2M	$8.4M	$10.9M	$5.5M	$0.0M	$94.4M
	CASH OUTLAY						
2022-23	$2.1M	$1.4M	$0.4M	$0.5M	$0.3M	$0.0M	$4.7M
2023-24	$14.9M	$9.5M	$2.9M	$3.8M	$1.9M	$0.0M	$33.1M
2024-25	$12.7M	$8.2M	$2.5M	$3.3M	$1.6M	$0.0M	$28.3M
2025-26	$12.7M	$8.2M	$2.5M	$3.3M	$1.6M	$0.0M	$28.3M
Totals	$42.5M	$27.2M	$8.4M	$10.9M	$5.5M	$0.0M	$94.4M

Cash Basis

	METRO	OCTA	RCTC	SBCTA	VCTC	OTHER	TOTAL
FY23 New Capital	$5.5M	$2.3M	$1.3M	$1.7M	$0.8M	$0.5M	$12.1M
	CASH OUTLAY						
2022-23	$0.3M	$0.1M	$0.1M	$0.1M	$0.0M	$0.0M	$0.6M
2023-24	$1.9M	$0.8M	$0.5M	$0.6M	$0.3M	$0.2M	$4.2M
2024-25	$1.7M	$0.7M	$0.4M	$0.5M	$0.3M	$0.2M	$3.6M
2025-26	$1.7M	$0.7M	$0.4M	$0.5M	$0.3M	$0.2M	$3.6M
Totals	$5.5M	$2.3M	$1.3M	$1.7M	$0.8M	$0.5M	$12.1M

Cash Basis

	METRO	OCTA	RCTC	SBCTA	VCTC	OTHER	RAISE	CARL MOYER	TOTAL
FY23 MP36 LOCO REPLACEMENT	$2.8M	$1.2M	$0.6M	$0.8M	$0.4M	$0.0M	$45.0M	$51.7M	$102.5M
	CASH OUTLAY								
2022-23	$0.1M	$0.1M	$0.0M	$0.0M	$0.0M	$0.0M	$2.3M	$2.6M	$5.1M
2023-24	$1.0M	$0.4M	$0.2M	$0.3M	$0.1M	$0.0M	$15.8M	$18.1M	$35.9M
2024-25	$0.8M	$0.3M	$0.2M	$0.3M	$0.1M	$0.0M	$13.5M	$15.5M	$30.8M
2025-26	$0.8M	$0.3M	$0.2M	$0.3M	$0.1M	$0.0M	$13.5M	$15.5M	$30.8M
Totals	$2.8M	$1.2M	$0.6M	$0.8M	$0.4M	$0.0M	$45.0M	$51.7M	$102.5M

FY2023-24 Forecast - Operating Budget
by Member Agency

	FY24 BUDGET FORECAST					
(000's)	**METRO**	**OCTA**	**RCTC**	**SBCTA**	**VCTC**	**TOTAL**
Operating Revenue						
Farebox Revenue	26,779	14,896	6,258	8,022	1,242	57,196
Fare Reduction Subsidy	1,555	-	-	1,044	-	2,599
Other Train Subsidies	2,575	-	-	-	-	2,575
Special Trains	-	-	-	-	-	-
Subtotal-Pro Forma FareBox	**30,909**	**14,896**	**6,258**	**9,066**	**1,242**	**62,370**
Dispatching	1,354	1,080	15	103	315	2,867
Other Revenues	395	171	72	111	24	773
MOW Revenues	6,176	3,157	756	1,492	446	12,027
Total Operating Revenue	**38,834**	**19,303**	**7,102**	**10,772**	**2,026**	**78,037**
Operating Expenses						
Operations & Services						
Train Operations	29,475	11,103	4,971	6,142	2,185	53,876
Equipment Maintenance	20,258	10,260	5,389	5,251	1,948	43,107
Fuel	18,363	7,453	3,138	3,927	1,269	34,150
Non-Scheduled Rolling Stock Repairs	51	26	11	13	4	105
Operating Facilities Maintenance	1,136	587	244	283	78	2,329
Other Operating Train Services	487	135	116	164	78	981
Rolling Stock Lease	-	-	-	-	-	-
Security	8,075	3,384	2,431	1,835	801	16,525
Public Safety Program	51	19	16	11	11	109
Passenger Relations	1,014	485	176	285	46	2,006
TVM Maintenance/Revenue Collection	2,344	1,307	991	631	361	5,634
Marketing	1,683	729	292	469	79	3,252
Media & External Communications	185	67	58	41	39	391
Utilities/Leases	1,950	708	612	432	409	4,110
Transfers to Other Operators	1,914	789	246	418	72	3,440
Amtrak Transfers	290	529	-	-	46	865
Station Maintenance	1,426	342	133	297	96	2,294
Rail Agreements	2,463	1,046	1,416	362	283	5,570
Holiday Trains	-	-	-	-	-	-
Special Trains	249	104	58	76	38	525
Subtotal Operations & Services	**91,415**	**39,075**	**20,300**	**20,636**	**7,842**	**179,269**
Maintenance-of-Way						
MoW - Line Segments	29,981	10,687	3,480	6,821	3,084	54,054
MoW - Extraordinary Maintenance	644	157	105	117	76	1,100
Subtotal Maintenance-of-Way	**30,625**	**10,844**	**3,585**	**6,938**	**3,160**	**55,154**
Administration & Services						
Ops Salaries & Fringe Benefits	8,999	3,282	2,814	1,994	1,881	18,970
Ops Non-Labor Expenses	6,343	2,624	1,466	1,394	755	12,582
Indirect Administrative Expenses	10,732	3,898	3,366	2,375	2,251	22,623
Ops Professional Services	1,338	486	420	296	281	2,820
Subtotal Admin & Services	**27,412**	**10,289**	**8,067**	**6,059**	**5,167**	**56,994**
Contingency	**45**	**16**	**14**	**10**	**9**	**95**
Total Operating Expenses	**149,497**	**60,225**	**31,966**	**33,644**	**16,179**	**291,511**
Insurance and Legal						
Liability/Property/Auto	8,243	4,257	1,768	2,056	568	16,892
Net Claims / SI	512	265	110	128	35	1,050
Claims Administration	951	491	204	237	66	1,949
Total Net Insurance and Legal	**9,706**	**5,013**	**2,082**	**2,421**	**669**	**19,891**
Total Expense	**159,203**	**65,238**	**34,048**	**36,065**	**16,848**	**311,402**
Loss / Member Support Required	**(120,370)**	**(45,934)**	**(26,946)**	**(25,293)**	**(14,821)**	**(233,365)**

FY2024-25 Forecast - Operating Budget
by Member Agency

	FY25 BUDGET FORECAST					
(000's)	**METRO**	**OCTA**	**RCTC**	**SBCTA**	**VCTC**	**TOTAL**
Operating Revenue						
Farebox Revenue	28,599	15,872	6,664	8,542	1,323	61,000
Fare Reduction Subsidy	1,655	-	-	1,112	-	2,766
Other Train Subsidies	2,652	-	-	-	-	2,652
Special Trains	-	-	-	-	-	-
Subtotal-Pro Forma FareBox	**32,907**	**15,872**	**6,664**	**9,653**	**1,323**	**66,418**
Dispatching	1,392	1,121	16	107	325	2,960
Other Revenues	395	171	72	111	24	773
MOW Revenues	6,412	3,277	785	1,549	463	12,485
Total Operating Revenue	**41,105**	**20,441**	**7,537**	**11,419**	**2,135**	**82,637**
Operating Expenses						
Operations & Services						
Train Operations	30,935	11,658	5,234	6,445	2,299	56,570
Equipment Maintenance	21,285	10,774	5,638	5,518	2,047	45,262
Fuel	19,278	7,811	3,308	4,123	1,338	35,858
Non-Scheduled Rolling Stock Repairs	54	28	12	13	4	110
Operating Facilities Maintenance	1,193	616	256	298	82	2,445
Other Operating Train Services	512	141	122	172	82	1,030
Rolling Stock Lease	-	-	-	-	-	-
Security	8,475	3,571	2,529	1,931	846	17,352
Public Safety Program	54	20	17	12	11	114
Passenger Relations	1,066	508	185	299	49	2,107
TVM Maintenance/Revenue Collection	2,461	1,372	1,041	663	379	5,915
Marketing	1,767	766	307	492	83	3,415
Media & External Communications	195	71	61	43	41	411
Utilities/Leases	2,047	743	642	453	429	4,315
Transfers to Other Operators	2,010	829	259	439	75	3,612
Amtrak Transfers	304	556	-	-	48	908
Station Maintenance	1,497	360	140	311	101	2,409
Rail Agreements	2,586	1,098	1,487	381	297	5,849
Holiday Trains	-	-	-	-	-	-
Special Trains	262	109	61	79	40	551
Subtotal Operations & Services	**95,979**	**41,030**	**21,299**	**21,674**	**8,250**	**188,232**
Maintenance-of-Way						
MoW - Line Segments	31,488	11,212	3,661	7,157	3,239	56,756
MoW - Extraordinary Maintenance	677	165	110	123	80	1,155
Subtotal Maintenance-of-Way	**32,165**	**11,377**	**3,771**	**7,280**	**3,319**	**57,911**
Administration & Services						
Ops Salaries & Fringe Benefits	9,449	3,445	2,956	2,093	1,975	19,918
Ops Non-Labor Expenses	6,660	2,755	1,540	1,464	792	13,211
Indirect Administrative Expenses	11,269	4,093	3,535	2,494	2,364	23,754
Ops Professional Services	1,404	510	441	311	295	2,961
Subtotal Admin & Services	**28,782**	**10,803**	**8,471**	**6,362**	**5,426**	**59,844**
Contingency	**47**	**17**	**15**	**10**	**10**	**99**
Total Operating Expenses	**156,973**	**63,227**	**33,555**	**35,326**	**17,004**	**306,086**
Insurance and Legal						
Liability/Property/Auto	8,655	4,470	1,857	2,159	597	17,737
Net Claims / SI	538	278	115	134	37	1,103
Claims Administration	999	516	214	249	69	2,046
Total Net Insurance and Legal	**10,192**	**5,264**	**2,186**	**2,542**	**703**	**20,886**
Total Expense	**167,165**	**68,491**	**35,741**	**37,868**	**17,707**	**326,972**
Loss / Member Support Required	**(126,060)**	**(48,050)**	**(28,204)**	**(26,449)**	**(15,572)**	**(244,335)**

FY2025-26 Forecast - Operating Budget
by Member Agency

	FY26 BUDGET FORECAST					
(000's)	**METRO**	**OCTA**	**RCTC**	**SBCTA**	**VCTC**	**TOTAL**
Operating Revenue						
Farebox Revenue	29,940	16,599	6,968	8,931	1,383	63,821
Fare Reduction Subsidy	1,730	-	-	1,162	-	2,892
Other Train Subsidies	2,732	-	-	-	-	2,732
Special Trains	-	-	-	-	-	-
Subtotal-Pro Forma FareBox	**34,402**	**16,599**	**6,968**	**10,093**	**1,383**	**69,444**
Dispatching	1,739	1,439	16	111	469	3,775
Other Revenues	395	171	72	111	24	773
MOW Revenues	6,800	3,657	815	1,607	542	13,422
Total Operating Revenue	**43,336**	**21,866**	**7,871**	**11,922**	**2,418**	**87,413**
Operating Expenses						
Operations & Services						
Train Operations	32,467	12,240	5,509	6,764	2,418	59,398
Equipment Maintenance	22,364	11,313	5,899	5,799	2,150	47,525
Fuel	20,238	8,187	3,488	4,328	1,410	37,651
Non-Scheduled Rolling Stock Repairs	56	29	12	14	4	116
Operating Facilities Maintenance	1,253	647	269	312	86	2,567
Other Operating Train Services	537	149	128	181	86	1,081
Rolling Stock Lease	-	-	-	-	-	-
Security	8,895	3,767	2,632	2,033	893	18,219
Public Safety Program	57	21	18	13	12	120
Passenger Relations	1,120	531	195	315	51	2,212
TVM Maintenance/Revenue Collection	2,584	1,441	1,093	696	398	6,211
Marketing	1,856	804	322	517	87	3,586
Media & External Communications	204	74	64	45	43	431
Utilities/Leases	2,149	781	674	476	451	4,531
Transfers to Other Operators	2,110	871	271	461	79	3,793
Amtrak Transfers	319	583	-	-	51	953
Station Maintenance	1,572	378	147	327	106	2,529
Rail Agreements	2,715	1,153	1,562	400	312	6,141
Holiday Trains	-	-	-	-	-	-
Special Trains	275	115	64	83	42	579
Subtotal Operations & Services	**100,771**	**43,083**	**22,347**	**22,763**	**8,678**	**197,643**
Maintenance-of-Way						
MoW - Line Segments	33,019	11,845	3,819	7,503	3,407	59,594
MoW - Extraordinary Maintenance	710	173	116	129	84	1,213
Subtotal Maintenance-of-Way	**33,729**	**12,018**	**3,935**	**7,633**	**3,491**	**60,807**
Administration & Services						
Ops Salaries & Fringe Benefits	9,921	3,617	3,104	2,198	2,074	20,914
Ops Non-Labor Expenses	6,993	2,892	1,617	1,537	832	13,871
Indirect Administrative Expenses	11,832	4,297	3,711	2,619	2,482	24,942
Ops Professional Services	1,475	536	463	326	309	3,109
Subtotal Admin & Services	**30,222**	**11,343**	**8,894**	**6,680**	**5,697**	**62,836**
Contingency	**49**	**18**	**16**	**11**	**10**	**104**
Total Operating Expenses	**164,772**	**66,462**	**35,192**	**37,087**	**17,877**	**321,390**
Insurance and Legal						
Liability/Property/Auto	9,088	4,693	1,949	2,267	626	18,624
Net Claims / SI	565	292	121	141	39	1,158
Claims Administration	1,048	541	225	261	72	2,149
Total Net Insurance and Legal	**10,701**	**5,527**	**2,295**	**2,669**	**738**	**21,930**
Total Expense	**175,473**	**71,989**	**37,488**	**39,756**	**18,615**	**343,320**
Loss / Member Support Required	**(132,136)**	**(50,123)**	**(29,616)**	**(27,834)**	**(16,197)**	**(255,907)**

FY2026-27 Forecast - Operating Budget
by Member Agency

	FY27 BUDGET FORECAST					
(000's)	**METRO**	**OCTA**	**RCTC**	**SBCTA**	**VCTC**	**TOTAL**
Operating Revenue						
Farebox Revenue	30,449	16,902	7,094	9,092	1,408	64,946
Fare Reduction Subsidy	1,761	-	-	1,183	-	2,944
Other Train Subsidies	2,814	-	-	-	-	2,814
Special Trains	-	-	-	-	-	-
Subtotal-Pro Forma FareBox	**35,024**	**16,902**	**7,094**	**10,275**	**1,408**	**70,703**
Dispatching	1,791	1,493	17	115	485	3,902
Other Revenues	395	171	72	111	24	773
MOW Revenues	7,060	3,796	846	1,668	563	13,933
Total Operating Revenue	**44,270**	**22,363**	**8,029**	**12,170**	**2,480**	**89,311**
Operating Expenses						
Operations & Services						
Train Operations	34,077	12,852	5,798	7,099	2,543	62,368
Equipment Maintenance	23,497	11,879	6,174	6,094	2,259	49,902
Fuel	21,246	8,582	3,676	4,544	1,486	39,533
Non-Scheduled Rolling Stock Repairs	59	31	13	15	4	122
Operating Facilities Maintenance	1,315	679	282	328	91	2,696
Other Operating Train Services	564	156	135	190	90	1,135
Rolling Stock Lease	-	-	-	-	-	-
Security	9,335	3,973	2,740	2,139	942	19,130
Public Safety Program	60	22	19	13	12	126
Passenger Relations	1,177	556	205	330	54	2,323
TVM Maintenance/Revenue Collection	2,713	1,513	1,148	730	417	6,521
Marketing	1,948	844	338	543	91	3,765
Media & External Communications	215	78	67	48	45	453
Utilities/Leases	2,257	820	708	500	473	4,757
Transfers to Other Operators	2,215	915	285	484	83	3,983
Amtrak Transfers	335	612	-	-	53	1,001
Station Maintenance	1,650	396	154	343	112	2,656
Rail Agreements	2,850	1,211	1,640	420	327	6,447
Holiday Trains	-	-	-	-	-	-
Special Trains	289	120	67	88	44	608
Subtotal Operations & Services	**105,803**	**45,239**	**23,448**	**23,907**	**9,128**	**207,525**
Maintenance-of-Way						
MoW - Line Segments	34,680	12,426	4,018	7,873	3,578	62,574
MoW - Extraordinary Maintenance	746	182	121	136	88	1,273
Subtotal Maintenance-of-Way	**35,425**	**12,608**	**4,139**	**8,008**	**3,666**	**63,847**
Administration & Services						
Ops Salaries & Fringe Benefits	10,417	3,797	3,259	2,308	2,178	21,960
Ops Non-Labor Expenses	7,343	3,037	1,698	1,614	874	14,565
Indirect Administrative Expenses	12,424	4,512	3,897	2,750	2,606	26,189
Ops Professional Services	1,548	562	486	343	325	3,264
Subtotal Admin & Services	**31,733**	**11,909**	**9,340**	**7,014**	**5,982**	**65,978**
Contingency	**52**	**19**	**16**	**11**	**11**	**109**
Total Operating Expenses	**173,013**	**69,774**	**36,943**	**38,942**	**18,787**	**337,459**
Insurance and Legal						
Liability/Property/Auto	9,542	4,928	2,047	2,380	658	19,555
Net Claims / SI	593	306	127	148	41	1,216
Claims Administration	1,101	569	236	275	76	2,256
Total Net Insurance and Legal	**11,236**	**5,803**	**2,410**	**2,802**	**775**	**23,026**
Total Expense	**184,249**	**75,577**	**39,354**	**41,744**	**19,562**	**360,486**
Loss / Member Support Required	**(139,979)**	**(53,215)**	**(31,324)**	**(29,574)**	**(17,082)**	**(271,174)**

Public Hearing on Orange County Transportation Authority's Fiscal Year 2022-23 Budget and Personnel and Salary Resolution

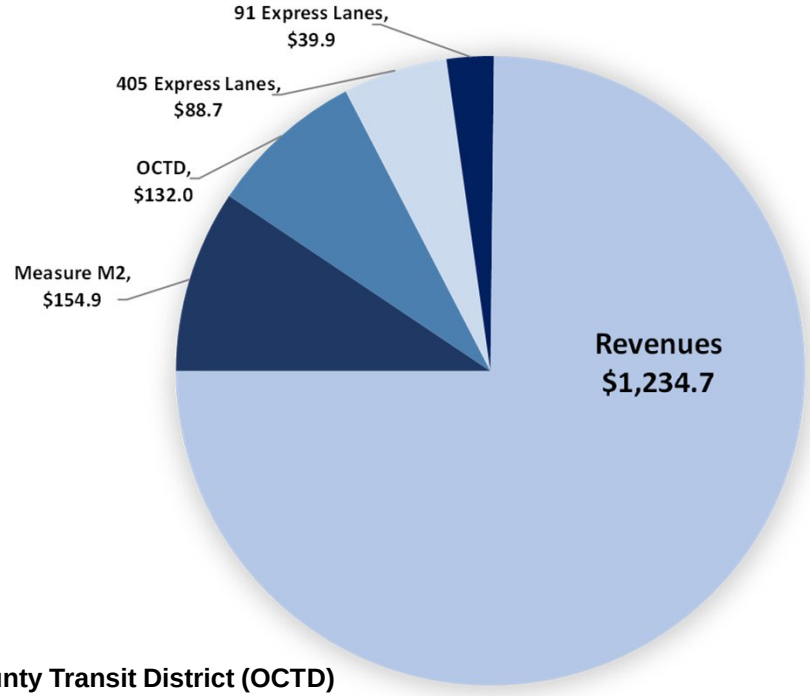
Budget Highlights

- Sales tax receipts anticipated to be significantly higher than current year budget
- Establishes funding to protect against potential economic downturn
- Bus operations budget includes the capacity to add fixed-route service and accommodate increases in OC ACCESS trips
- Metrolink budget includes the capacity to reach pre-pandemic trip levels
- Measure M2 Program continues to provide funding for the freeways, streets and roads, and transit modes consistent with the Next 10 Delivery Plan
- Strong trip growth anticipated for the 91 Express Lanes

Budget Overview

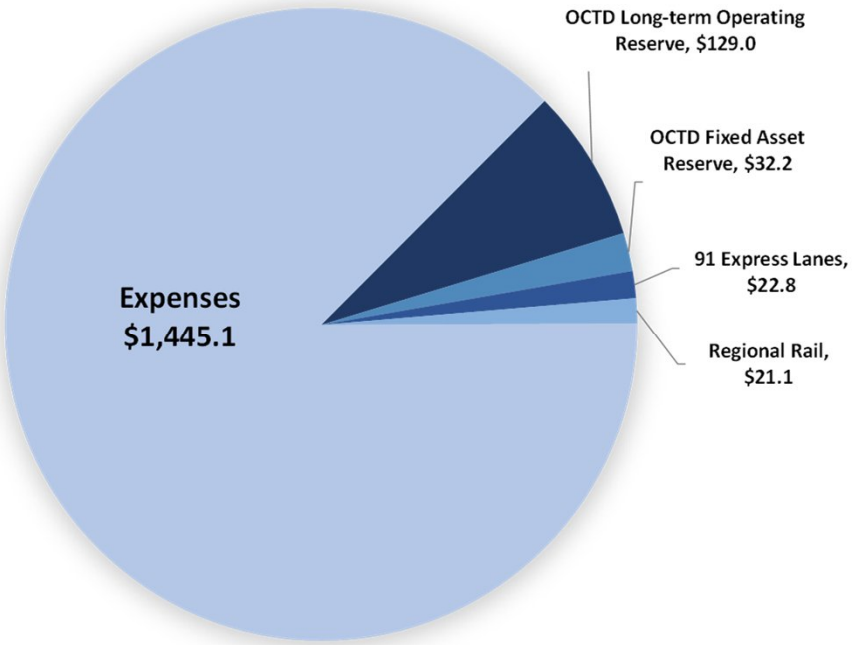
Use of Prior Year Designations
$415.5 million

Source of Funds
$1,650.2 million



Use of Funds
$1,650.2 million

Designations
$205.1 million



Orange County Transit District (OCTD)

Budget Sources and Uses

In Millions Sources	FY 2021-22 Approved Budget	FY 2022-23 Proposed Budget	Change $
Revenues	$ 971.1	$ 1,234.7	$ 263.6
Use of Prior Year Designations	296.0	415.5	119.5
Total Revenue / Use of Designations	**$ 1,267.1**	**$ 1,650.2**	**$ 383.1**
Uses			
Salaries and Benefits	$ 174.1	$ 187.3	$ 13.2
LOSSAN Funded Salaries and Benefits	3.8	3.9	0.1
Services and Supplies	368.9	339.6	(29.3)
Contributions to Other Agencies	171.1	181.3	10.2
Interest/Debt Service	65.7	97.8	32.1
Capital	416.0	635.2	219.2
Designations	67.5	205.1	137.6
Total Expenditures / Designations	**$ 1,267.1**	**$ 1,650.2**	**$ 383.1**

Staffing Levels

OCTA Staffing	FY 2021-22 Full-time Equivalent	FY 2022-23 Full-time Equivalent	FY 2022-23 New Hires	FY 2022-23 Reductions	Difference
Administrative	**504.0**	**520.5**	**17.0**	**(0.5)**	**16.5**
Union	**791.0**	**823.0**	**32.0**	**-**	**32.0**
Coach Operators	600.0	631.0	31.0	-	31.0
Maintenance	153.0	153.0	-	-	-
Facility Technicians and Parts Clerks	38.0	39.0	1.0	-	1.0
OCTA Positions	**1,295.0**	**1,343.5**	**49.0**	**(0.5)**	**48.5**
LOSSAN Funded OCTA Positions	**18.0**	**18.0**	**-**	**-**	**-**
Total Authority Positions	**1,313.0**	**1,361.5**	**49.0**	**(0.5)**	**48.5**

Personnel and Salary Resolutions

- Pertaining to administrative employees
  - Employees are at-will
  - Administrative employees do not receive cost-of-living adjustments, step increases, or automatic increases of any type
- Merit pool of five percent
  - Salary increases are based on a pay-for-performance program
  - Every employee has a performance plan and receives an annual performance review
  - Base-building adjustment to annual salary
- Bonus pool of four percent
  - Non-base building – does not increase annual salary
  - Bonuses are given throughout the year for specific, exceptional performance in a defined goal area
  - Part of employee rewards and recognition strategy

Recommendations

- Approve by Resolution Orange County Transportation Authority's (OCTA's) Fiscal Year (FY) 2022-23 Budget
- Approve the Personnel Salary Resolution for FY 2022-23
- Authorize the Chief Executive Officer, or his designee, to negotiate and execute the software and hardware licensing, maintenance, and emergency support purchase orders and/or agreements
- Approve FY 2022-23 OCTA member agency contribution to the Southern California Regional Rail Authority (SCRRA), operating subsidy, in an amount up to $46,167,104, including authorization of federal funding to be drawn down directly by the SCRRA, in an amount up to $46,167,104, which includes federal supplemental funding of $26,624,520. In addition, approve the capital and rehabilitation expenditure budget contingent upon all member agencies approval of their respective capital and rehabilitation budgets. OCTA's portion of the costs for capital is $3,447,350 and $27,237,610 for rehabilitation.

Next Steps

- Back-up Public Hearing – Board (public hearing and approval) June 27

Call to Order

The Monday, May 23, 2022, regular meeting of the Orange County Transportation Authority (OCTA) and affiliated agencies was called to order by Chairman Murphy at 9:01 a.m. at the OCTA Headquarters, 550 South Main Street, Board Room, Orange, California.

Directors Present:
Mark A Murphy, Chairman
Gene Hernandez, Vice Chairman
Lisa Bartlett
Doug Chaffee
Barbara Delgleize
Andrew Do
Katrina Foley
Brian Goodell
Steve Jones
Joseph Muller
Tam Nguyen
Vicente Sarmiento
Donald P. Wagner

Directors Absent:
Patrick Harper
Michael Hennessey
Harry S. Sidhu
Ryan Chamberlain

Staff Present:
Darrell E. Johnson, Chief Executive Officer
Jennifer L. Bergener, Deputy Chief Executive Officer
Andrea West, Interim Clerk of the Board
Gina Ramirez, Clerk of the Board Specialist, Senior
Sahara Meisenheimer, Clerk of the Board Specialist
James Donich, General Counsel

Invocation

Director Jones gave the Invocation.

Pledge of Allegiance

Vice Chairman Hernandez led the Pledge of Allegiance.

Special Calendar

Orange County Transportation Authority Special Calendar Matters

1. Presentation of Resolutions of Appreciation for Employees of the Month for May 2022

Resolutions of Appreciation were presented to Juan Marquez, Coach Operator; Paul Paretti, Maintenance; and Michael Le, Administration, as Employees of the Month for May 2022.

31. Closed Session

A Closed Session was held as follows:

Pursuant to Government Code Section 54957.6 to discuss negotiations with Teamsters Local 952 regarding the maintenance unit. The lead negotiator for the Orange County Transportation Authority is Maggie McJilton, Executive Director of People and Community Engagement, and Teamsters Local 952 representative.

Directors Muphy, Hernandez, Bartlett, Chaffee, Delgleize, Do, Foley, Goodell, Jones, Muller, Nguyen, Sarmiento, and Wagner.

There was no report out.

Consent Calendar (Items 2 through 24)

Orange County Transportation Authority Consent Calendar Matters

2. Approval of Minutes

A motion was made by Vice Chairman Hernandez, seconded by Director Do, and passed by those present to, Approval of the Orange County Transportation Authority and affiliated agencies' regular meeting minutes of May 9, 2022.

3. Temporary Staffing Services, Internal Audit Report No. 22-506

A motion was made by Vice Chairman Hernandez, seconded by Director Do, and passed by those present to,receive and file Temporary Staffing Services, Internal Audit Report No. 22-506, as an information item.

4. Freeway Service Patrol, Internal Audit Report No. 22-509

A motion was made by Vice Chairman Hernandez, seconded by Director Do, and passed by those present to, receive and file Freeway Service Patrol, Internal Audit Report No. 22-509, as an information item.

5. Investments: Compliance, Controls, and Reporting, July 1 through December 31, 2021, Internal Audit Report No. 22-507

A motion was made by Vice Chairman Hernandez, seconded by Director Do, and passed by those present to, receive and file Investments: Compliance, Controls, and Reporting, July 1 through December 31, 2021, Internal Audit Report No. 22-507, as an information item.

6. Transportation Development Act, Triennial Performance Audits

A motion was made by Vice Chairman Hernandez, seconded by Director Do, and passed by those present to:

A. Receive and file the Triennial Performance Audit of OCTA as the Regional Transportation Planning Entity, FY 2019 to FY 2020, as an information item.

B. Direct staff to implement one recommendation included in the Triennial Performance Audit of the Orange County Transit District, FY 2019 to FY 2021.

C. Direct staff to monitor implementation of recommendations included in the Triennial Performance Audits of the Orange County Transit District and Laguna Beach Municipal Transit Lines, FY 2019 to FY 2021.

7. 91 Express Lanes Update for the Period Ending - March 31, 2022

A motion was made by Vice Chairman Hernandez, seconded by Director Do, and passed by those present to, receive and file as an information item.

8. Amendment to the 91 Express Lanes Riverside County Transportation Commission/Orange County Transportation Authority Facility Agreement

A motion was made by Vice Chairman Hernandez, seconded by Director Do, and passed by those present to, authorize the Chief Executive Officer to negotiate and execute Amendment No. 7 to Agreement No. C-5-3828 between the Orange County Transportation Authority and Riverside County Transportation Commission, in the amount of $827,388, for the reimbursement of shared operational expenses through June 30, 2023.

9. Amendment to Agreement with Switch Ltd. for Data Center Colocation Services

A motion was made by Vice Chairman Hernandez, seconded by Director Do, and passed by those present to, authorize the Chief Executive Officer to negotiate and execute Amendment No. 5 to Agreement No. C-8-1507 between the Orange County Transportation Authority and Switch Ltd., in the amount of $500,000, to provide additional data center colocation services. This will increase the maximum cumulative obligation of the agreement to a total contract value of $1,356,827.

10. Orange County Transportation Authority Investment and Debt Programs Report - March 2022

A motion was made by Vice Chairman Hernandez, seconded by Director Do, and passed by those present to, receive and file as an information item.

11. Fiscal Year 2021-22 Third Quarter Grant Reimbursement Status Report

A motion was made by Vice Chairman Hernandez, seconded by Director Do, and passed by those present to, receive and file as an information item.

12. 2022 State Transportation Improvement Program Update

A motion was made by Vice Chairman Hernandez, seconded by Director Do, and passed by those present to, receive and file as an information item.

Orange County Transit District Consent Calendar Matters

13. Agreement for Installation of 12kV Electrical Switchgear Equipment at the Santa Ana Bus Base

A motion was made by Vice Chairman Hernandez, seconded by Director Do, and passed by those present to, ruthorize the Chief Executive Officer to negotiate and execute Agreement No. C-2-2231 between the Orange County Transportation Authority and Inter-Pacific, Inc., doing business as Inter-Pacific Systems, Inc., the lowest responsive, responsible bidder, in the amount of $465,096, for the installation of 12kV electrical switchgear equipment at the Santa Ana Bus Base.

14. Agreement for Fire Alarm Control Panels Replacement at the Santa Ana Bus Base

A motion was made by Vice Chairman Hernandez, seconded by Director Do, and passed by those present to, authorize the Chief Executive Officer to negotiate and execute Agreement No. C-2-2230 between the Orange County Transportation Authority and ADT Commercial LLC, the lowest responsive, responsible bidder, in the amount of $496,299, for fire alarm control panels replacement at the Santa Ana Bus Base.

15. Agreement for Building Repairs at Irvine Construction Circle Bus Base

A motion was made by Vice Chairman Hernandez, seconded by Director Do, and passed by those present to,Authorize the Chief Executive Officer to negotiate and execute Agreement No. C-2-2243 between the Orange County Transportation Authority and Golden Gate Steel, Inc., doing business as Golden Gate Construction, the lowest responsive, responsible bidder, in the amount of $553,417, for building repairs at the Irvine Construction Circle Bus Base fuel island.

16. Agreement for Drainage Pipe Repair at the Anaheim Bus Base Chassis Wash Bay

A motion was made by Vice Chairman Hernandez, seconded by Director Do, and passed by those present to, authorize the Chief Executive Officer to negotiate and execute Agreement No. C-2-2210 between the Orange County Transportation Authority and Vicon Enterprise Incorporated, the lowest responsive, responsible bidder, in the amount of $99,500, for drainage pipe repair at the Anaheim Bus Base chassis wash bay.

17. Develop and Implement a Rider Validation System

A motion was made by Vice Chairman Hernandez, seconded by Director Do, and passed by those present to, approve staff to pursue the development and implementation of a new rider validation system.

18. Agreement for Coach Operator, Operations Instructor, and Field Supervisor Uniforms

A motion was made by Vice Chairman Hernandez, seconded by Director Do, and passed by those present to:

A. Approve the selection of Becnel Uniforms as the firm to provide coach operator, operations instructor, and field supervisor uniforms on an as needed basis.

B. Authorize the Chief Executive Officer to negotiate and execute Agreement No. C-1-3928 between the Orange County Transportation Authority and Becnel Uniforms, in the amount of $674,468, to provide coach operator, operations instructor, and field supervisor uniforms on an as-needed basis, for a three-year initial term effective July 1, 2022, through June 30, 2025, with one, two-year option term.

19. Amendments to Cooperative Agreements with Special Agencies for the Provision of Transportation Services

A motion was made by Vice Chairman Hernandez, seconded by Director Do, and passed by those present to:

A. Authorize the Chief Executive Officer to negotiate and execute Amendment No. 3 to Cooperative Agreement No. C-8-1917 between the Orange County Transportation Authority and North County Senior Services, LLC, doing business as Acacia Adult Day Services, for continued services, and to adjust the per trip rate to $16.85, effective July 1, 2022 through June 30, 2023. This increase in rate will not change the current maximum obligation of $1,302,621 due to underruns that cover the projected expenses as a result of the coronavirus pandemic.

B. Authorize the Chief Executive Officer to negotiate and execute Amendment No. 3 to Cooperative Agreement No. C-8-1918 between the Orange County Transportation Authority and Alzheimer's Family Center for continued services and to adjust the per trip rate to $16.85, effective July 1, 2022 through June 30, 2023. This increase in rate will not change the current contract maximum obligation of $1,343,599 due to underruns that cover the projected expenses as a result of the coronavirus pandemic.

C. Authorize the Chief Executive Officer to negotiate and execute Amendment No. 3 to Cooperative Agreement No. C-8-1919 between the Orange County Transportation Authority and Alzheimer's Orange County for continued services in the amount of $29,803, and to adjust the per trip rate to $16.85, effective July 1, 2022 through June 30, 2023. This will increase the maximum obligation of the agreement to a total contract value of $596,126.

D. Authorize the Chief Executive Officer to negotiate and execute Amendment No. 3 to Cooperative Agreement No. C-8-1920 between the Orange County Transportation Authority and Community SeniorServ, doing business as Meals on Wheels Orange County, for continued services and to adjust the per trip rate to $16.85, effective July 1, 2022 through June 30, 2023. This increase in rate will not change the current contract maximum obligation of $1,362,793 due to underruns that cover the projected expenses as a result of the coronavirus pandemic.

E. Authorize the Chief Executive Officer to negotiate and execute Amendment No. 3 to Cooperative Agreement No. C-8-1921 between the Orange County Transportation Authority and Orange County Adult Achievement Center, doing business as My Day Counts, for continued services in the amount of $259,952, and to adjust the per trip rate to $16.76 and the Regional Center of Orange County pass-through per trip rate to $6.31 effective July 1, 2022 through June 30, 2023. This will increase the maximum obligation of the agreement to a total contract value of $3,371,620.

F. Authorize the Chief Executive Officer to negotiate and execute Amendment No. 1 to Cooperative Agreement No. C-8-1922 between the Orange County Transportation Authority and Innovative Integrated Health, formerly known as Sultan Adult Day Health Care, for continued services and to adjust the per trip rate to $16.85 effective July 1, 2022 through June 30, 2023. This increase will not change the current maximum obligation of $1,119,180 due to underruns that cover the projected expenses as a result of the coronavirus pandemic.

20. Amendment to Cooperative Agreement with the Regional Center of Orange County

A motion was made by Vice Chairman Hernandez, seconded by Director Do, and passed by those present to, authorize the Chief Executive Officer to negotiate and execute Amendment No. 3 to Cooperative Agreement No. C-8-1735 between the Orange County Transportation Authority and the Regional Center of Orange County to exercise the second, two-year option term to share in the cost of paratransit services provided to the Regional Center of Orange County consumers from July 1, 2022, through June 30, 2024.

21. Amendment to Cooperative Agreements with Non-Profit Agencies to Provide Senior Mobility Program Services

A motion was made by Vice Chairman Hernandez, seconded by Director Do, and passed by those present to:

A. Authorize the Chief Executive Officer to negotiate and execute Amendment No. 1 to Cooperative Agreement No. C-1-3259 between the Orange County Transportation Authority and Abrazar, Inc., in the amount of $89,387 to provide funding through June 30, 2023.

B. Authorize the Chief Executive Officer to negotiate and execute Amendment No. 1 to Cooperative Agreement No. C-1-3260 between the Orange County Transportation Authority and the Korean American Senior Association of Orange County, in the amount of $109,894 to provide funding through June 30, 2023.

C. Authorize the Chief Executive Officer to negotiate and execute Amendment No. 1 to Cooperative Agreement No. C-1-3261 between the Orange County Transportation Authority and Southland Integrated Services, Inc., in the amount of $96,628, to provide funding through June 30, 2023.

22. Agreement for Transit Training Services

A motion was made by Vice Chairman Hernandez, seconded by Director Do, and passed by those present to:

A. Approve the selection of Mobility Management Partners, Inc. as the firm to provide transit training services.

B. Authorize the Chief Executive Officer to negotiate and execute Agreement No. C-2-2187 between the Orange County Transportation Authority and Mobility Management Partners, Inc., in the amount of $1,116,804, to provide transit training services for a three-year initial term with one, two-year option term.

23. June 2022 Bus Service Change

A motion was made by Vice Chairman Hernandez, seconded by Director Do, and passed by those present to receive and file as an information item.

Orange County Local Transportation Authority Consent Calendar Matters

24. Agreement for the Development, Installation, and Implementation of the OC Streetcar Ticket Vending Machines System

A motion was made by Vice Chairman Hernandez, seconded by Director Do, and passed by those present to:

A. Approve the selection of INIT Innovations in Transportation, Inc., as the firm to develop, install, and implement the OC Streetcar ticket vending machines system.

B. Authorize the Chief Executive Officer to negotiate and execute Agreement No. C-1-3279 between the Orange County Transportation Authority and INIT Innovations in Transportation, Inc., in the amount of $2,107,765, for a five-year initial term with one, five-year option term for the development, installation, and implementation of the OC Streetcar ticket vending machines system.

Director Wagner voted in opposition on this item.

Regular Calendar

Orange County Transit District Regular Calendar Matters

25. Making Better Connections Study Draft Service Plan

A motion was made by Director Delgleize, seconded by Director Do, and passed by those present to:

A. Direct staff to release the draft service plan and implement Phase 2 of the public outreach plan to gather feedback.

B. Direct staff to return to the Board of Directors on July 25, 2022, to present the public outreach findings and to conduct a public hearing.

Orange County Local Transportation Authority Regular Calendar Matters

26. Federal Incentive Payment Program and Modified Settlement Delegation Authority for the State Route 91 Improvement Project Between State Route 57 and State Route 55 (Segments 1, 2, and 3)

A motion was made by Director Bartlett, seconded by Director Degleize, and passed by those present to:

A. Authorize the Chief Executive Officer, or his designee, to implement the State Route 91 Acquisition - Incentive Payment Program to acquire needed right-of-way for the State Route 91 Improvement Project, which is consistent with Federal Highway Administration and California Department of Transportation guidelines.

B. Authorize the Chief Executive Officer, or his designee, to execute agreements to acquire needed right-of-way in accordance with the modified settlement delegation authority for the State Route 91 Improvement Project.

Discussion Items

27. OC Streetcar Downtown Santa Ana Business Support Update

Christina Byrne, Department Manager of Public Outreach provided a presentation on this item.

The COB stated that public comments were received between May 20th at 1:28 p.m. to May 22nd at 4:17 p.m. from Renee Lancaster and Katie Newman. The comments were emailed to the Board of Directors on May 23rd at 8:19 a.m. and will be retained as part of today's meeting record.

Public comments were received from the following:
Renee Lancaster
Stephanie Cuevas
Juanita Lee
Hailey Belas
Enrique Marban
Isabel Rivera
Selina Mendez
Delilah Snell
Kim Tapfer
Dolores Almaraz
Maria Perez
Walter Ayala
Dana Jazayeri
Raul Yanez
Ana Laura Padilla
Loni Paniagua
Juliet Castro
Guadalupe Barragan

A discussion ensued between Board members and staff.

28. Public Comments

There were no public comments received.

29. Chief Executive Officer's Report

30. Directors' Reports

Director Goodell reported he attended the Southern California Association of Governments (SCAG) regional council meeting in Palm Desert. OCTA's partnership with the City of San Juan Capistrano on the 2C Ranch Habitat Restoration Project was honored as one of SCAG's 2022 Sustainability Award winners.

32. Adjournment

The meeting adjourned at 11:54 a.m.

The next regularly scheduled meeting of this Board will be held at **9:00 a.m. on Monday, June 13, 2022** at the Orange County Transportation Authority Headquarters, Board Room - Conference Room 07-08, 550 South Main Street, Orange, California.

ATTEST:

_____
Gina Ramirez
Clerk of the Board Specialist, Senior

COMMITTEE TRANSMITTAL

June 13, 2022

To: Members of the Board of Directors

From: Andrea West, Interim Clerk of the Board

Subject: Amendment to Cooperative Agreement with the County of Orange, Orange County Sheriff's Department

Executive Committee Meeting of June 6, 2022

Present: Chairman Murphy, Directors Bartlett, Do, Hennessey, Jones, and Muller
Absent: Vice Chairman Hernandez

Committee Vote

This item was declared passed by the Members present.

Committee Recommendation

Authorize the Chief Executive Officer to negotiate and execute Amendment No. 3 to Cooperative Agreement No. C-0-2330 between the Orange County Transportation Authority and County of Orange, Orange County Sheriff's Department, in the amount of $11,674,866, for Transit Police Services, effective July 1, 2022, through June 30, 2023. This will increase the maximum obligation of the agreement to a total contract value of $33,414,261.

OCTA

June 6, 2022

To: Executive Committee

From: Darrell E. Johnson, Chief Executive Officer

Subject: Amendment to Cooperative Agreement with the County of Orange, Orange County Sheriff's Department

Overview

The Orange County Transportation Authority contracts with the County of Orange, Orange County Sheriff's Department to provide Transit Police Services. On July 13, 2020, the Board of Directors approved a five-year agreement with the County of Orange, Orange County Sheriff's Department, to provide these services. The contract is required to be amended annually to include the necessary firm-fixed cost for each fiscal year. Board of Directors' approval is requested to amend the agreement to include necessary funding for fiscal year 2022-23.

Recommendation

Authorize the Chief Executive Officer to negotiate and execute Amendment No. 3 to Cooperative Agreement No. C-0-2330 between the Orange County Transportation Authority and County of Orange, Orange County Sheriff's Department, in the amount of $11,674,866, for Transit Police Services, effective July 1, 2022, through June 30, 2023. This will increase the maximum obligation of the agreement to a total contract value of $33,414,261.

Discussion

The County of Orange, Orange County Sheriff's Department (OCSD), has provided Transit Police Services (TPS) for Orange County Transportation Authority's (OCTA) patrons, employees, and properties since 1993. On July 13, 2020, the Board of Directors (Board) approved a cooperative agreement with the OCSD to provide TPS for a five-year term.

The OCSD is required to annually develop a fiscal year (FY) budget for each of the five years in the contract. After the FY budget is developed, OCSD submits the budget to OCTA for review and concurrence. An amendment is then required

to increase the overall contract value to cover the cost of services for the corresponding FY. For FY 2022-23, OCTA requested no changes to the level of service provided by OCSD for TPS. The $11,674,866 budget request represents an increase of 4.87 percent over the amount budgeted for FY 2021-22. The increase is associated with higher costs of benefits resulting from the negotiated labor contract for OCSD and the addition of body-worn cameras.

Services provided by OCSD are listed on Attachment A. In addition to these services, OCSD also provides countywide services such as the Hazardous Devices Squad, Special Weapons and Tactics team, Special Victims Unit, and the Orange County Intelligence Assessment Center. The OCSD deputies assigned to TPS carry full police authorities, allowing them to conduct investigations and make misdemeanor and felony arrests. A fact sheet summarizing the cooperative agreement is also included as Attachment B.

Fiscal Impact

Amendment No. 3 to Cooperative Agreement No. C-0-2330 is included in the OCTA Proposed FY 2022-23 Budget, with $11,226,909 budgeted for fixed-route service, right-of-way rail support, and general services. There is also $447,957 budgeted for special services, which includes patrol of OCTA-owned environmental mitigation properties, three explosive detection canine and bomb technician handler teams, and transit security overtime for Visual Intermodal Prevention and Response (VIPR) and Anti-Terrorism-Anti-Crime (ATAC) to be utilized for high-security risk events and billed only as used. Patrol costs will be subsidized by Measure M2, and the canine units are funded with Transportation Security Administration grant funds. The VIPR and ATAC are funded with Transit Security Grant Program funds.

Summary

Staff recommends the Board of Directors authorize the Chief Executive Officer to negotiate and execute Amendment No. 3 to Cooperative Agreement No. C-0-2330 between the Orange County Transportation Authority and the County of Orange, Orange County Sheriff’s Department, in the amount of $11,674,866 for the provision of Transit Police Services from July 1, 2022 through June 30, 2023, bringing the maximum contract obligation to $33,414,261.

Attachments

A. County of Orange, Orange County Sheriff's Department Services Provided
B. County of Orange, Orange County Sheriff's Department Cooperative Agreement No. C-0-2330 Fact Sheet

Prepared by:

Katrina Faulkner
Manager, Security and Emergency Preparedness
714-560-5719

Pia Veesapen
Director, Contracts Administration and Materials Management
714-560-5619

Approved by:

Jennifer L. Bergener
Deputy Chief Executive Officer
714-560-5462

ATTACHMENT A

County of Orange, Orange County Sheriff's Department Services Provided

The following services will be provided:

- Uniformed patrol and plainclothes enforcement at Orange County Transportation Authority (OCTA)-owned properties, on railroad rights-of-way, and on-board OCTA buses
- Response to calls for service as needed
- Traffic enforcement as it relates to the operation of fixed-route vehicles
- Special Enhancement Team for enhanced services: Homeless Liaison Officers, Anti-Terrorism Anti-Crime, Community Oriented Policing, and Visible Intermodal Prevention and Response Team
- Taxicab applicant review
- Specialized and internal investigations conducted as needed
- Security at OCTA Board of Directors meetings, public hearings, and special events as requested
- Coordinate with other transit security, local, state, and federal law enforcement agencies
- Participate in multi-agency drills on a local and regional level
- Coordination on security-related grant funding

Other assistance available through this contract includes three explosive Detection Canines for hazardous device detection and other law enforcement services such as the Mounted Enforcement Unit.

Dedicated Sheriff deployment to include:

- One Captain position serving as the Chief of Transit Police Services
- Five Sergeant positions
- One Investigator position
- Twenty Deputy Sheriff II – Fixed-Route Enforcement positions; includes three canines with Bomb Technicians and four Homeless Liaison Officers
- Five Deputy Sheriff II – Right-of-Way Enforcement positions
- One Office Specialist position

ATTACHMENT B

County of Orange, Orange County Sheriff's Department
Cooperative Agreement No. C-0-2330 Fact Sheet

1. July 13, 2020, the Board of Directors (Board) approved a five-year agreement, Cooperative Agreement No. C-0-2330. The original agreement was in an amount not to exceed $10,596,947.

   - To provide security and law enforcement services for the Orange County Transportation Authority (OCTA) from July 1, 2020 to June 30, 2021. Each year of this agreement, the Orange County Sheriff's Department (OCSD) provides OCTA with a budget for the following fiscal year (FY), and the maximum obligation is adjusted.
   - The following services were provided:
     - uniformed patrol and plainclothes enforcement at OCTA-owned properties, on railroad rights-of-way, and on-board OCTA's buses
     - response to calls for service as needed
     - traffic enforcement as it relates to the operation of fixed-route vehicles
     - special enhancement team for enhanced services and Homeless Liaison Officers, Anti-Terrorism Anti-Crime, Community Oriented Policing, and Visible Intermodal Prevention and Response Team (VIPR)
     - taxicab applicant review
     - specialized and internal investigations conducted as needed
     - security at OCTA Board meetings, public hearings, and special events as requested
     - coordinate with other transit security, local, state, and federal law enforcement agencies
     - participate in multi-agency drills on a local and regional level
     - coordination on security-related grant funding
   - Other assistance available through this contract includes three Explosive Detection Canines for hazardous device detection and other law enforcement services such as the Mounted Enforcement Unit.
   - Sheriff staff deployment to include:
     - One Captain position serving as the Chief of Transit Police Services
     - Five Sergeant positions
     - One Investigator position

- Twenty Deputy Sheriff II – Fixed-Route Enforcement positions; includes three canines with Bomb Technicians
- Five Deputy Sheriff II – Right-of-Way Enforcement positions
- One Office Specialist position

2. April 22, 2021, Amendment No. 1 to Cooperative Agreement No. C-0-2330, $9,389, approved by the Contracts Administration and Materials Management Department.

   - To add one patrol video system

3. June 14, 2021, Amendment No. 2 to Cooperative Agreement No. C-0-2330, $11,133,059, approved by the Board.

   - To increase the maximum obligation for the second year of the five-year agreement.

     - $11,133,059 for continued services with no staffing change, a 4.97 percent increase over FY 2020-21.
       - Breakdown of increase: Breakdown of increase: Wage, Benefit, and Other Direct Cost 4.93 percent, Special Services 0.04 percent
     - A provision for up to $447,957 for Special Services.
       - $89,528 for Special Enforcement
       - $23,179 for Seasonal Law Enforcement
       - $151,500 for Canine Units
       - $60,000 for Mounted Enforcement Units
       - $110,000 for VIPR/Counter Terrorism Team
       - $13,750 for Angels Express

4. June 13, 2022, Amendment No. 3 to Cooperative Agreement No. C-0-2330, $11,674,866, pending approval by the Board.

   - To increase the maximum obligation for the third year of the five-year agreement. This amount includes:

     - $11,226,909 for continued services with no staffing change, a 4.87 percent increase over FY 2021-22.
       - Breakdown of increase: Wage, Benefit, and Other Direct Cost 4.87 percent, Special Services 0.00 percent
     - A provision for up to $447,957 for Special Services.
       - $89,528 for Special Enforcement
       - $23,179 for Seasonal Law Enforcement
       - $151,500 for Canine Units

- $60,000 for Mounted Enforcement Units
- $110,000 for VIPR/Counter Terrorism Team
- $13,750 for Angels Express

Total committed to County of Orange, OCSD Cooperative Agreement No. C-0-2330: $33,414,261.

COMMITTEE TRANSMITTAL

June 13, 2022

To: Members of the Board of Directors

From: Andrea West, Interim Clerk of the Board

Subject: Amendments to the Cooperative User Fee Processing Agreement for Interoperatble Toll Processing and Revenue Collection

Finance and Administration Committee Meeting of June 8, 2022

Present: Directors Goodell, Harper, Hennessey, Jones, and Muller
Absent: Directors Hernandez and Sarmiento

Committee Vote

This item was passed by the Members present.

Committee Recommendations

A. Authorize the Chief Executive Officer to negotiate and execute Amendment No. 9 to Agreement No. C-6-1510 between the Orange County Transportation Authority and Transportation Corridor Agencies, to extend the term until such time either agency no longer operates the toll facility.

B. Authorize the Chief Executive Officer to negotiate and execute Amendment No. 2 to Agreement No. C-2-1960 between the Orange County Transportation Authority and Los Angeles County Metropolitan Transportation Authority, to extend the term until such time either agency no longer operates the toll facility.

OCTA

June 8, 2022

To: Finance and Administration Committee

From: Darrell E. Johnson, Chief Executive Officer

Subject: Amendments to the Cooperative User Fee Processing Agreement for Interoperable Toll Processing and Revenue Collection

Overview

The Orange County Transportation Authority enters into a cooperative user fee processing agreement with other California toll agencies to facilitate the interoperability process for toll collection. The agreement establishes a reciprocal arrangement for the exchange of data and establishes a settlement process for the exchange of funds between the toll agencies.

Recommendations

A. Authorize the Chief Executive Officer to negotiate and execute Amendment No. 9 to Agreement No. C-6-1510 between the Orange County Transportation Authority and Transportation Corridor Agencies, to extend the term until such time either agency no longer operates the toll facility.

B. Authorize the Chief Executive Officer to negotiate and execute Amendment No. 2 to Agreement No. C-2-1960 between the Orange County Transportation Authority and Los Angeles County Metropolitan Transportation Authority, to extend the term until such time either agency no longer operates the toll facility.

Background

The California Toll Operators Committee (CTOC) is comprised of California's toll facility operators/owners. CTOC members communicate on issues of interoperability, technology, customer service, legislative, and other issues affecting tolling in California. As CTOC members, an objective is to offer interoperability to their customers including the ability to offer a single account statement to each customer which reflects the customer's transaction activities on all participating toll facilities. In addition, the CTOC agencies ensure that for

purposes of toll collection, the vehicle owner will not be required to purchase or install more than one transponder device to use on all California toll facilities. In order to facilitate the interoperability process, CTOC members enter into a cooperative user fee processing agreement with each other to promote consistent agreement and practices for interoperable toll processing and revenue collection. The cooperative agreement establishes a reciprocal process for the exchange of data as defined in the technical specifications for Interagency Electronic Data Interchange. In addition, the agreement establishes a settlement process for the exchange of funds and resolution of issues, should they arise.

Amendments to the current agreements with the Transportation Corridor Agencies (TCA) and the Los Angeles County Metropolitan Transportation Authority (LACMTA) are required since the agreements will expire on June 30, 2022 and September 19, 2022, respectively. These agreements have been previously amended as shown on Attachments A and B.

Fiscal Impact

There is no cost associated with the agreements with TCA and LACMTA.

Summary

Staff recommends the Board of Directors authorize the Chief Executive Officer to negotiate and execute Amendment No. 9 to Agreement No. C-6-1510 between the Orange County Transportation Authority and the Transportation Corridor Agencies to extend the term until such time either agency no longer operates the toll facility. Staff also recommends the Board of Directors authorize the Chief Executive Officer to negotiate and execute Amendment No. 2 to Agreement No. C-2-1960 between the Orange County Transportation Authority and Los Angeles County Metropolitan Transportation Authority to extend the term until such time either agency no longer operates the toll facility.

Attachments

A. Transportation Corridor Agencies, Agreement No. C-6-1510, Fact Sheet
B. Los Angeles County Metropolitan Transportation Authority, Agreement No. C-2-1960, Fact Sheet

Prepared by:

Kirk Avila
General Manager
Express Lanes Programs
(714) 560-5674

Pia Veesapen
Director, Contracts Administration and Materials Management
(714) 560-5619

ATTACHMENT A

Transportation Corridor Agencies
Agreement No. C-6-1510
Fact Sheet

1. February 29, 1996, Agreement No. C-6-1510, $0.00, approved by the California Private Transportation Company, L.P. (CPTC).

   - Established a cooperative user fee processing agreement to facilitate the interoperability process for toll collection.

   - Effective February 29, 1996 through February 28, 1997.

2. February 1, 2000, Amendment No. 1 to Agreement No. C-6-1510, $0.00, approved by CPTC.

   - Amendment to revise definitions and remittance of funds.

3. January 16, 2001, Amendment No. 2 to Agreement No. C-6-1510, $0.00, approved by CPTC.

   - Amendment to extend the term of the agreement through March 23, 2002.

4. May 21, 2002, Amendment No. 3 to Agreement No. C-6-1510, $0.00, approved by CPTC.

   - Amendment to extend the term of the agreement through June 30, 2003.

5. May 29, 2003, Amendment No. 4 to Agreement No. C-6-1510, $0.00, approved by Contracts Administration and Materials Management (CAMM).

   - Amendment to extend the term of the agreement through June 30, 2006.

6. May 3, 2006, Amendment No. 5 to Agreement No. C-6-1510, $0.00, approved by CAMM.

   - Amendment to extend the term of the Agreement through June 30, 2009.

7. June 10, 2009, Amendment No. 6 to Agreement No. C-6-1510, $0.00, approved by CAMM.

   - Amendment to extend the term of the agreement through June 30, 2012.

8. July 1, 2012, Amendment No. 7 to Agreement No. C-6-1510, $0.00, approved by CAMM.

   - Amendment to extend the term of the Agreement through June 30, 2022.

9. May 17, 2016, Amendment No. 8 to Agreement No. C-6-1510, $0.00, approved by CAMM.

    - Amendment to revise Recital B of the agreement and assignment obligations.

10. June 8, 2022, Amendment No. 9 to Agreement No. C-6-1510, $0.00, pending Board of Directors' approval.

    - Amendment to extend the term of the agreement until such time either agency no longer operates the toll facility.

Total committed to Agreement No. C-6-1510: $0.00.

ATTACHMENT B

Los Angeles County Metropolitan Transportation Authority
Agreement No. C-2-1960
Fact Sheet

1. September 20, 2012, Agreement No. C-2-1960, $0.00, approved by the Contracts Administration and Materials Management Department (CAMM).

    - Established a cooperative user fee processing agreement to facilitate the interoperability process for toll collection.

    - Effective through September 19, 2022.

2. February 15, 2017, Amendment No. 1 to Agreement No. C-2-1960, $0.00, approved by CAMM.

    - Amendment to establish that the Orange County Transportation Authority continues to have authority under the agreement to represent the Riverside County Transportation Commission's interests as it relates to the 91 Express Lanes.

3. June 8, 2022, Amendment No. 2 to Agreement No. C-2-1960, $0.00, pending Board of Directors' approval.

    - Amendment to extend the term of the agreement until such time either agency no longer operates the toll facility.

Total committed to Agreement No. C-2-1960: $0.00.

COMMITTEE TRANSMITTAL

June 13, 2022

To: Members of the Board of Directors

From: Andrea West, Interim Clerk of the Board

Subject: Agreement for Treasury Management Software System

Finance and Administration Committee Meeting of June 8, 2022

Present: Directors Goodell, Harper, Hennessey, Jones, and Muller
Absent: Directors Hernandez and Sarmiento

Committee Vote

This item was passed by the Members present.

Committee Recommendations

A. Approve the selection of Clearwater Analytics LLC, as the firm to provide a treasury management software system.

B. Authorize the Chief Executive Officer to negotiate and execute Agreement No. C-1-3860 between the Orange County Transportation Authority and Clearwater Analytics LLC, in the amount of $984,800, to provide a treasury management software system for a five-year initial term and one, two-year option term.

Committee Discussion

At the May 11, 2022 Finance and Administration (F&A) Committee, Director Harper inquired as to why only one proposal was received. Staff stated they would reach out to other firms and gather more information. The Committee voted to defer this item to the next F&A Committee meeting on June 8, 2022.

OCTA

June 8, 2022

To: Finance and Administration Committee

From: Darrell E. Johnson, Chief Executive Officer

Subject: Agreement for Treasury Management Software System

Overview

The Orange County Transportation Authority seeks the services of a firm for a treasury management software system to assist in compliance monitoring, performance measurement, audit, and reporting of the Orange County Transportation Authority's investment portfolio. A competitive procurement has been conducted and an offer was received in accordance with the Orange County Transportation Authority's procurement procedures for professional and technical services. Board of Directors' approval is requested to execute an agreement for a treasury management software system.

Recommendations

A. Approve the selection of Clearwater Analytics LLC, as the firm to provide a treasury management software system.

B. Authorize the Chief Executive Officer to negotiate and execute Agreement No. C-1-3860 between the Orange County Transportation Authority and Clearwater Analytics LLC, in the amount of $984,800, to provide a treasury management software system for a five-year initial term and one, two-year option term.

Discussion

The Orange County Transportation Authority (OCTA) currently utilizes the services of a treasury management software (TMS) system for compliance monitoring, performance measurement, audit, and reporting of OCTA's investment portfolio. OCTA's Treasury and Public Finance Department provides monthly investment reports to the Finance and Administration Committee and the Board of Directors (Board). The ability to track daily investment activity is essential to monitoring the overall risk and performance of the portfolio.

As of January 31, 2022, OCTA is managing an investment portfolio totaling $2.4 billion dollars. The investment portfolio is divided into two managed portfolios: the liquid portfolio for immediate cash needs and the short-term portfolio for future budgeted expenditures. To provide assistance in managing high volumes of data and to provide a transparent format from which to manage the investment portfolio, a TMS system is essential to perform reporting and compliance-related tasks.

Staff currently utilizes a TMS system to monitor all trading activity performed by OCTA's investment managers. Additionally, the system calculates the performance for each of the four external investment managers within the respective portfolios. The performance reports calculate monthly rates of return based upon the market value and yield of each portfolio. All trading activity is reviewed weekly by OCTA's Treasury and Public Finance Department.

Staff submits a comprehensive investment and debt report to the Finance and Administration Committee and the Board on a monthly basis. The TMS system has been a valuable tool to monitor the daily activity of the portfolio while providing an efficient platform for data management, audit, and reporting.

OCTA has an existing agreement with Clearwater Analytics LLC (Clearwater) for an internet-based system that provides accurate and timely investment data to OCTA. Fees charged are based on the size of OCTA's portfolio, which continues to grow and diversify. The current agreement with Clearwater expires on May 31, 2022.

Procurement Approach

This procurement was handled in accordance with OCTA's Board-approved procedures for professional and technical services. Various factors are considered in an award for professional and technical services. Award is recommended to the firm offering the most comprehensive overall proposal considering such factors as qualifications, prior experience with similar projects, staffing and project organization, work plan, as well as cost and price.

On December 20, 2021, Request for Proposals (RFP) 1-3860 was issued electronically on CAMM NET. The project was advertised in a newspaper of general circulation on December 20 and December 27, 2021. A pre-proposal conference was scheduled for December 29, 2021; however, no firms were present. Two addenda were issued to make available the pre-proposal conference presentation and respond to written questions.

On January 20, 2022, one proposal was received. The proposal was from Clearwater. In accordance with OCTA's procurement policies and procedures, a single proposal received for a procurement over $50,000 requires OCTA's Internal Audit Department (Internal Audit) to conduct an agreed-upon procedures review to determine whether the Contracts Administration and Materials Management (CAMM) Department complied with procedures to ensure adequate outreach to stimulate competition. The review found CAMM complied with these procedures. CAMM contacted firms from the plan holder's list that had indicated interest in submitting a proposal to inquire about why they did not submit a proposal. The responses from the firms varied, such as not being able to provide the requested services, timing of the RFP and resource constraints, or the firm's services were not a good fit for the RFP requirements.

An evaluation committee consisting of OCTA staff from Treasury and Public Finance, Express Lanes Programs, Financial Planning and Analysis, Local Programs, Information Technology, and CAMM departments reviewed the proposal received from Clearwater and determined that it meets the qualifications, staffing needs, and requirements of the scope of work.

The proposal was evaluated based on the following evaluation criteria and weightings:

- Qualifications of the Firm — 25 percent
- Staffing and Project Organization — 25 percent
- Work Plan — 30 percent
- Cost and Price — 20 percent

Several factors were considered in developing these weightings. Qualifications of the firm, as well as staffing and project organization, were weighted at 25 percent each to ensure the firm has prior experience and staff expertise in providing a TMS system. Work plan was weighted at 30 percent as the firm needed to demonstrate it could provide a TMS system that is customized to meet OCTA's requirements as identified in the scope of work. Cost and price was weighted at 20 percent to ensure OCTA receives the best value for services provided.

The evaluation committee conducted an interview with Clearwater. The interview consisted of a presentation allowing the team to discuss its qualifications, provide a brief overview of the firm's approach to providing the requested services, and respond to evaluation committee questions related to OCTA's requirements as specified in the scope of work. At the conclusion of the interview, a request for a best and final offer was sent to the firm to seek additional clarifications and final pricing.

The following is a brief summary of the proposal evaluation results.

Qualifications of the Firm

Clearwater has provided internet-based investment services since 2004. The firm provides daily reporting services to more than 1,000 clients, including over 300 government entities, with $5.5 trillion in assets. Some of Clearwater's government agency clients include Los Angeles County, the City and County of San Francisco, and Riverside County. Clearwater has provided a TMS system to OCTA for the past ten years.

Staffing and Project Organization

Clearwater's proposed team demonstrated relevant knowledge and experience. The same key personnel performing on the current agreement were proposed to serve in the same capacity for the new agreement.

The current client services team lead (CSTL) is proposed to continue overseeing the efforts of a team of 12 that directly services OCTA. The CSTL has more than 15 years of experience. The proposed solutions consultant (SC) is proposed to continue overseeing that OCTA has the appropriate systems for use on a daily basis. The SC has nine years of experience, including extensive experience with client services and solutions. The proposed client services division lead has over eight years of experience and will continue providing issue resolution support services when needed.

Work Plan

Clearwater proposed to continue providing the same services currently provided to OCTA. Clearwater's software automates many manual tasks providing an efficient reconciliation process. Data is aggregated daily and available to OCTA on demand. During the interview, Clearwater provided a summary description of daily investment processing activity for the account. The response time to any OCTA inquiries is sufficient and within expectations.

Cost and Price

In accordance with OCTA's procurement policies and procedures, CAMM conducted a price review of the price proposed by Clearwater. The proposed price is based on a fee applied to OCTA's investment portfolio value. Clearwater proposed a fee of 0.775 basis points (0.00775 percent) for the first year of the agreement, increasing annually by 1.26 percent, to 0.8148 basis points (0.008148 percent) by the final year of the initial contract term, for an average

rate of 0.7948 basis points (0.007948 percent) for the initial contract term. The average fee is below the average fee in the current contract and the fee used to prepare the independent cost estimate, which was based on the fee in the current contract. Therefore, the proposed fees are deemed fair and reasonable.

Procurement Summary

Based on the evaluation of the written proposal, the firm's qualifications, the information obtained from the interview, and the best and final offer, the evaluation committee recommends the selection of Clearwater to provide a treasury management software system. Clearwater's team demonstrated extensive experience and submitted a comprehensive proposal that was responsive to the requirements of the RFP.

The agreement will have a five-year initial term and one, two-year option term. The amount of $984,800 is estimated for the initial term only.

Fiscal Impact

Funding for this service is included in OCTA's Fiscal Year 2021-22 Approved Budget, Finance and Administration Division, Account No. 1230-7669-A5400-F01 and is funded by the general fund.

Summary

Based on the information provided, staff recommends the Board of Directors authorize the Chief Executive Officer to negotiate and execute Agreement No. C-1-3860 with Clearwater Analytics LLC, in the amount of $984,800, to provide a treasury management software system for a five-year initial term and one, two-year option term.

Attachment

None.

Prepared by:

Robert Davis
Department Manager
Treasury/Public Finance
(714) 560-5675

Approved by:

Andrew Oftelie
Chief Financial Officer
Finance and Administration
(714) 560-5649

Pia Veesapen
Director, Contracts Administration and
Materials Management
(714) 560-5619

COMMITTEE TRANSMITTAL

June 13, 2022

To: Members of the Board of Directors

From: Andrea West, Interim Clerk of the Board

Subject: Resolution to Establish the Orange County Transportation Authority General Fund Appropriations Limit for Fiscal Year 2022-23

Finance and Administration Committee Meeting of June 8, 2022

Present: Directors Goodell, Harper, Hennessey, Jones, and Muller
Absent: Directors Hernandez and Sarmiento

Committee Vote

This item was passed by the Members present.

Committee Recommendation

Adopt Orange County Transportation Authority Resolution No. 2022-030 to establish the Orange County Transportation Authority General Fund appropriations limit at $14,071,204, for fiscal year 2022-23.

OCTA

June 8, 2022

To: Finance and Administration Committee

From: Darrell E. Johnson, Chief Executive Officer

Subject: Resolution to Establish the Orange County Transportation Authority General Fund Appropriations Limit for Fiscal Year 2022-23

Overview

The State Constitution requires that each year the governing body of each local jurisdiction shall, by resolution, establish its appropriations limit for the following year pursuant to Article XIIIB.

Recommendation

Adopt Orange County Transportation Authority Resolution No. 2022-030 to establish the Orange County Transportation Authority General Fund appropriations limit at $14,071,204, for fiscal year 2022-23.

Background

In November 1979, the voters of the State of California approved Proposition 4, commonly known as the Gann Initiative. The proposition created Article XIIIB of the California Constitution, which is also known as the Gann appropriations limit.

Both the Article XIIIB appropriations limit and its implementing legislation were modified by Proposition 111, approved by voters in 1990. The law specifies that the appropriations of revenues, “proceeds of taxes” by state and local governments, may only increase annually by a limit based on a factor comprised of the change in population and the change in California per capita personal income. The appropriation limit includes any interest earned from the investment of the proceeds of taxes and must be reviewed during the annual financial audit.

Discussion

In accordance with the requirements of Article XIIIB, a resolution has been prepared and is attached for review and approval (Attachment A). The resolution establishes the Orange County Transportation Authority (OCTA) General Fund appropriations limit for fiscal year (FY) 2022-23 at $14,071,204, excluding federal grant funds and other funds to be received from sources not subject to the appropriations limit.

Attachment B shows the calculation of the FY 2022-23 OCTA General Fund appropriations limit. Appropriations subject to limits do not include appropriations for debt service, costs of complying with the mandates of the courts or the federal government, or capital outlay projects. The percentage change in population and change in California per capita personal income were obtained from the State of California, Department of Finance.

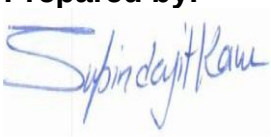
Summary

Staff recommends adoption of the Orange County Transportation Authority General Fund Resolution No. 2022-030, which will establish the fiscal year 2022-23 appropriation limit at $14,071,204.

Attachments

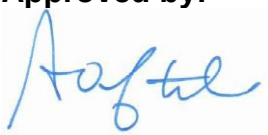
A. Resolution No. 2022-030 of the Orange County Transportation Authority - General Fund Establishing Appropriations Limit for Fiscal Year 2022-23
B. Orange County Transportation Authority - General Fund GANN Appropriations Limit Calculation for Fiscal Year 2022-23

Prepared by:



Sam Kaur
Department Manager,
Revenue Administration
(714) 560-5889

Approved by:



Andrew Oftelie
Chief Financial Officer,
Finance and Administration
(714) 560-5649

ATTACHMENT A

RESOLUTION No. 2022-030 OF THE ORANGE COUNTY TRANSPORTATION AUTHORITY - GENERAL FUND ESTABLISHING APPROPRIATIONS LIMIT FOR FISCAL YEAR 2022-23

WHEREAS, Article XIIIB of the California Constitution and Sections 7900 through 7913 of the California Government Code require the establishment of an appropriations limit; and

WHEREAS, appropriations limits are applicable to funds received from the proceeds of taxes and interest earned on such proceeds.

NOW, THEREFORE, BE IT RESOLVED as follows:

1. The Orange County Transportation Authority - General Fund hereby determines that pursuant to Section 7902b of the California Government Code, the appropriations limit for the Orange County Transportation Authority - General Fund for fiscal year 2022-23 is $14,071,204.

2. The total amount authorized to be expended by the Orange County Transportation Authority - General Fund during fiscal year 2022-23 from the proceeds of taxes, including interest earned from the investment of the proceeds of taxes, is $5,800,145.

3. The appropriations limit for fiscal year 2022-23 exceeds proceeds of taxes for fiscal year 2022-23 by $8,271,059.

ADOPTED, SIGNED, AND APPROVED this 13th day of June 2022.

AYES:

NOES:

ABSENT:

ATTEST:

Andrea West Interim Clerk of the Board	Mark A. Murphy, Chairman Orange County Transportation Authority

ATTACHMENT B

Orange County Transportation Authority - General Fund
GANN Appropriations Limit Calculation for
Fiscal Year 2022-23

GANN FACTOR

PER CAPITA CHANGE[1]	**%**		**RATIO**		**GANN FACTOR**
California per capita personal income change	7.55%		1.0755		
POPULATION CHANGE[2]					
County of Orange	-0.23%		0.9977		
GANN FACTOR	1.0755	x	0.9977	=	1.0730

FY 2022-23 APPROPRIATION LIMIT

Prior Year Appropriations Limit	$	13,113,890
GANN Factor (Rounded)	x	1.0730
	$	**14,071,204**

ITEMS SUBJECT TO GANN LIMIT[3]

Line Item		***Amount***
Transfers in from the LTF (CTC Administration and Planning)	$	4,892,831
Interest Revenue	$	907,314
	$	**5,800,145**

FY 2022-23 APPROPRIATION LIMIT

		Amount
FY 2022-23 Appropriations Limit	$	14,071,204
Less Items Subject to GANN Limit	$	(5,800,145)
Appropriation Limit that Exceeds the Proceeds of Taxes:	**$**	**8,271,059**

Note:
LTF - Local Transportation Fund
CTC - County Transportation Commission
FY - Fiscal Year
[1,2]Price Factor and Population Information provided by the Department of Finance.
[3]Items subject to GANN Limit provided from proposed FY 2022-23 budget

COMMITTEE TRANSMITTAL

June 13, 2022

To: Members of the Board of Directors

From: Andrea West, Interim Clerk of the Board

Subject: Orange County Transportation Authority Investment and Debt Programs Report – April 2022

Finance and Administration Committee Meeting of June 8, 2022

Present: Directors Goodell, Harper, Hennessey, Jones, and Muller
Absent: Directors Hernandez and Sarmiento

Committee Vote

This item was passed by the Members present.

Committee Recommendation

Receive and file as an information item.

OCTA

June 8, 2022

To: Finance and Administration Committee

From: Darrell E. Johnson, Chief Executive Officer

Subject: Orange County Transportation Authority Investment and Debt Programs Report – April 2022

Overview

The Orange County Transportation Authority has a comprehensive investment and debt program to fund its immediate and long-term cash flow demands. Each month, the Treasurer submits a report detailing investment allocation, performance, compliance, outstanding debt balances, and credit ratings for the Orange County Transportation Authority's debt program. This report is for the month ending April 30, 2022.

Recommendation

Receive and file as an information item.

Discussion

As of April 3, 2022, the Orange County Transportation Authority's (OCTA) outstanding investments totaled $2.4 billion. The portfolio is divided into three managed portfolios: the liquid portfolio for immediate cash needs, the short-term portfolio for future budgeted expenditures, and the bond proceeds portfolio to meet Measure M2 (M2) transportation program needs. In addition to these portfolios, OCTA has funds invested in debt service reserve funds for the 91 Express Lanes Program.

Portfolio Compliance and Liquidity Requirements for the Next Six Months: The portfolio is in full compliance with OCTA's Investment Policy and the State of California Government Code. Additionally, OCTA has reviewed the liquidity requirements for the next six months and anticipates that OCTA's liquidity will be sufficient to meet projected expenditures during the next six months.

The weighted average book yield for the OCTA portfolio is 0.9 percent. The book yield measures the exact income, or interest, on a bond without regard to market

price change. The yield is the income return on an investment, such as the interest received from holding a particular security. The yield is usually expressed as an annual percentage rate based on the investment's cost and market value.

OCTA's month-end balance in the Local Agency Investment Fund was $21,148,181, with an average monthly effective yield of 0.5 percent. OCTA's month-end balance in the Orange County Investment Pool (OCIP) was $15,028,048. For the month of April, the monthly gross yield for the OCIP was 0.6 percent.

During the month of April, zero securities held within OCTA's investment portfolio were downgraded or placed on Negative Credit Watch. Please refer to A-8 (Rating Downgrades and Negative Credit Watch) of Attachment A for further details. As of April 30, 2022, the securities reflected on A-8 still meet the minimum ratings requirements set forth by OCTA's Investment Policy.

OCTA's debt program is separate from its investment program and is comprised of M2 Sales Tax Revenue Bonds, 91 Toll Revenue Bonds, 2021 Transportation Infrastructure Finance and Innovation Act Loan, and the 2021 Bond Anticipation Notes. The debt program currently has an outstanding principal balance of $1.4 billion as of April 30, 2022. Approximately 45 percent of the outstanding balance is comprised of M2 debt, six percent is associated with the 91 Express Lanes Program, and 49 percent is associated with the 405 Express Lanes.

Summary

The Treasurer is submitting a copy of the Orange County Transportation Authority Investment and Debt Programs report to the Finance and Administration Committee. The report is for the month ending April 30, 2022.

Attachments

A. Orange County Transportation Authority Investment and Debt Programs – For the Period Ending April 30, 2022
B. Orange County Transportation Authority Portfolio Listing as of April 30, 2022

Prepared by:

Robert Davis
Department Manager
Treasury/Public Finance
(714) 560-5675

Approved by:

Andrew Oftelie
Chief Financial Officer
Finance and Administration
(714) 560-5649

ATTACHMENT A

Treasury/Public Finance Department's Report On

Orange County Transportation Authority
Investment and Debt Programs

Presented to the Finance and Administration Committee

For The Period Ending April 30, 2022

OCTA Investment Dashboard

4/30/2022

Safety of Principal

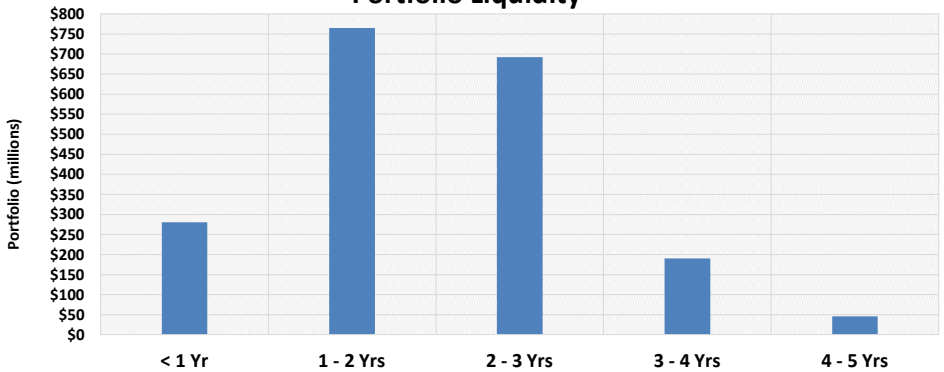
Securities that fell below OCTA's minimum credit quality requirements during the month of April 2022:
Not applicable.

Securities currently held within OCTA's portfolio that fell below OCTA's minimum credit quality requirements during prior reporting periods:
Not applicable.

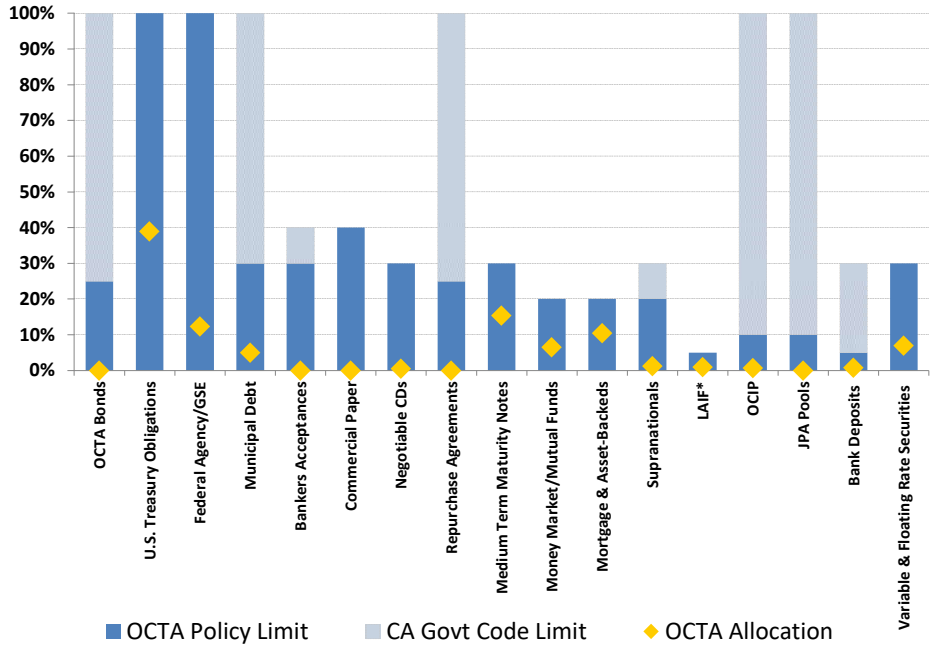
Securities downgraded or placed on Negative Credit Watch during the month of April 2022, but remain in compliance with OCTA's Investment Policy:
Not applicable

For further details please refer to A-8 of this report.

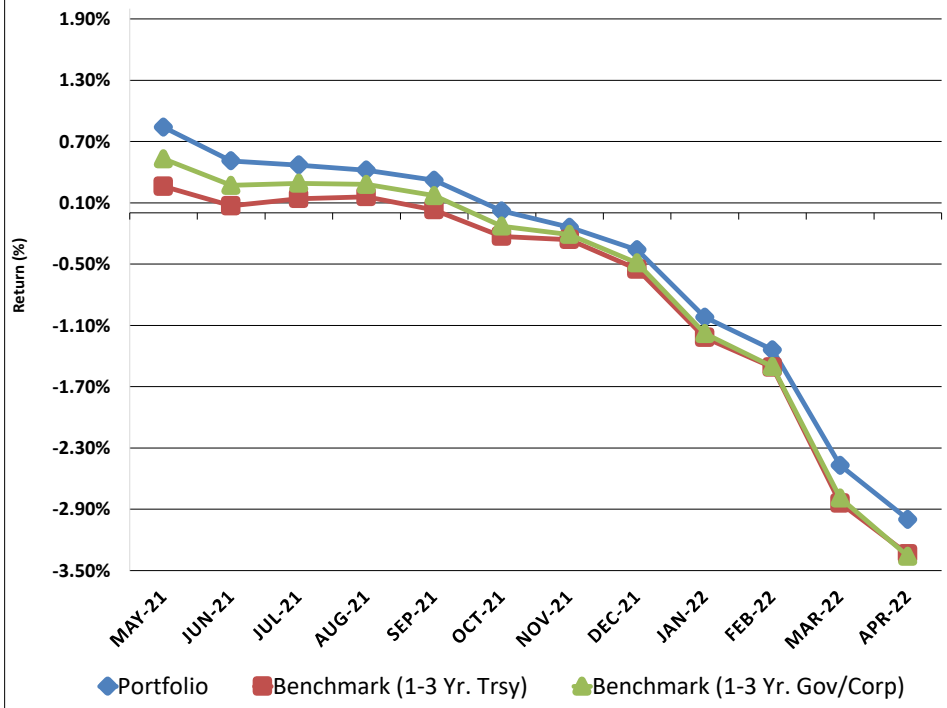
Portfolio Liquidity



Portfolio Diversification



Portfolio Return - 12 Month



*Per CA Government Code LAIF limit is $75 million

Investment Compliance

4/30/2022

Portfolio Subject to Investment Policy				
Short-Term/Liquid Portfolio[1]		**Dollar Amount Invested**	**Percent Of Portfolio**	**Investment Policy Maximum Percentages**
U.S. Treasury Obligations	$	837,493,555	39.0%	100%
Federal Agency/GSE		265,094,094	12.3%	100%
Municipal Debt	$	107,546,454	5.0%	30%
Commercial Paper		-	0.0%	40%
Negotiable Certificates of Deposit	$	11,197,937	0.5%	30%
Repurchase Agreements		-	0.0%	25%
Medium Term Maturity Notes/Corporates	$	330,295,548	15.4%	30%
Money Market/Mutual Funds		140,515,805	6.5%	20%
Mortgage & Asset-Backed	$	224,784,205	10.5%	20%
Supranationals		27,472,502	1.3%	20%
Local Agency Investment Fund	$	21,148,181	1.0%	$ 75 Million
Orange County Investment Pool		15,028,048	0.7%	10%
Joint Powers Authority Pools	$	-	0.0%	10%
Bank Deposits		18,138,605	0.8%	5%
Variable & Floating Rate Securities	$	150,418,959	7.0%	30%
Total Short-Term/Liquid Portfolio	**$**	**2,149,133,892**	100.0%	

1. Excludes portion of Liquid Portfolio subject to Indenture

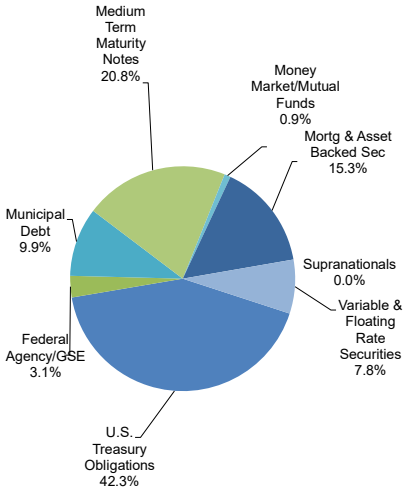
Portfolio Subject to Indenture						
		Dollar Amount		**OCTA**	**Indenture Requirements**	
		Invested	**Credit Quality**	**Term**	**Credit Quality**	**Term**
Liquid Portfolio*						
Money Market Funds		109,533,428	AAA/Aaa	45 days	Min. A2/A	Max. 4 years
Total Liquid Portfolio	**$**	**109,533,428**				
Bond Proceeds Portfolio						
2021 Bond Anticipation Notes (BANs)						
US Treasuries Obligations		80,132,050	AAA/Aaa	N/A	Min. A2/A	N/A
Commercial Paper		59,968,124	A-1/P-1	11-270 days	Min. A-1/P-1	Max. 270 days
Total Bond Proceeds Portfolio		**140,100,174**				
Reserve Funds Portfolio						
Commercial Paper	$	25,081,280	P-1/F-1	60-150 days	Min. A-1/P-1	Max. 180 days
Bank Deposits		242,419				
US Treasuries Obligations		683	AAA/Aaa	30 days	Min. A2/A	Max. 5 years
Total Reserve Funds Portfolio		**25,324,381**				
Total Portfolio Subject to Indenture		**165,424,556**				
Portfolio Total	**$**	**2,424,091,876**				

*Reflects portion of Liquid Portfolio subject to Indenture (OCTA Sales Tax Revenue)

Investment Manager Diversification and Maturity Schedules

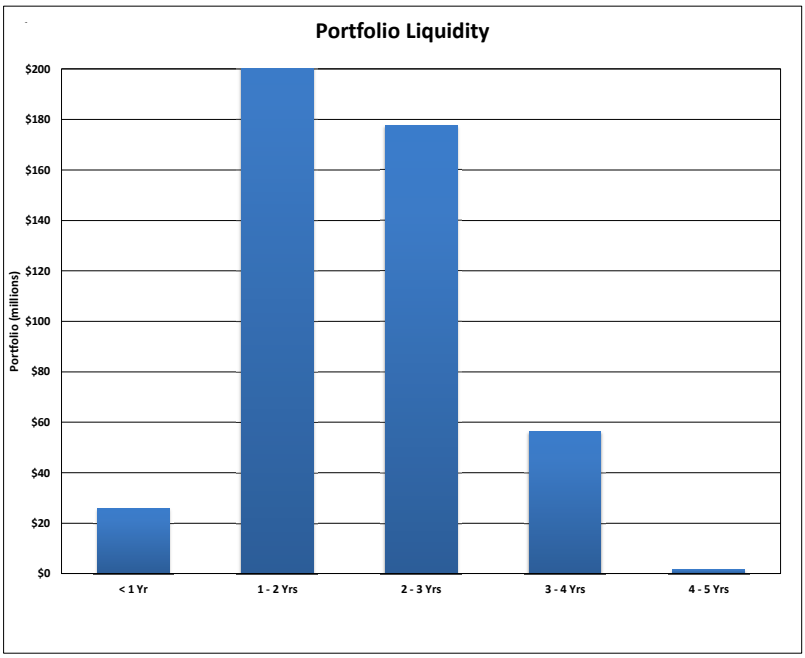
MetLife Investment Management
4/30/2022

SHORT-TERM PORTFOLIO ($492.9 M)



	Book Value	Market Value
U.S. Treasury Obligations	$ 208,611,225.80	$ 201,427,956.16
Federal Agency/GSE	$ 15,138,965.00	$ 14,536,488.60
Municipal Debt	$ 48,907,164.20	$ 47,819,720.70
Bankers Acceptances	$ -	$ -
Commercial Paper	$ -	$ -
Negotiable Certificates of Deposit	$ -	$ -
Repurchase Agreements	$ -	$ -
Medium Term Maturity Notes	$ 102,327,362.22	$ 99,056,843.10
Money Market/Mutual Funds	$ 4,377,575.38	$ 4,377,575.38
Mortg & Asset-Backed Securities	$ 75,280,761.25	$ 72,232,129.59
Supranationals	$ -	$ -
Joint Powers Authority Pools	$ -	$ -
Variable & Floating Rate Securities	$ 38,256,760.48	$ 36,515,636.13
	$ 492,899,814.33	$ 475,966,349.66

Wtd Avg Life	1.88 Yrs
Duration	1.77 Yrs
Monthly Yield	2.76%
TSY Benchmark	2.58%
Gov/Corp Benchmark	2.67%
Monthly Return	-0.51%
TSY Benchmark	-0.48%
Gov/Corp Benchmark	-0.52%
3 Month Return	-2.05%
TSY Benchmark	-2.17%
Gov/Corp Benchmark	-2.21%
Fiscal YTD Return	-2.95%
TSY Benchmark	-3.27%
Gov/Corp Benchmark	-3.31%
12 Month Return	-2.91%
TSY Benchmark	-3.35%
Gov/Corp Benchmark	-3.36%

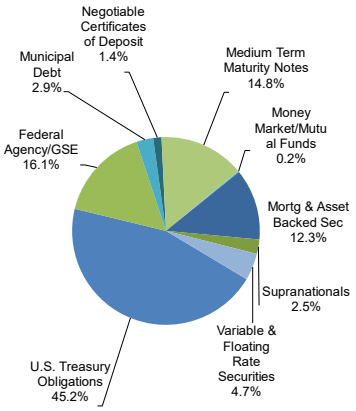


Investment Manager Diversification and Maturity Schedules

PFM

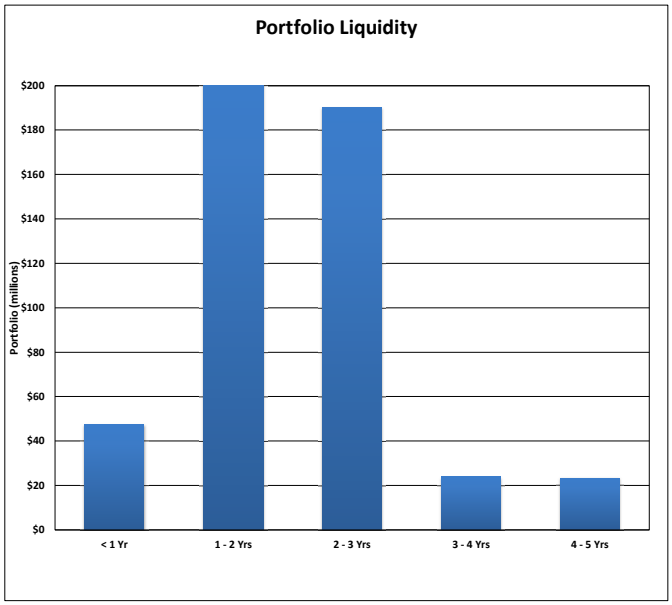
4/30/2022

SHORT-TERM PORTFOLIO ($495.1 M)



	Book Value	Market Value
U.S. Treasury Obligations	$ 223,654,787.98	$ 214,569,517.25
Federal Agency/GSE	$ 79,808,061.54	$ 77,829,625.02
Municipal Debt	$ 14,330,070.25	$ 13,808,149.80
Bankers Acceptances	$ -	$ -
Commercial Paper	$ -	$ -
Negotiable Certificates of Deposit	$ 6,975,000.00	$ 6,935,606.75
Repurchase Agreements	$ -	$ -
Medium Term Maturity Notes	$ 73,010,706.10	$ 70,222,194.55
Money Market/Mutual Funds	$ 1,049,723.52	$ 1,049,723.52
Mortg & Asset-Backed Securities	$ 60,920,863.06	$ 59,548,146.89
Supranationals	$ 12,314,368.85	$ 11,892,862.90
Joint Powers Authority Pools	$ -	$ -
Variable & Floating Rate Securities	$ 23,029,015.54	$ 22,284,207.08
	$ 495,092,596.84	$ 478,140,033.76

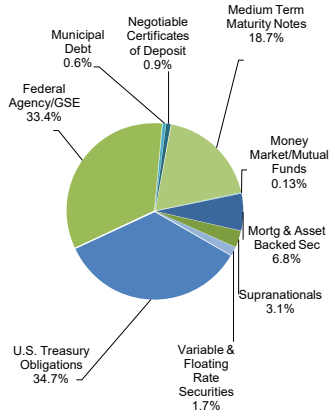
Wtd Avg Life	1.85 Yrs
Duration	1.73 Yrs
Monthly Yield	2.67%
TSY Benchmark	2.58%
Gov/Corp Benchmark	2.67%
Monthly Return	-0.47%
TSY Benchmark	-0.48%
Gov/Corp Benchmark	-0.52%
3 Month Return	-2.09%
TSY Benchmark	-2.17%
Gov/Corp Benchmark	-2.21%
Fiscal YTD Return	-3.17%
TSY Benchmark	-3.27%
Gov/Corp Benchmark	-3.31%
12 Month Return	-3.20%
TSY Benchmark	-3.35%
Gov/Corp Benchmark	-3.36%



Investment Manager Diversification and Maturity Schedules

Chandler Asset Management
4/30/2022

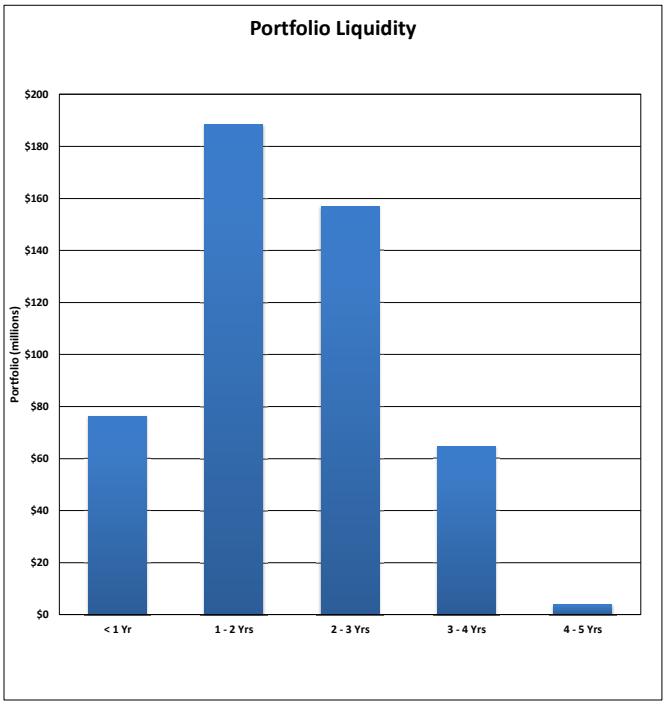
SHORT-TERM PORTFOLIO ($490.6 M)



	Book Value	Market Value
U.S. Treasury Obligations	$ 170,347,427.74	$ 162,851,861.50
Federal Agency/GSE	$ 163,749,972.15	$ 160,308,308.95
Municipal Debt	$ 3,000,000.00	$ 2,956,560.00
Bankers Acceptances	$ -	$ -
Commercial Paper	$ -	$ -
Negotiable Certificates of Deposit	$ 4,222,937.10	$ 4,214,226.25
Repurchase Agreements	$ -	$ -
Medium Term Maturity Notes	$ 91,918,953.60	$ 89,170,661.05
Money Market/Mutual Funds	$ 649,927.12	$ 649,927.12
Mortg & Asset-Backed Securities	$ 33,436,825.73	$ 32,701,381.76
Supranationals	$ 15,158,132.70	$ 14,319,135.30
Joint Powers Authority Pools	$ -	$ -
Variable & Floating Rate Securities	$ 8,125,043.84	$ 7,762,518.50
	$ 490,609,219.98	$ 474,934,580.43

Wtd Avg Life 1.77 Yrs
Duration 1.72 Yrs

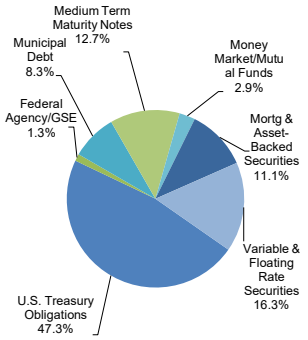
Monthly Yield	2.60%
TSY Benchmark	2.58%
Gov/Corp Benchmark	2.67%
Monthly Return	-0.47%
TSY Benchmark	-0.48%
Gov/Corp Benchmark	-0.52%
3 Month Return	-2.06%
TSY Benchmark	-2.17%
Gov/Corp Benchmark	-2.21%
Fiscal YTD Return	-3.12%
TSY Benchmark	-3.27%
Gov/Corp Benchmark	-3.31%
12 Month Return	-3.17%
TSY Benchmark	-3.35%
Gov/Corp Benchmark	-3.36%



Investment Manager Diversification and Maturity Schedules

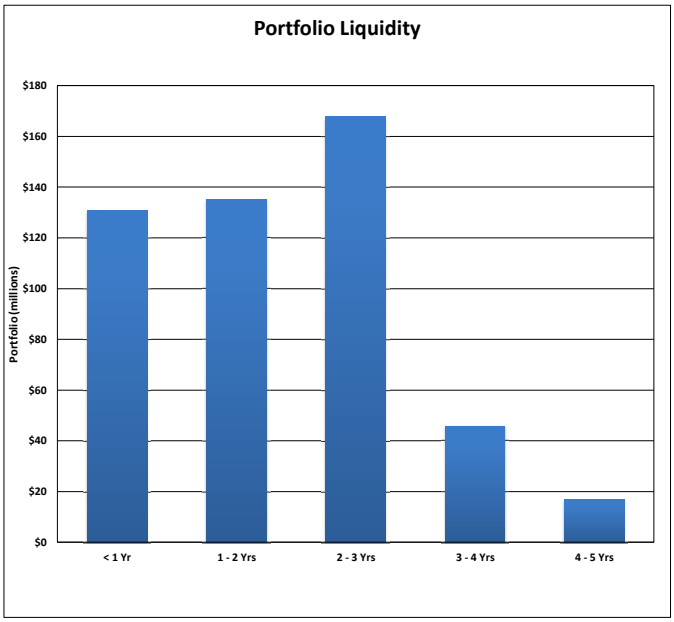
Payden & Rygel
4/30/2022

SHORT-TERM PORTFOLIO ($496.1 M)



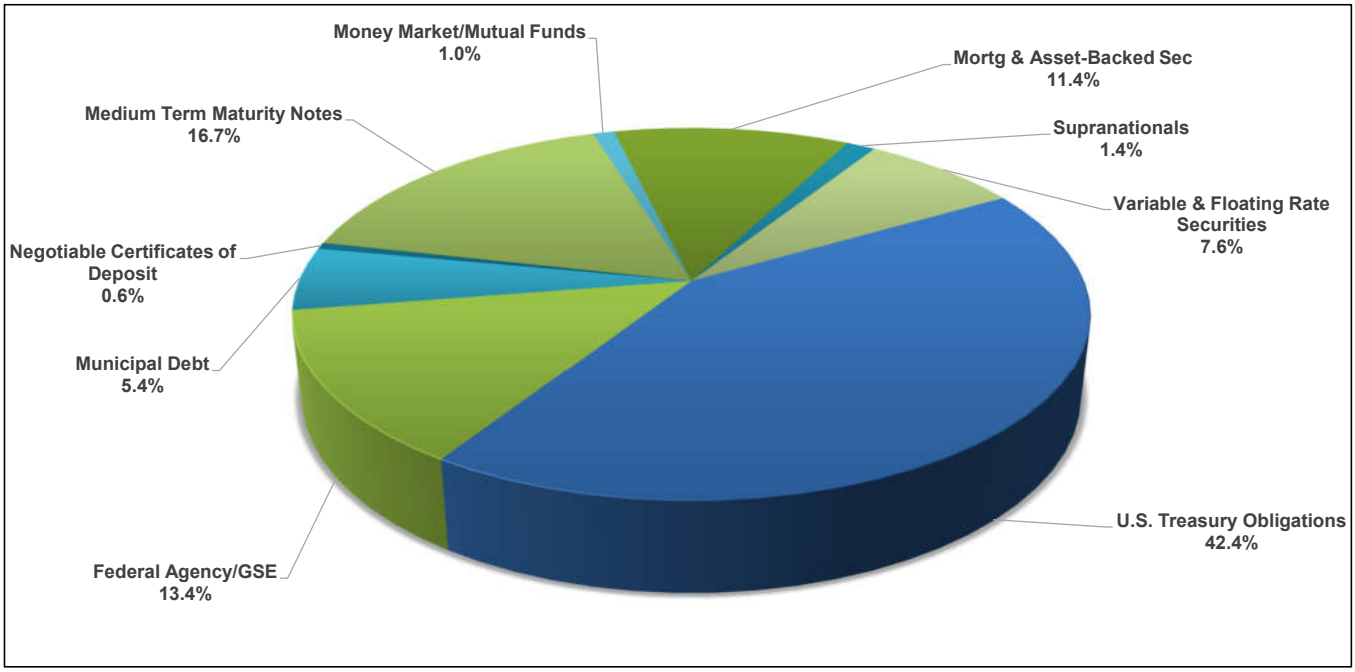
	Book Value	Market Value
U.S. Treasury Obligations	$ 234,880,113.29	$ 228,862,912.28
Federal Agency/GSE	$ 6,397,095.00	$ 5,937,655.50
Municipal Debt	$ 41,309,219.70	$ 40,103,806.50
Bankers Acceptances	$ -	$ -
Commercial Paper	$ -	$ -
Negotiable Certificates of Deposit	$ -	$ -
Repurchase Agreements	$ -	$ -
Medium Term Maturity Notes	$ 63,038,525.92	$ 60,277,153.10
Money Market/Mutual Funds	$ 14,352,303.32	$ 14,352,303.32
Mortg & Asset-Backed Securities	$ 55,145,755.16	$ 53,456,741.07
Supranationals	$ -	$ -
Joint Powers Authority Pools	$ -	$ -
Variable & Floating Rate Securities	$ 81,008,139.03	$ 78,253,459.69
	$ 496,131,151.42	$ 481,244,031.46

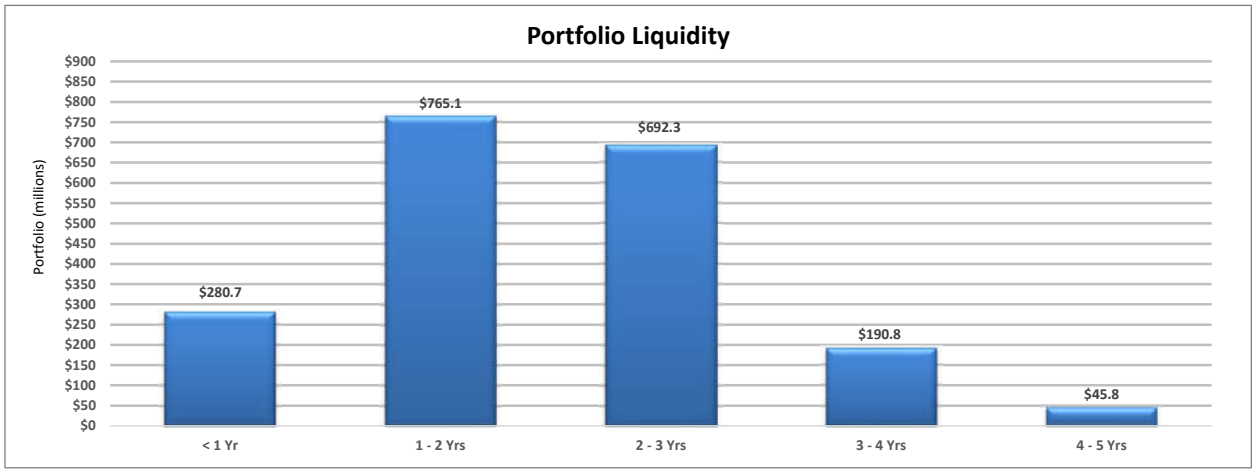
Wtd Avg Life	1.72 Yrs
Duration	1.47 Yrs
Monthly Yield	2.44%
TSY Benchmark	2.58%
Gov/Corp Benchmark	2.67%
Monthly Return	-0.40%
TSY Benchmark	-0.48%
Gov/Corp Benchmark	-0.52%
3 Month Return	-1.78%
TSY Benchmark	-2.17%
Gov/Corp Benchmark	-2.21%
Fiscal YTD Return	-2.70%
TSY Benchmark	-3.27%
Gov/Corp Benchmark	-3.31%
12 Month Return	-2.72%
TSY Benchmark	-3.35%
Gov/Corp Benchmark	-3.36%



Short-Term Portfolio
4/30/2022

Portfolio Composition





Rating Downgrades & Negative Credit Watch

4/30/2022

Investment Manager / Security	Par Amount	Maturity	S&P	Moody's	Fitch Ratings
Rating Downgrades:					
N/A					
Negative Credit Watch:					
N/A					

Outstanding Debt[1]
As of 4/30/22

Orange County Local Transportation Authority (OCLTA-M2)

2010 Series A Taxable Build America Bonds - Sales Tax Revenue Bonds

Issued:	$	293,540,000
Outstanding:		250,000,000
Debt Service FY 2022:		17,270,000
All in True Interest Cost:		4.33%
Pledged Revenue Source:		M2 Sales Tax Revenues
Ratings (Fitch/ Moody's/ S&P):		AA+/Aa2/AA+
Final Maturity:		2041

2019 M2 Sales Tax Bond

Issued:	$	376,690,000
Outstanding:		360,170,000
Debt Service FY 2022:		26,556,400
All in True Interest Cost:		3.14%
Pledged Revenue Source:		M2 Sales Tax Revenues
Ratings (Fitch/ S&P):		AA+/AA+
Final Maturity:		2041

91 Express Lanes

2013 OCTA 91 Express Lanes Refunding Bonds

Issued:	$	124,415,000
Outstanding:		78,515,000
Debt Service FY 2022:		10,795,825
All in True Interest Cost:		3.83%
Pledged Revenue Source:		91 Toll Road Revenues
Ratings (Fitch/ Moody's/ S&P):		A+/A1/AA-
Final Maturity:		2030

405 Express Lanes

2021 Bond Anticipation Notes

Issued:	$	662,820,000
Outstanding:		662,820,000
Debt Service FY 2022:		17,498,989
All in True Interest Cost:		0.34%
Pledged Revenue Source:		Collateral[2]
Ratings (Moody's/ S&P):		Aa3/AA
Final Maturity:		2024

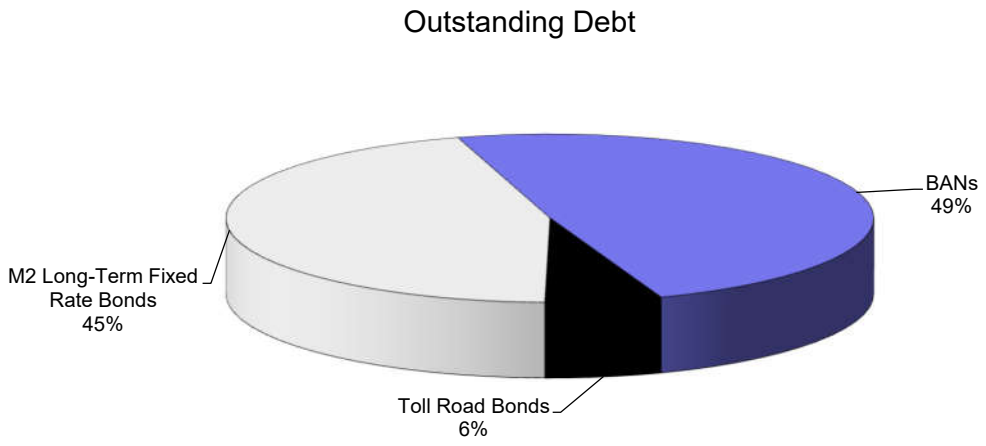
2021 TIFIA Loan

Amount Available	$	628,930,000
Outstanding:		-
Accrued Interest:		-
Interest Rate:		1.95%
Pledged Revenue Source:		405 Toll Road Revenues
Ratings (Moody's/Kroll):		Baa2/BBB-
Final Maturity:		2058

1. Comprised of OCTA's debt obligations (M2 Sales Tax Revenue Bonds, 91 Toll Revenue Bonds, 2021 TIFIA Loan (I-405), and 2021 BANs) currently outstanding and irrespective of OCTA's investment program.

2. Comprised of (a) proceeds from draws under the TIFIA Loan Agreement; (b) any legally available funds of OCTA except (i) LTF Revenue, (ii) federal grant funds, (iii) any revenues and assets with respect to the SR 91 Express Lanes, and (iv) any revenues received from operation of the freeway callbox system in Orange County and the freeway service patrol; (c) proceeds from the purchase and sale of OCTA bonds by OCTLA under and pursuant to the Standby Bond Purchase Agreement; and (d) all amounts held by the Trustee in the funds and accounts established under the indenture, including investment earnings thereon, excluding amounts deposited to the Rebate Fund

Total Outstanding Debt*
As of 4/30/22



TOTAL OUTSTANDING DEBT: $1,351,505,000

*Comprised of OCTA's debt obligations (M2 Sales Tax Revenue Bonds, 91 Toll Revenue Bonds, 2021 TIFIA Loan (I-405), and 2021 BANs) currently outstanding and irrespective of OCTA's investment program.

ATTACHMENT B

Orange County Transportation Authority
Portfolio Listing
As of April 30, 2022

LIQUID PORTFOLIO

DESCRIPTION	MATURITY DATE	BOOK VALUE	MARKET VALUE	YIELD
CASH EQUIVALENTS				
BANK DEPOSITS	N/A	18,138,604.54	18,138,604.54	
MONEY MARKET DEMAND ACCOUNT	N/A	120,086,275.94	120,086,275.94	0.22%
FIDELITY TREASURY OBLIGATIONS FUND	N/A	*96,006,166.86*	96,006,166.86	0.16%
FEDERATED TREASURY OBLIGATIONS FUND	N/A	*13,527,261.35*	13,527,261.35	0.23%
SUB-TOTAL		*247,758,308.69*	*247,758,308.69*	
LOCAL AGENCY INVESTMENT FUND (LAIF)	N/A	21,148,180.85	21,148,180.85	0.52%
ORANGE COUNTY INVESTMENT POOL (OCIP)	N/A	15,028,048.04	15,028,048.04	0.55%
LIQUID PORTFOLIO - TOTAL		**$ 283,934,537.58**	**$ 283,934,537.58**	

SHORT-TERM PORTFOLIO

DESCRIPTION	MATURITY DATE	BOOK VALUE	MARKET VALUE	YIELD
Money Market Funds				
FIRST AMER:GVT OBLG Z	4/30/2022	622,333.23	622,333.23	0.18
FIRST AMER:GVT OBLG Z	4/30/2022	27,593.89	27,593.89	0.18
FIRST AMER:GVT OBLG Z	4/30/2022	1,048,561.54	1,048,561.54	0.18
FIRST AMER:GVT OBLG Z	4/30/2022	3,329,013.84	3,329,013.84	0.18
FIRST AMER:GVT OBLG Z	4/30/2022	1,844,636.43	1,844,636.43	0.18
FIRST AMER:GVT OBLG Z	4/30/2022	12,507,666.89	12,507,666.89	0.18
FIRST AMER:GVT OBLG Z	4/30/2022	344,881.36	344,881.36	0.18
FIRST AMER:GVT OBLG Z	4/30/2022	704,842.16	704,842.16	0.18
SUB-TOTAL		*20,429,529.34*	*20,429,529.34*	
NEGOTIABLE CERTIFICATES OF DEPOSIT				
Bank of Nova Scotia - Houston Branch	7/28/2022	*4,222,937.10*	*4,214,226.25*	1.21
Credit Suisse AG, New York Branch	3/17/2023	*940,000.00*	*923,343.20*	2.62
Credit Suisse AG, New York Branch	3/17/2023	*2,160,000.00*	*2,121,724.80*	2.62
DNB Bank ASA - New York Branch	12/2/2022	*1,175,000.00*	*1,179,711.75*	1.37
DNB Bank ASA - New York Branch	12/2/2022	*2,700,000.00*	*2,710,827.00*	1.37
SUB-TOTAL		*11,197,937.10*	*11,149,833.00*	
U.S. TREASURY OBLIGATIONS				
UNITED STATES TREASURY	9/30/2025	2,513,183.59	2,505,375.00	2.93
UNITED STATES TREASURY	11/30/2022	7,718,648.44	6,915,939.00	1.60
UNITED STATES TREASURY	3/31/2023	1,046,100.58	1,019,916.00	2.05
UNITED STATES TREASURY	3/31/2023	3,546,536.13	3,457,764.00	2.05
UNITED STATES TREASURY	3/31/2023	6,710,352.64	6,542,388.00	2.05
UNITED STATES TREASURY	4/30/2023	5,234,208.98	5,222,122.50	2.16
UNITED STATES TREASURY	5/31/2023	7,787,187.50	7,947,520.00	2.24
UNITED STATES TREASURY	6/30/2023	1,239,399.22	1,197,186.10	2.30
UNITED STATES TREASURY	6/30/2023	2,857,788.28	2,760,453.90	2.30
UNITED STATES TREASURY	10/31/2023	8,007,187.50	7,894,720.00	2.52
UNITED STATES TREASURY	4/30/2024	1,352,433.98	1,272,210.90	2.71
UNITED STATES TREASURY	4/30/2024	3,103,259.38	2,919,181.60	2.71
UNITED STATES TREASURY	8/15/2022	6,983,046.88	7,007,420.00	1.14
UNITED STATES TREASURY	10/31/2024	7,758,691.41	7,256,250.00	2.85
UNITED STATES TREASURY	10/31/2024	1,570,096.29	1,465,762.50	2.85
UNITED STATES TREASURY	10/31/2024	3,611,739.65	3,371,737.50	2.85
UNITED STATES TREASURY	11/30/2024	2,577,022.66	2,401,528.85	2.86
UNITED STATES TREASURY	11/30/2024	1,519,250.78	1,415,790.65	2.86
UNITED STATES TREASURY	11/30/2024	4,402,568.36	4,107,242.50	2.86
UNITED STATES TREASURY	12/31/2024	1,252,682.23	1,170,921.09	2.86
UNITED STATES TREASURY	12/31/2024	1,244,203.13	1,166,062.50	2.86
UNITED STATES TREASURY	12/31/2024	4,074,494.92	3,797,274.70	2.88
UNITED STATES TREASURY	12/31/2024	6,095,705.27	5,695,912.05	2.88
UNITED STATES TREASURY	12/31/2024	6,738,417.97	6,312,605.00	2.88
UNITED STATES TREASURY	12/31/2024	5,909,964.84	5,535,669.00	2.88
UNITED STATES TREASURY	12/31/2024	2,896,906.25	2,719,276.00	2.88
UNITED STATES TREASURY	1/31/2025	8,313,750.00	7,683,120.00	2.88
UNITED STATES TREASURY	3/31/2025	1,989,687.50	1,867,500.00	2.88
UNITED STATES TREASURY	3/31/2025	7,862,500.00	7,470,000.00	2.88
UNITED STATES TREASURY	3/31/2025	10,137,753.91	10,041,171.88	2.87
UNITED STATES TREASURY	3/31/2025	4,433,906.25	4,201,875.00	2.88
UNITED STATES TREASURY	4/30/2025	7,440,527.34	6,960,975.00	2.89
UNITED STATES TREASURY	5/15/2023	4,098,078.13	4,014,156.25	2.17
UNITED STATES TREASURY	5/15/2023	5,623,022.46	5,507,226.56	2.17
UNITED STATES TREASURY	5/15/2023	662,610.16	650,948.55	2.18
UNITED STATES TREASURY	5/15/2023	1,529,483.59	1,502,565.45	2.18
UNITED STATES TREASURY	5/31/2025	7,357,324.22	6,914,625.00	2.91
UNITED STATES TREASURY	6/15/2023	1,531,255.08	1,496,355.30	2.23
UNITED STATES TREASURY	6/15/2023	2,472,026.17	2,415,684.70	2.23
UNITED STATES TREASURY	6/15/2023	1,051,927.73	1,026,910.50	2.23
UNITED STATES TREASURY	6/30/2025	6,811,054.69	6,438,880.00	2.91
UNITED STATES TREASURY	7/31/2025	6,979,687.50	6,879,825.00	2.93
UNITED STATES TREASURY	7/31/2025	7,729,375.00	7,338,480.00	2.93
UNITED STATES TREASURY	10/15/2023	4,989,843.75	4,831,250.00	2.49
UNITED STATES TREASURY	10/15/2023	4,096,476.56	3,961,625.00	2.49
UNITED STATES TREASURY	10/15/2023	6,972,656.25	6,763,750.00	2.49
UNITED STATES TREASURY	10/15/2023	4,099,725.00	3,971,287.50	2.49
UNITED STATES TREASURY	10/15/2023	3,142,863.28	3,043,687.50	2.49
UNITED STATES TREASURY	10/15/2023	3,142,248.05	3,043,687.50	2.49
UNITED STATES TREASURY	10/15/2023	2,070,298.83	2,004,968.75	2.49
UNITED STATES TREASURY	10/15/2023	5,685,972.66	5,507,625.00	2.49
UNITED STATES TREASURY	10/15/2023	3,029,190.82	2,932,204.55	2.50
UNITED STATES TREASURY	10/15/2023	6,951,668.56	6,729,095.45	2.50
UNITED STATES TREASURY	11/15/2023	1,250,927.73	1,206,787.50	2.55
UNITED STATES TREASURY	11/15/2023	2,872,130.08	2,770,784.10	2.55
UNITED STATES TREASURY	12/15/2023	7,978,437.50	7,688,160.00	2.58
UNITED STATES TREASURY	12/15/2023	9,877,343.75	9,610,937.50	2.58
UNITED STATES TREASURY	12/15/2023	4,923,437.50	4,805,468.75	2.58
UNITED STATES TREASURY	12/15/2023	2,307,765.63	2,224,761.30	2.58
UNITED STATES TREASURY	12/15/2023	6,635,068.95	6,443,639.10	2.58
UNITED STATES TREASURY	12/15/2023	9,840,435.94	9,590,979.60	2.58
UNITED STATES TREASURY	12/15/2023	1,336,964.06	1,287,766.80	2.58
UNITED STATES TREASURY	12/15/2023	658,504.69	634,273.20	2.58
UNITED STATES TREASURY	12/15/2023	2,418,842.77	2,330,473.50	2.58
UNITED STATES TREASURY	12/31/2022	1,154,000.00	1,141,606.04	1.74
UNITED STATES TREASURY	12/31/2022	6,497,460.94	6,430,190.00	1.74
UNITED STATES TREASURY	12/31/2022	834,673.83	826,032.10	1.74
UNITED STATES TREASURY	12/31/2022	3,749,560.55	3,709,725.00	1.74
UNITED STATES TREASURY	12/31/2022	5,799,668.82	5,737,708.00	1.74
UNITED STATES TREASURY	12/31/2022	3,935,153.71	3,892,738.10	1.74
UNITED STATES TREASURY	1/31/2023	4,390,800.29	4,333,018.06	1.85
UNITED STATES TREASURY	1/31/2023	2,756,099.63	2,719,882.89	1.85
UNITED STATES TREASURY	1/31/2023	6,060,738.49	5,981,096.91	1.85
UNITED STATES TREASURY	1/31/2023	4,417,707.64	4,359,571.32	1.85
UNITED STATES TREASURY	1/31/2023	759,507.62	749,512.62	1.85
UNITED STATES TREASURY	1/31/2023	3,980,777.34	3,928,697.80	1.85
UNITED STATES TREASURY	1/31/2023	910,213.28	898,270.10	1.85
UNITED STATES TREASURY	1/31/2023	2,320,725.00	2,290,095.20	1.85
UNITED STATES TREASURY	1/31/2023	4,351,359.38	4,293,928.50	1.85
UNITED STATES TREASURY	1/31/2023	3,110,242.97	3,069,912.10	1.85
UNITED STATES TREASURY	1/31/2023	1,034,959.57	1,021,658.85	1.85
UNITED STATES TREASURY	2/15/2024	1,030,512.30	989,439.30	2.65
UNITED STATES TREASURY	2/15/2024	1,533,322.66	1,472,209.20	2.65
UNITED STATES TREASURY	3/15/2024	2,547,714.26	2,442,120.10	2.68
UNITED STATES TREASURY	3/15/2024	3,111,103.12	2,982,158.40	2.68
UNITED STATES TREASURY	3/15/2024	2,744,306.64	2,628,505.00	2.68

Orange County Transportation Authority
Portfolio Listing
As of April 30, 2022

DESCRIPTION	MATURITY DATE	BOOK VALUE	MARKET VALUE	YIELD
UNITED STATES TREASURY	3/31/2023	1,604,247.66	1,576,976.70	2.05
UNITED STATES TREASURY	3/31/2023	1,709,064.84	1,680,143.40	2.05
UNITED STATES TREASURY	3/31/2023	604,645.51	594,436.70	2.05
UNITED STATES TREASURY	3/31/2023	1,394,182.62	1,370,643.30	2.05
UNITED STATES TREASURY	4/15/2024	8,013,437.50	7,645,600.00	2.71
UNITED STATES TREASURY	4/15/2024	21,702,656.25	21,030,625.00	2.70
UNITED STATES TREASURY	4/15/2024	1,564,073.05	1,515,160.94	2.70
UNITED STATES TREASURY	4/15/2024	4,925,781.25	4,779,687.50	2.70
UNITED STATES TREASURY	4/15/2024	9,864,843.75	9,557,000.00	2.71
UNITED STATES TREASURY	4/15/2024	4,544,199.61	4,400,998.50	2.71
UNITED STATES TREASURY	4/15/2024	3,600,851.56	3,536,090.00	2.71
UNITED STATES TREASURY	4/15/2024	910,675.39	869,687.00	2.71
UNITED STATES TREASURY	4/15/2024	2,091,551.17	1,997,413.00	2.71
UNITED STATES TREASURY	4/30/2023	5,008,450.41	4,910,200.80	2.14
UNITED STATES TREASURY	4/30/2023	8,767,287.44	8,595,301.60	2.14
UNITED STATES TREASURY	5/15/2024	3,988,281.25	3,803,920.00	2.73
UNITED STATES TREASURY	5/15/2024	14,710,632.73	14,012,690.30	2.73
UNITED STATES TREASURY	5/15/2024	306,787.50	304,313.60	2.73
UNITED STATES TREASURY	5/15/2024	24,035,187.17	22,894,843.50	2.73
UNITED STATES TREASURY	5/15/2024	2,361,089.00	2,249,067.70	2.73
UNITED STATES TREASURY	5/15/2024	4,144,488.28	3,946,567.00	2.73
UNITED STATES TREASURY	5/31/2023	393,828.13	391,108.00	2.20
UNITED STATES TREASURY	5/31/2023	905,804.69	899,548.40	2.20
UNITED STATES TREASURY	6/15/2024	10,975,937.50	10,432,400.00	2.76
UNITED STATES TREASURY	6/15/2024	4,181,132.81	3,984,093.75	2.76
UNITED STATES TREASURY	6/15/2024	3,995,436.33	3,860,776.56	2.76
UNITED STATES TREASURY	6/15/2024	9,962,285.15	9,960,234.38	2.76
UNITED STATES TREASURY	6/15/2024	7,485,058.59	7,113,000.00	2.76
UNITED STATES TREASURY	6/15/2024	11,647,898.44	11,096,280.00	2.76
UNITED STATES TREASURY	6/15/2024	4,572,867.19	4,362,640.00	2.76
UNITED STATES TREASURY	6/15/2024	274,870.31	265,552.00	2.76
UNITED STATES TREASURY	6/15/2024	403,924.22	384,102.00	2.76
UNITED STATES TREASURY	6/15/2024	1,987,031.25	1,896,800.00	2.76
UNITED STATES TREASURY	6/15/2024	1,991,250.00	1,896,800.00	2.76
UNITED STATES TREASURY	6/15/2024	942,489.84	896,238.00	2.76
UNITED STATES TREASURY	6/15/2024	4,470,820.31	4,267,800.00	2.76
UNITED STATES TREASURY	6/15/2024	5,973,750.00	5,690,400.00	2.76
UNITED STATES TREASURY	7/15/2024	7,502,050.78	7,116,525.00	2.77
UNITED STATES TREASURY	7/15/2024	1,454,545.31	1,380,605.85	2.77
UNITED STATES TREASURY	7/15/2024	904,717.19	858,727.35	2.77
UNITED STATES TREASURY	7/15/2024	1,369,225.00	1,356,884.10	2.77
UNITED STATES TREASURY	7/15/2024	1,197,750.00	1,138,644.00	2.77
UNITED STATES TREASURY	7/15/2024	2,402,625.00	2,277,288.00	2.77
UNITED STATES TREASURY	7/15/2024	674,920.90	640,487.25	2.77
UNITED STATES TREASURY	7/15/2024	748,623.05	711,652.50	2.77
UNITED STATES TREASURY	7/15/2024	2,844,656.25	2,704,279.50	2.77
UNITED STATES TREASURY	7/15/2024	5,506,015.63	5,218,785.00	2.77
UNITED STATES TREASURY	7/15/2024	1,544,818.95	1,466,004.15	2.77
UNITED STATES TREASURY	7/15/2024	9,996,875.00	9,488,700.00	2.77
UNITED STATES TREASURY	7/15/2024	1,597,062.50	1,518,192.00	2.77
UNITED STATES TREASURY	7/31/2023	334,424.22	325,697.05	2.38
UNITED STATES TREASURY	8/15/2024	7,914,375.00	7,569,680.00	2.81
UNITED STATES TREASURY	8/15/2024	998,164.06	946,210.00	2.81
UNITED STATES TREASURY	8/15/2024	2,497,265.63	2,365,525.00	2.81
UNITED STATES TREASURY	8/15/2024	3,095,035.16	2,933,251.00	2.81
UNITED STATES TREASURY	8/15/2024	1,497,246.09	1,419,315.00	2.81
UNITED STATES TREASURY	8/15/2024	6,143,273.44	5,819,191.50	2.81
UNITED STATES TREASURY	8/31/2023	1,622,333.98	1,575,421.25	2.46
UNITED STATES TREASURY	8/31/2023	5,607,706.25	5,448,533.80	2.46
UNITED STATES TREASURY	8/31/2023	4,358,904.30	4,236,671.30	2.46
UNITED STATES TREASURY	9/15/2024	7,484,472.66	7,078,425.00	2.84
UNITED STATES TREASURY	9/15/2024	1,245,068.36	1,179,737.50	2.84
UNITED STATES TREASURY	9/15/2024	745,927.73	707,842.50	2.84
UNITED STATES TREASURY	9/15/2024	2,988,164.06	2,831,370.00	2.84
UNITED STATES TREASURY	9/30/2023	824,258.79	799,540.50	2.47
UNITED STATES TREASURY	9/30/2023	1,874,047.85	1,817,137.50	2.47
UNITED STATES TREASURY	9/30/2023	4,597,664.06	4,458,044.00	2.47
UNITED STATES TREASURY	10/15/2024	1,248,974.61	1,184,662.50	2.84
UNITED STATES TREASURY	10/15/2024	1,243,847.66	1,184,662.50	2.84
UNITED STATES TREASURY	10/15/2024	3,059,865.23	2,914,269.75	2.84
UNITED STATES TREASURY	10/31/2023	12,316,224.06	11,932,131.92	2.53
UNITED STATES TREASURY	10/31/2023	548,431.64	532,598.00	2.53
UNITED STATES TREASURY	10/31/2023	2,368,227.54	2,299,855.00	2.53
UNITED STATES TREASURY	10/31/2023	19,949,218.75	19,367,200.00	2.53
UNITED STATES TREASURY	11/15/2024	8,004,375.00	7,587,520.00	2.87
UNITED STATES TREASURY	11/15/2024	653,386.88	620,279.76	2.87
UNITED STATES TREASURY	11/15/2024	1,269,073.24	1,209,261.00	2.87
UNITED STATES TREASURY	11/15/2024	4,987,500.00	4,742,200.00	2.87
UNITED STATES TREASURY	11/15/2024	3,359,311.52	3,200,985.00	2.87
UNITED STATES TREASURY	11/30/2023	688,517.58	667,761.30	2.58
UNITED STATES TREASURY	11/30/2023	619,152.34	600,017.40	2.58
UNITED STATES TREASURY	11/30/2023	3,429,921.88	3,329,128.80	2.58
UNITED STATES TREASURY	11/30/2023	7,376,296.88	7,161,498.00	2.58
UNITED STATES TREASURY	11/30/2023	1,994,375.00	1,935,540.00	2.58
UNITED STATES TREASURY	11/30/2023	14,939,062.50	14,516,550.00	2.58
UNITED STATES TREASURY	12/15/2024	8,000,000.00	7,626,880.00	2.85
UNITED STATES TREASURY	12/15/2024	1,241,743.75	1,182,166.40	2.85
UNITED STATES TREASURY	12/15/2024	1,750,683.59	1,668,380.00	2.85
UNITED STATES TREASURY	12/15/2024	1,249,072.27	1,191,700.00	2.85
UNITED STATES TREASURY	12/15/2024	2,004,531.25	1,906,720.00	2.85
UNITED STATES TREASURY	12/15/2024	3,597,328.13	3,432,096.00	2.85
UNITED STATES TREASURY	12/31/2023	2,874,829.11	2,787,168.75	2.63
UNITED STATES TREASURY	12/31/2023	1,240,581.25	1,202,118.00	2.63
UNITED STATES TREASURY	12/31/2023	500,058.59	484,725.00	2.63
UNITED STATES TREASURY	12/31/2023	1,000,117.19	969,450.00	2.63
UNITED STATES TREASURY	12/31/2023	10,001,171.87	9,694,500.00	2.63
UNITED STATES TREASURY	1/31/2024	426,035.94	416,966.70	2.65
UNITED STATES TREASURY	1/31/2024	532,701.56	523,632.60	2.65
UNITED STATES TREASURY	1/31/2024	128,344.53	126,059.70	2.65
UNITED STATES TREASURY	1/31/2024	2,693,803.52	2,627,859.90	2.65
UNITED STATES TREASURY	1/31/2024	10,187,925.00	9,941,261.88	2.65
UNITED STATES TREASURY	1/31/2024	10,188,918.75	9,942,231.57	2.65
UNITED STATES TREASURY	1/31/2024	10,653,993.75	10,396,046.49	2.65
UNITED STATES TREASURY	1/31/2024	4,377,189.89	4,267,605.69	2.65

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UNITED STATES TREASURY	1/31/2024	1,089,859.38	1,066,659.00	2.65
UNITED STATES TREASURY	1/31/2024	4,981,746.09	4,896,934.50	2.65
UNITED STATES TREASURY	1/31/2024	286,307.03	281,210.10	2.65
UNITED STATES TREASURY	2/15/2025	3,309,783.75	3,214,555.47	2.90
UNITED STATES TREASURY	2/15/2025	2,504,888.75	2,432,818.71	2.90
UNITED STATES TREASURY	2/15/2025	831,754.69	823,134.15	2.90
UNITED STATES TREASURY	2/15/2025	1,882,187.50	1,829,187.00	2.90
UNITED STATES TREASURY	2/15/2025	3,467,187.50	3,369,555.00	2.90
UNITED STATES TREASURY	2/29/2024	919,029.69	900,845.60	2.67
UNITED STATES TREASURY	2/29/2024	3,650,288.48	3,578,902.90	2.67
UNITED STATES TREASURY	2/29/2024	3,619,498.23	3,569,111.10	2.67
UNITED STATES TREASURY	3/15/2025	1,292,259.38	1,278,750.00	2.89
UNITED STATES TREASURY	3/15/2025	607,309.38	600,625.00	2.89
UNITED STATES TREASURY	4/15/2025	1,271,300.00	1,270,796.80	2.88
UNITED STATES TREASURY	4/15/2025	4,399,889.85	4,398,148.30	2.88
	SUB-TOTAL	***837,493,554.81***	***807,712,247.19***	
FEDERAL AGENCY/GSE				
FEDERAL HOME LOAN BANKS	9/8/2023	4,135,800.00	3,993,720.00	2.49
FEDERAL HOME LOAN BANKS	9/8/2023	4,104,600.00	3,993,720.00	2.49
FEDERAL HOME LOAN BANKS	12/8/2023	6,686,160.00	6,468,605.00	2.56
FEDERAL HOME LOAN BANKS	3/8/2024	5,201,750.00	4,928,650.00	2.67
FEDERAL HOME LOAN BANKS	3/10/2023	5,053,550.00	5,029,800.00	2.05
FEDERAL HOME LOAN BANKS	2/12/2026	1,249,125.00	1,150,650.00	2.83
FEDERAL HOME LOAN BANKS	2/12/2026	2,897,970.00	2,669,508.00	2.83
FEDERAL HOME LOAN BANKS	12/20/2024	1,648,927.50	1,572,994.50	2.85
FEDERAL HOME LOAN BANKS	12/20/2024	5,994,720.00	5,719,980.00	2.85
FEDERAL HOME LOAN BANKS	2/28/2025	850,000.00	830,907.30	3.03
FEDERAL HOME LOAN BANKS	2/28/2025	4,095,000.00	4,017,768.30	2.90
FEDERAL HOME LOAN BANKS	6/9/2023	3,977,720.00	3,993,320.00	2.28
FEDERAL HOME LOAN BANKS	6/9/2023	4,029,880.00	3,993,320.00	2.28
FEDERAL HOME LOAN BANKS	9/9/2022	6,828,560.00	6,845,084.00	1.28
FEDERAL FARM CREDIT BANKS FUNDING CORP	7/17/2023	5,060,200.00	5,029,600.00	2.38
FEDERAL FARM CREDIT BANKS FUNDING CORP	6/26/2023	6,967,450.00	6,955,550.00	2.33
FEDERAL FARM CREDIT BANKS FUNDING CORP	2/1/2023	4,996,450.00	5,005,000.00	1.71
FEDERAL FARM CREDIT BANKS FUNDING CORP	8/14/2023	4,993,550.00	4,953,100.00	2.34
FEDERAL FARM CREDIT BANKS FUNDING CORP	8/14/2023	7,983,280.00	7,783,520.00	2.34
FEDERAL FARM CREDIT BANKS FUNDING CORP	2/21/2023	5,000,600.00	4,978,250.00	1.99
FEDERAL FARM CREDIT BANKS FUNDING CORP	10/2/2023	4,994,600.00	4,848,800.00	2.37
FEDERAL FARM CREDIT BANKS FUNDING CORP	2/25/2025	4,956,270.00	4,846,700.00	2.89
FEDERAL HOME LOAN MORTGAGE CORP	8/12/2025	4,095,490.00	3,794,816.50	3.00
FEDERAL HOME LOAN MORTGAGE CORP	11/25/2024	680,000.00	639,954.80	2.84
FEDERAL HOME LOAN MORTGAGE CORP	11/25/2024	1,570,000.00	1,477,542.70	2.84
FEDERAL NATIONAL MORTGAGE ASSOCIATION	5/22/2023	6,111,548.70	6,003,905.90	2.22
FEDERAL NATIONAL MORTGAGE ASSOCIATION	5/22/2023	2,472,535.20	2,428,986.40	2.22
FEDERAL NATIONAL MORTGAGE ASSOCIATION	5/22/2023	5,687,827.95	5,587,648.15	2.22
FEDERAL NATIONAL MORTGAGE ASSOCIATION	7/10/2023	3,203,098.50	3,132,221.70	2.31
FEDERAL NATIONAL MORTGAGE ASSOCIATION	7/10/2023	5,000,300.00	4,878,850.00	2.31
FEDERAL NATIONAL MORTGAGE ASSOCIATION	7/10/2023	2,354,926.00	2,302,817.20	2.31
FEDERAL NATIONAL MORTGAGE ASSOCIATION	7/10/2023	5,403,357.75	5,283,794.55	2.31
FEDERAL NATIONAL MORTGAGE ASSOCIATION	8/25/2025	7,771,280.00	7,358,160.00	2.93
FEDERAL NATIONAL MORTGAGE ASSOCIATION	11/27/2023	1,797,948.00	1,736,370.00	2.55
FEDERAL NATIONAL MORTGAGE ASSOCIATION	1/19/2023	4,411,710.00	4,517,550.00	1.83
FEDERAL NATIONAL MORTGAGE ASSOCIATION	1/19/2023	2,233,875.00	2,308,970.00	1.83
FEDERAL NATIONAL MORTGAGE ASSOCIATION	10/27/2023	6,098,475.00	5,892,996.50	2.63
FEDERAL HOME LOAN MORTGAGE CORP	4/20/2023	2,284,275.00	2,250,726.50	2.16
FEDERAL HOME LOAN MORTGAGE CORP	4/20/2023	5,241,862.50	5,164,876.75	2.16
FEDERAL HOME LOAN MORTGAGE CORP	5/5/2023	2,169,088.60	2,130,028.60	2.22
FEDERAL HOME LOAN MORTGAGE CORP	5/5/2023	4,977,908.40	4,888,268.40	2.22
FEDERAL HOME LOAN MORTGAGE CORP	6/26/2023	7,463,143.80	7,308,578.55	2.32
FEDERAL HOME LOAN MORTGAGE CORP	6/26/2023	2,238,444.60	2,192,085.35	2.32
FEDERAL HOME LOAN MORTGAGE CORP	6/26/2023	5,144,932.80	5,038,378.80	2.32
FEDERAL HOME LOAN MORTGAGE CORP	8/24/2023	8,001,840.00	7,776,240.00	2.42
FEDERAL HOME LOAN MORTGAGE CORP	8/24/2023	2,787,154.20	2,711,963.70	2.42
FEDERAL HOME LOAN MORTGAGE CORP	8/24/2023	6,403,461.80	6,230,712.30	2.42
FEDERAL HOME LOAN MORTGAGE CORP	9/8/2023	5,098,317.00	4,949,040.00	2.48
FEDERAL HOME LOAN MORTGAGE CORP	9/8/2023	3,001,860.00	2,911,200.00	2.48
FEDERAL HOME LOAN MORTGAGE CORP	9/8/2023	2,725,497.61	2,644,340.00	2.48
FEDERAL HOME LOAN MORTGAGE CORP	9/8/2023	2,550,465.66	2,474,520.00	2.48
FEDERAL HOME LOAN MORTGAGE CORP	9/8/2023	6,997,690.00	6,792,800.00	2.48
FEDERAL HOME LOAN MORTGAGE CORP	10/16/2023	6,376,128.00	6,191,232.00	2.41
FEDERAL HOME LOAN MORTGAGE CORP	10/16/2023	1,539,237.15	1,494,602.10	2.41
FEDERAL HOME LOAN MORTGAGE CORP	10/16/2023	1,549,199.85	1,504,275.90	2.41
FEDERAL HOME LOAN MORTGAGE CORP	10/16/2023	1,991,720.00	1,934,760.00	2.41
FEDERAL HOME LOAN MORTGAGE CORP	11/6/2023	4,705,761.00	4,549,954.20	2.54
FEDERAL HOME LOAN MORTGAGE CORP	11/6/2023	2,482,763.50	2,400,559.70	2.54
FEDERAL HOME LOAN MORTGAGE CORP	11/6/2023	5,709,856.50	5,520,804.30	2.54
FEDERAL HOME LOAN MORTGAGE CORP	12/4/2023	5,959,094.65	5,746,323.10	2.61
FEDERAL HOME LOAN MORTGAGE CORP	12/4/2023	2,097,921.00	2,023,014.00	2.61
FEDERAL HOME LOAN MORTGAGE CORP	12/4/2023	4,820,223.25	4,648,115.50	2.61
FHMS K-727 A1	10/25/2023	177,712.22	181,546.82	1.37
	SUB-TOTAL	**265,094,093.69**	**258,612,078.07**	
MEDIUM TERM NOTES				
ADOBE INC	2/1/2023	134,815.05	134,204.85	2.49
ADOBE INC	2/1/2023	314,568.45	313,144.65	2.49
AMAZON.COM INC	6/3/2023	249,650.00	245,045.00	2.24
AMAZON.COM INC	5/12/2024	3,265,225.80	3,121,607.40	2.76
AMAZON.COM INC	5/12/2024	888,700.60	849,611.80	2.76
AMAZON.COM INC	5/12/2024	2,047,007.00	1,956,971.00	2.76
AMAZON.COM INC	4/13/2025	364,419.65	363,842.95	3.11
AMAZON.COM INC	4/13/2025	1,772,177.75	1,769,373.25	3.11
AMERICAN EXPRESS CO	7/30/2024	492,005.00	465,001.25	3.48
AMERICAN EXPRESS CO	7/30/2024	129,475.00	122,368.75	3.48
AMERICAN EXPRESS CO	7/30/2024	1,320,645.00	1,248,161.25	3.48
AMERICAN EXPRESS CO	7/30/2024	362,530.00	342,632.50	3.48
AMERICAN EXPRESS CO	11/3/2023	4,299,570.00	4,172,806.00	2.76
AMERICAN EXPRESS CO	3/4/2025	104,893.95	101,262.00	3.58
AMERICAN EXPRESS CO	3/4/2025	99,663.00	96,440.00	3.58
AMERICAN EXPRESS CO	3/4/2025	384,611.15	371,294.00	3.58
AMERICAN EXPRESS CO	3/4/2025	498,315.00	482,200.00	3.58
AMERICAN HONDA FINANCE CORP	1/12/2024	1,585,215.00	1,510,155.00	3.14
AMERICAN HONDA FINANCE CORP	8/9/2024	404,732.70	383,146.20	3.23
AMERICAN HONDA FINANCE CORP	8/9/2024	994,343.30	941,309.80	3.23
AMERICAN HONDA FINANCE CORP	8/9/2024	988,730.00	946,040.00	3.23
AMERICAN HONDA FINANCE CORP	1/13/2025	5,600,572.05	5,336,688.65	3.37
AMERICAN HONDA FINANCE CORP	1/13/2025	499,605.00	476,065.00	3.37
AMERICAN HONDA FINANCE CORP	1/13/2025	724,427.25	690,294.25	3.37
APPLE INC	5/3/2023	1,977,040.00	2,001,800.00	2.31
APPLE INC	2/23/2023	2,949,060.00	3,016,290.00	2.00
APPLE INC	5/11/2023	448,776.00	443,439.00	2.18
APPLE INC	5/11/2023	299,184.00	295,626.00	2.18
APPLE INC	5/11/2023	728,014.40	719,356.60	2.18

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ASTRAZENECA FINANCE LLC	5/28/2024	584,947.35	557,499.15	3.05
ASTRAZENECA FINANCE LLC	5/28/2024	1,339,879.40	1,277,006.60	3.05
TRUIST FINANCIAL CORP	8/1/2024	4,454,730.00	4,417,335.00	3.35
TRUIST FINANCIAL CORP	8/1/2024	1,659,632.00	1,570,608.00	3.35
BMW US CAPITAL LLC	8/12/2024	254,977.05	241,418.70	3.18
BMW US CAPITAL LLC	8/12/2024	619,944.20	586,978.80	3.18
BMW US CAPITAL LLC	4/1/2025	2,652,504.30	2,629,326.15	3.60
BMW US CAPITAL LLC	4/1/2025	194,816.70	193,114.35	3.60
BMW US CAPITAL LLC	4/1/2025	874,177.50	866,538.75	3.60
BAKER HUGHES HOLDINGS LLC	12/15/2023	140,000.00	135,825.20	3.12
BAKER HUGHES HOLDINGS LLC	12/15/2023	380,000.00	368,668.40	3.12
BANK OF AMERICA CORP	1/11/2023	3,034,740.00	3,024,120.00	2.13
BANK OF AMERICA CORP	12/6/2025	855,000.00	801,442.80	3.22
BANK OF AMERICA CORP	12/6/2025	575,000.00	538,982.00	3.22
BANK OF AMERICA CORP	12/6/2025	1,500,000.00	1,406,040.00	3.22
BANK OF AMERICA CORP	2/4/2025	3,845,000.00	3,721,575.50	2.74
BANK OF AMERICA CORP	2/4/2025	300,000.00	290,370.00	2.74
BANK OF AMERICA CORP	2/4/2025	1,500,000.00	1,451,850.00	2.74
BANK OF NEW YORK MELLON CORP	1/29/2023	2,944,320.00	3,014,970.00	2.19
BANK OF NEW YORK MELLON CORP	4/28/2023	404,968.45	392,991.14	2.45
BANK OF NEW YORK MELLON CORP	4/28/2023	947,355.50	919,336.60	2.45
BANK OF NEW YORK MELLON CORP	1/27/2023	764,464.50	762,651.45	2.27
BANK OF NEW YORK MELLON CORP	4/24/2025	389,006.00	360,498.40	3.42
BANK OF NEW YORK MELLON CORP	4/24/2025	890,619.00	825,351.60	3.42
BANK OF NEW YORK MELLON CORP	10/25/2024	599,610.00	568,266.00	3.07
BANK OF NEW YORK MELLON CORP	10/25/2024	1,334,132.25	1,264,391.85	3.07
BANK OF NEW YORK MELLON CORP	10/25/2024	992,360.00	947,110.00	3.07
BANK OF NEW YORK MELLON CORP	4/25/2025	1,229,827.80	1,227,613.80	3.42
BANK OF NEW YORK MELLON CORP	4/25/2025	859,879.60	858,331.60	3.42
BANK OF NEW YORK MELLON CORP	4/25/2025	2,124,702.50	2,120,877.50	3.42
BERKSHIRE HATHAWAY INC	3/15/2023	2,924,460.00	3,012,450.00	2.16
BERKSHIRE HATHAWAY INC	3/15/2023	2,014,300.00	2,008,300.00	2.16
BERKSHIRE HATHAWAY INC	3/15/2023	757,650.00	753,112.50	2.16
BRIGHTHOUSE FINANCIAL GLOBAL FUNDING	1/13/2025	544,302.40	514,054.90	3.98
BRIGHTHOUSE FINANCIAL GLOBAL FUNDING	1/13/2025	1,627,913.60	1,537,448.60	3.98
BRISTOL-MYERS SQUIBB CO	11/13/2023	575,000.00	557,468.25	2.57
BRISTOL-MYERS SQUIBB CO	11/13/2023	1,325,000.00	1,284,600.75	2.57
BURLINGTON NORTHERN SANTA FE LLC	4/1/2025	226,092.30	208,849.20	3.20
BURLINGTON NORTHERN SANTA FE LLC	4/1/2025	527,548.70	487,314.80	3.20
CAPITAL ONE FINANCIAL CORP	12/6/2024	470,000.00	451,670.00	2.76
CATERPILLAR FINANCIAL SERVICES CORP	7/7/2023	339,809.60	332,166.40	2.63
CATERPILLAR FINANCIAL SERVICES CORP	7/7/2023	784,560.40	766,913.60	2.63
CATERPILLAR FINANCIAL SERVICES CORP	5/17/2024	5,193,032.00	4,937,920.00	3.00
CATERPILLAR FINANCIAL SERVICES CORP	5/17/2024	624,162.50	593,500.00	3.00
CATERPILLAR FINANCIAL SERVICES CORP	5/17/2024	1,448,057.00	1,376,920.00	3.00
CATERPILLAR FINANCIAL SERVICES CORP	9/13/2024	474,354.00	448,879.75	3.02
CATERPILLAR FINANCIAL SERVICES CORP	9/13/2024	1,168,408.80	1,105,661.70	3.02
CATERPILLAR FINANCIAL SERVICES CORP	1/10/2024	1,844,704.80	1,787,841.90	2.83
CATERPILLAR FINANCIAL SERVICES CORP	1/10/2024	334,946.40	324,621.70	2.83
CHEVRON CORP	5/11/2023	265,000.00	261,536.45	2.43
CHEVRON CORP	5/11/2023	610,000.00	602,027.30	2.43
CITIGROUP INC	11/3/2025	160,000.00	149,622.40	3.08
CITIGROUP INC	11/3/2025	260,221.00	243,136.40	3.08
CITIGROUP INC	1/25/2026	1,040,000.00	983,205.60	3.31
CITIGROUP INC	1/25/2026	395,000.00	373,429.05	3.31
CITIGROUP GLOBAL MARKETS HOLDINGS INC	6/7/2024	600,000.00	567,288.00	3.46
CITIGROUP GLOBAL MARKETS HOLDINGS INC	6/7/2024	1,400,000.00	1,323,672.00	3.46
CNO GLOBAL FUNDING	1/6/2025	174,888.00	165,182.50	3.87
CNO GLOBAL FUNDING	1/6/2025	519,667.20	490,828.00	3.87
COMCAST CORP	10/15/2025	4,042,256.85	3,656,789.40	3.58
COMERICA INC	7/31/2023	636,006.00	603,972.00	3.12
COMERICA INC	7/31/2023	1,484,014.00	1,409,268.00	3.12
BBVA USA	4/10/2025	4,562,820.00	4,503,240.00	3.85
CONOCOPHILLIPS CO	3/8/2024	4,983,454.65	4,902,298.85	3.05
CONSUMERS ENERGY CO	6/1/2023	169,942.20	165,265.50	2.97
CONSUMERS ENERGY CO	6/1/2023	409,860.60	398,581.50	2.97
COOPERATIEVE RABOBANK UA (NEW YORK BRANCH)	1/12/2024	4,332,008.85	4,134,159.45	3.19
CREDIT SUISSE AG (NEW YORK BRANCH)	2/2/2024	2,655,000.00	2,526,418.35	3.35
DAIMLER FINANCE NORTH AMERICA LLC	3/1/2024	4,984,500.00	4,784,100.00	3.19
JOHN DEERE CAPITAL CORP	7/5/2023	119,901.60	117,391.20	2.58
JOHN DEERE CAPITAL CORP	7/5/2023	279,770.40	273,912.80	2.58
JOHN DEERE CAPITAL CORP	1/17/2024	3,512,504.35	3,376,192.65	2.82
JOHN DEERE CAPITAL CORP	1/17/2024	239,829.60	230,522.40	2.82
JOHN DEERE CAPITAL CORP	1/17/2024	554,605.95	533,083.05	2.82
JOHN DEERE CAPITAL CORP	9/10/2024	129,915.50	122,878.60	3.04
JOHN DEERE CAPITAL CORP	9/10/2024	404,736.75	382,814.10	3.04
JOHN DEERE CAPITAL CORP	1/10/2025	774,635.75	736,389.50	3.19
JOHN DEERE CAPITAL CORP	1/10/2025	204,903.65	194,786.90	3.19
JOHN DEERE CAPITAL CORP	1/10/2025	809,619.30	769,645.80	3.19
JOHN DEERE CAPITAL CORP	3/7/2025	64,972.05	63,024.65	3.25
JOHN DEERE CAPITAL CORP	3/7/2025	194,916.15	189,073.95	3.25
DUKE ENERGY CAROLINAS LLC	3/15/2023	404,372.00	400,480.00	2.33
DUKE ENERGY CAROLINAS LLC	3/15/2023	737,978.90	730,876.00	2.33
ERP OPERATING LP	4/15/2023	578,770.40	552,630.96	2.58
ERP OPERATING LP	4/15/2023	1,355,016.00	1,293,818.40	2.58
ENTERGY LOUISIANA LLC	11/17/2023	450,216.00	433,570.50	3.05
ENTERGY LOUISIANA LLC	11/17/2023	759,863.20	732,252.40	3.05
ENTERGY LOUISIANA LLC	11/17/2023	290,139.20	279,412.10	3.05
ENTERGY LOUISIANA LLC	10/1/2024	344,482.50	325,359.15	3.42
ENTERGY LOUISIANA LLC	10/1/2024	858,710.00	811,040.20	3.42
EQUITABLE FINANCIAL LIFE GLOBAL FUNDING	8/12/2024	719,935.20	676,375.20	3.58
EQUITABLE FINANCIAL LIFE GLOBAL FUNDING	8/12/2024	1,784,839.35	1,676,846.85	3.58
F&G GLOBAL FUNDING	9/20/2024	2,479,479.20	2,314,931.20	3.84
F&G GLOBAL FUNDING	9/20/2024	324,931.75	303,368.00	3.84
F&G GLOBAL FUNDING	9/20/2024	804,830.95	751,419.20	3.84
F&G GLOBAL FUNDING	9/20/2024	844,900.00	793,424.00	3.84
GA GLOBAL FUNDING TRUST	4/8/2024	2,886,990.00	2,844,870.00	3.79
GA GLOBAL FUNDING TRUST	9/13/2024	444,016.55	414,441.85	3.86
GA GLOBAL FUNDING TRUST	9/13/2024	1,107,546.90	1,033,776.30	3.86
GOLDMAN SACHS GROUP INC	3/3/2024	132,256.80	121,082.40	3.49
GOLDMAN SACHS GROUP INC	3/3/2024	308,599.20	282,525.60	3.49
GOLDMAN SACHS GROUP INC	12/6/2023	265,000.00	257,365.35	3.07
GOLDMAN SACHS GROUP INC	12/6/2023	725,000.00	704,112.75	3.07
GOLDMAN SACHS GROUP INC	1/24/2025	1,000,000.00	965,570.00	2.80
GOLDMAN SACHS GROUP INC	1/24/2025	325,000.00	313,810.25	2.80
GOLDMAN SACHS GROUP INC	1/24/2025	1,250,000.00	1,206,962.50	2.80
HOME DEPOT INC	2/15/2024	6,008,140.80	5,943,680.80	2.80
HOME DEPOT INC	4/15/2025	94,833.75	93,699.45	3.19
HOME DEPOT INC	4/15/2025	274,518.75	271,235.25	3.19
HORMEL FOODS CORP	6/3/2024	3,344,397.90	3,188,989.20	2.96
HORMEL FOODS CORP	6/3/2024	304,359.30	300,308.40	2.96
HORMEL FOODS CORP	6/3/2024	869,598.00	858,024.00	2.96
INTERNATIONAL BUSINESS MACHINES CORP	2/12/2024	307,804.00	282,203.60	3.17
INTERNATIONAL BUSINESS MACHINES CORP	2/12/2024	720,041.50	660,154.85	3.17

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DESCRIPTION	MATURITY DATE	BOOK VALUE	MARKET VALUE	YIELD
INTERNATIONAL BUSINESS MACHINES CORP	5/15/2024	1,930,709.22	1,904,812.80	3.24
INTERNATIONAL BUSINESS MACHINES CORP	5/15/2024	2,017,100.00	1,990,400.00	3.24
JPMORGAN CHASE & CO	7/15/2025	3,225,737.10	2,966,760.90	3.76
JACKSON NATIONAL LIFE GLOBAL FUNDING	1/12/2025	1,659,717.80	1,574,377.20	3.77
JACKSON NATIONAL LIFE GLOBAL FUNDING	1/12/2025	169,971.10	161,231.40	3.77
JACKSON NATIONAL LIFE GLOBAL FUNDING	1/12/2025	499,915.00	474,210.00	3.77
KEYBANK NA	3/7/2023	260,045.00	251,827.50	2.50
KEYBANK NA	3/7/2023	101,937.64	98,716.38	2.50
KEYBANK NA	3/7/2023	311,595.00	302,193.00	2.50
KEYBANK NA	3/7/2023	150,524.50	146,059.95	2.50
KEYBANK NA	3/7/2023	821,620.13	792,752.97	2.50
MASSMUTUAL GLOBAL FUNDING II	6/9/2023	3,521,432.45	3,441,536.50	2.77
MASSMUTUAL GLOBAL FUNDING II	6/9/2023	1,502,565.00	1,468,650.00	2.77
MASSMUTUAL GLOBAL FUNDING II	10/21/2024	1,260,000.00	1,249,126.20	0.85
MASSMUTUAL GLOBAL FUNDING II	10/21/2024	3,130,000.00	3,102,988.10	0.85
METROPOLITAN LIFE GLOBAL FUNDING I	9/27/2024	1,629,804.40	1,527,179.60	3.45
METROPOLITAN LIFE GLOBAL FUNDING I	9/27/2024	1,978,300.00	1,873,840.00	3.45
METROPOLITAN LIFE GLOBAL FUNDING I	9/27/2024	439,947.20	412,244.80	3.45
METROPOLITAN LIFE GLOBAL FUNDING I	9/27/2024	1,089,869.20	1,021,242.80	3.45
METROPOLITAN LIFE GLOBAL FUNDING I	3/21/2025	579,483.80	567,692.40	3.58
MORGAN STANLEY	5/19/2022	149,005.50	150,090.00	1.65
MORGAN STANLEY	5/19/2022	347,679.50	350,210.00	1.65
MORGAN STANLEY	2/25/2023	324,300.40	307,284.45	2.82
MORGAN STANLEY	2/25/2023	738,979.60	700,205.55	2.82
NATIONAL RURAL UTILITIES COOPERATIVE FINANCE CORP	2/8/2024	244,830.95	233,511.95	3.08
NATIONAL RURAL UTILITIES COOPERATIVE FINANCE CORP	2/8/2024	564,610.15	538,507.15	3.08
NATIONAL RURAL UTILITIES COOPERATIVE FINANCE CORP	2/7/2025	399,988.00	382,704.00	3.53
NATIONAL RURAL UTILITIES COOPERATIVE FINANCE CORP	2/7/2025	1,184,964.45	1,133,760.60	3.53
NATIONAL RURAL UTILITIES COOPERATIVE FINANCE CORP	2/7/2025	169,994.90	162,649.20	3.53
NATIONAL RURAL UTILITIES COOPERATIVE FINANCE CORP	2/7/2025	499,985.00	478,380.00	3.53
NATIONAL SECURITIES CLEARING CORP	4/23/2023	3,162,024.90	3,123,665.10	2.55
NESTLE HOLDINGS INC	9/14/2024	910,000.00	856,464.70	3.20
NESTLE HOLDINGS INC	9/14/2024	2,210,000.00	2,079,985.70	3.20
NEW YORK LIFE GLOBAL FUNDING	8/27/2024	624,131.25	588,793.75	3.20
NEW YORK LIFE GLOBAL FUNDING	8/27/2024	1,547,845.50	1,460,208.50	3.20
NEW YORK LIFE GLOBAL FUNDING	10/29/2024	619,194.00	586,067.40	3.20
NEW YORK LIFE GLOBAL FUNDING	10/29/2024	1,542,991.50	1,460,442.15	3.20
NEW YORK LIFE GLOBAL FUNDING	1/14/2025	5,948,568.60	5,671,482.45	3.30
NIKE INC	3/27/2025	44,938.80	44,002.35	3.20
NIKE INC	3/27/2025	89,877.60	88,004.70	3.20
OKLAHOMA GAS AND ELECTRIC CO	5/26/2023	190,000.00	185,825.70	2.64
OKLAHOMA GAS AND ELECTRIC CO	5/26/2023	430,000.00	420,552.90	2.64
PACCAR FINANCIAL CORP	9/26/2022	1,498,170.00	1,500,915.00	1.85
PACCAR FINANCIAL CORP	2/7/2023	2,274,886.25	2,268,743.75	2.26
PACCAR FINANCIAL CORP	8/11/2023	134,823.15	131,064.75	2.68
PACCAR FINANCIAL CORP	8/11/2023	314,587.35	305,817.75	2.68
PACCAR FINANCIAL CORP	2/2/2024	1,618,120.80	1,544,313.60	3.10
PACCAR FINANCIAL CORP	8/9/2024	274,851.50	259,228.75	3.13
PACCAR FINANCIAL CORP	8/9/2024	684,630.10	645,715.25	3.13
PACCAR FINANCIAL CORP	8/9/2024	344,813.70	325,214.25	3.13
PACCAR FINANCIAL CORP	8/9/2024	764,586.90	721,127.25	3.13
PACCAR FINANCIAL CORP	11/8/2024	1,544,907.30	1,465,818.75	3.02
PACCAR FINANCIAL CORP	4/7/2025	1,889,508.60	1,871,326.80	3.20
PACCAR FINANCIAL CORP	4/7/2025	4,823,745.50	4,777,329.00	3.20
PACCAR FINANCIAL CORP	4/7/2025	619,838.80	613,874.40	3.20
PACCAR FINANCIAL CORP	4/7/2025	854,777.70	846,552.60	3.20
PACCAR FINANCIAL CORP	4/7/2025	474,876.50	470,307.00	3.20
PACCAR FINANCIAL CORP	4/7/2025	1,499,610.00	1,485,180.00	3.20
PACIFIC LIFE GLOBAL FUNDING II	9/23/2023	2,022,468.75	1,959,714.00	2.87
PAYPAL HOLDINGS INC	10/1/2024	1,759,687.00	1,668,839.00	3.19
PEPSICO INC	5/1/2023	279,445.60	275,447.20	2.40
PEPSICO INC	5/1/2023	643,722.90	634,512.30	2.40
PRECISION CASTPARTS CORP	1/15/2023	292,233.00	290,420.50	2.18
PRECISION CASTPARTS CORP	1/15/2023	1,370,472.00	1,361,972.00	2.18
PRICOA GLOBAL FUNDING I	12/6/2024	2,897,013.00	2,745,227.00	3.31
PRICOA GLOBAL FUNDING I	12/6/2024	449,536.50	425,983.50	3.31
PRICOA GLOBAL FUNDING I	12/6/2024	1,218,743.40	1,154,888.60	3.31
PRINCIPAL LIFE GLOBAL FUNDING II	8/23/2024	324,798.50	304,284.50	3.64
PRINCIPAL LIFE GLOBAL FUNDING II	8/23/2024	799,504.00	749,008.00	3.64
PRINCIPAL LIFE GLOBAL FUNDING II	1/10/2025	922,003.00	873,005.75	3.58
PROTECTIVE LIFE GLOBAL FUNDING	6/9/2023	3,500,000.00	3,425,590.00	3.04
ROCHE HOLDINGS INC	3/10/2025	1,580,000.00	1,528,966.00	3.32
ROCHE HOLDINGS INC	3/10/2025	4,640,000.00	4,490,128.00	3.32
ROCKWELL AUTOMATION INC	8/15/2023	314,848.80	305,357.85	2.77
ROYAL BANK OF CANADA	11/1/2024	4,205,160.00	3,883,680.00	3.47
ROYAL BANK OF CANADA	4/14/2025	2,524,065.75	2,498,209.75	3.76
SALESFORCE INC	7/15/2024	564,711.85	535,297.95	3.10
SALESFORCE INC	7/15/2024	149,923.50	142,114.50	3.10
SALESFORCE INC	7/15/2024	349,821.50	331,600.50	3.10
CHARLES SCHWAB CORP	3/18/2024	2,333,832.50	2,235,832.55	3.08
CHARLES SCHWAB CORP	3/18/2024	2,006,720.00	1,915,060.00	3.08
CHARLES SCHWAB CORP	3/18/2024	524,737.50	502,703.25	3.08
CHARLES SCHWAB CORP	3/18/2024	1,229,385.00	1,177,761.90	3.08
CHARLES SCHWAB CORP	3/18/2024	389,805.00	373,436.70	3.08
CHARLES SCHWAB CORP	3/18/2024	889,555.00	852,201.70	3.08
SECURITY BENEFIT GLOBAL FUNDING	5/17/2024	3,128,810.60	2,965,612.40	3.94
SIMON PROPERTY GROUP LP	2/1/2024	4,657,578.75	4,609,907.25	3.23
SOUTHERN CALIFORNIA EDISON CO	4/1/2024	4,014,000.00	3,837,960.00	3.29
STATE STREET CORP	3/30/2026	128,811.25	122,442.50	3.46
STATE STREET CORP	3/30/2026	510,065.00	489,770.00	3.46
STATE STREET CORP	3/30/2026	386,433.75	367,327.50	3.46
STATE STREET CORP	3/30/2026	1,020,130.00	979,540.00	3.46
STATE STREET CORP	2/6/2026	1,625,000.00	1,547,276.25	2.82
STATE STREET CORP	2/6/2026	285,000.00	271,368.45	2.82
STATE STREET CORP	2/6/2026	855,000.00	814,105.35	2.82
STATE STREET CORP	2/6/2026	255,000.00	242,803.35	2.82
STATE STREET CORP	2/6/2026	745,000.00	709,366.65	2.82
TARGET CORP	7/1/2024	425,056.00	404,288.00	2.99
TARGET CORP	7/1/2024	1,062,640.00	1,010,720.00	2.99
TORONTO-DOMINION BANK	6/12/2024	3,171,900.00	2,965,740.00	3.21
TOYOTA MOTOR CREDIT CORP	1/11/2024	2,544,847.30	2,442,182.00	2.90
TOYOTA MOTOR CREDIT CORP	1/11/2024	649,961.00	623,740.00	2.90
TOYOTA MOTOR CREDIT CORP	1/11/2024	249,985.00	239,900.00	2.90
TOYOTA MOTOR CREDIT CORP	1/11/2024	1,249,925.00	1,199,500.00	2.90
TOYOTA MOTOR CREDIT CORP	4/6/2023	1,798,542.00	1,765,440.00	2.49
TOYOTA MOTOR CREDIT CORP	4/6/2023	174,858.25	171,640.00	2.49
TOYOTA MOTOR CREDIT CORP	4/6/2023	409,667.90	402,128.00	2.49
TOYOTA MOTOR CREDIT CORP	6/18/2024	3,086,322.90	2,923,109.10	3.13
TOYOTA MOTOR CREDIT CORP	1/13/2025	973,693.50	928,502.25	3.31
TOYOTA MOTOR CREDIT CORP	3/22/2024	1,663,967.70	1,646,951.40	3.09
UNILEVER CAPITAL CORP	8/12/2024	220,000.00	208,025.40	3.11
UNILEVER CAPITAL CORP	8/12/2024	485,000.00	458,601.45	3.11
US BANCORP	2/5/2024	2,107,940.00	2,007,640.00	3.14
US BANCORP	7/30/2024	2,662,075.00	2,457,100.00	3.19
UNITEDHEALTH GROUP INC	5/15/2024	1,988,520.00	1,903,960.00	2.99
UNITEDHEALTH GROUP INC	5/15/2024	514,464.40	490,269.70	2.99
UNITEDHEALTH GROUP INC	5/15/2024	1,188,762.40	1,132,856.20	2.99
UNITEDHEALTH GROUP INC	5/15/2024	419,563.20	399,831.60	2.99
UNITEDHEALTH GROUP INC	5/15/2024	963,996.40	918,660.70	2.99
VIRGINIA ELECTRIC AND POWER CO	3/15/2023	2,087,580.00	2,001,260.00	2.65
VISA INC	12/14/2022	1,962,480.00	2,009,300.00	1.78
WALMART INC	6/26/2023	3,083,010.00	3,032,580.00	2.37
WALMART INC	6/26/2023	2,056,460.00	2,021,720.00	2.37
SUB-TOTAL		***330,295,547.84***	***318,726,851.80***	

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DESCRIPTION	MATURITY DATE	BOOK VALUE	MARKET VALUE	YIELD
MORTGAGE AND ASSET-BACK SECURITIES				
ALLYA 2019-1 A3	9/15/2023	34,942.09	35,024.24	1.13
ALLYA 2019-1 A3	9/15/2023	68,045.13	68,205.11	1.13
ACAR 221 B	9/14/2026	499,988.80	483,110.00	3.25
ACAR 221 B	9/14/2026	1,549,965.28	1,497,641.00	3.25
AMCAR 2021-3 A3	8/18/2026	949,883.82	912,921.50	3.06
BMWLT 2021-1 A3	1/25/2024	234,992.55	232,574.80	2.36
BMWLT 2021-1 A3	1/25/2024	534,983.04	529,478.80	2.36
BMWLT 2022-1 A3	1/25/2023	1,589,762.30	1,548,230.70	3.10
BMWLT 2021-2 A3	12/26/2024	1,299,865.84	1,265,537.00	3.02
CAPITAL ONE MULTI TR A B S SER 2021 3 CL A 11/16/2	11/16/2026	624,913.88	591,393.75	3.27
CAPITAL ONE MULTI TR A B S SER 2021 3 CL A 11/16/2	11/16/2026	2,149,703.73	2,034,394.50	3.27
COMET 2022-1 A	3/17/2025	949,928.37	940,205.50	3.20
COMET 2022-1 A	3/17/2025	2,999,773.80	2,969,070.00	3.20
COPAR 2019-1 A3	11/15/2023	46,647.52	46,760.09	1.53
COPAR 2019-1 A3	11/15/2023	93,295.04	93,520.17	1.53
COPAR 2021-1 A3	9/15/2026	1,249,976.38	1,193,437.50	2.90
COPAR 2021-1 A3	9/15/2026	1,999,962.20	1,909,500.00	2.90
COPAR 2021-1 A3	9/15/2026	359,993.20	343,710.00	2.90
COPAR 2021-1 A3	9/15/2026	879,983.37	840,180.00	2.90
CARMX 2021-2 A3	2/17/2026	1,009,782.35	971,024.10	3.06
CARMX 2021-2 A3	2/17/2026	2,339,495.73	2,249,699.40	3.06
CARMX 2021-2 A3	2/17/2026	399,913.80	384,564.00	3.06
CARMX 2021-2 A3	2/17/2026	914,802.82	879,690.15	3.06
CARMX 2020-3 B	3/16/2026	737,328.52	701,040.90	2.70
CARMX 2020-3 B	3/16/2026	121,012.50	115,239.60	2.70
CARMX 2019-3 A4	4/15/2025	470,640.63	452,788.70	2.65
CARMX 2020-2 A4	5/15/2025	1,492,593.75	1,433,180.00	2.80
CARMX 2019-4 B	7/15/2025	1,758,871.25	1,672,374.72	2.98
CARMX 2020-1 A3	12/16/2024	704,452.78	702,752.03	2.26
CARMX 2020-1 A3	12/16/2024	167,400.51	164,546.82	2.26
CARMX 2020-1 A4	6/16/2025	4,262,480.39	4,043,083.48	2.75
CARMX 2020-4 A3	8/15/2025	144,968.08	142,198.60	2.28
CARMX 2020-4 A3	8/15/2025	329,927.37	323,624.40	2.28
CARMX 2021-1 A3	12/15/2025	194,961.47	190,528.65	2.19
CARMX 2021-1 A3	12/15/2025	454,910.09	444,566.85	2.19
CARMX 2021-3 A3	6/15/2026	1,249,794.38	1,203,337.50	2.61
CARMX 2021-3 A3	6/15/2026	2,899,522.95	2,791,743.00	2.61
CARMX 2021-3 A3	6/15/2026	764,874.16	736,442.55	2.61
CARMX 2021-3 A3	6/15/2026	1,759,710.48	1,694,299.20	2.61
CARMX 222 A3	5/15/2025	494,924.71	495,089.10	3.51
CARMX 222 A3	5/15/2025	1,434,781.74	1,435,258.30	3.51
CRVNA 2021-P1 A3	12/10/2025	2,846,882.81	2,799,783.00	2.45
DCENT 2019-3 A	10/15/2024	304,934.49	305,256.20	1.72
DCENT 2019-3 A	10/15/2024	694,850.71	695,583.80	1.72
DCENT 2021-1 A	9/16/2024	389,916.50	366,904.20	3.19
DCENT 2021-1 A	9/16/2024	944,797.68	889,037.10	3.19
DRIVE 2021-3 A3	10/15/2025	1,399,791.68	1,370,558.00	2.54
DRIVE 2021-3 B	5/15/2026	1,249,989.13	1,205,912.50	3.07
DRIVE 2021-2 A3	3/17/2025	1,649,879.88	1,638,912.00	1.47
DRIVE 2021-1 A3	11/15/2024	166,394.97	166,369.81	0.61
DRIVE 2021-1 A3	11/15/2024	388,254.94	388,196.23	0.61
EART 2021-2 A3	10/15/2024	379,375.37	378,637.91	1.32
EART 2021-2 A3	10/15/2024	885,209.20	883,488.47	1.32
EART 2021-3 A3	2/18/2025	1,549,906.23	1,539,754.50	1.77
FH G12952	12/1/2022	10,993.50	10,677.25	1.89
FNR 2011-74 UY	3/25/2026	624,172.71	623,820.32	2.99
FNA 2012-M17 A2	11/25/2022	207,966.55	215,802.68	2.07
FNA 2013-M1 A2	8/25/2022	100,966.66	100,222.68	1.32
FNA 2013-M1 A2	8/25/2022	235,588.88	233,852.92	1.32
FNA 2013-M7 A2	12/25/2022	108,097.47	106,584.36	2.22
FNA 2013-M7 A2	12/25/2022	263,487.59	259,799.39	2.22
FHR 3806 L	2/15/2026	221,616.05	211,974.98	2.70
FHR 3806 L	2/15/2026	29,558.04	28,836.39	2.70
FHMS K-022 A2	7/25/2022	246,600.89	245,792.08	1.22
FHMS K-022 A2	7/25/2022	562,001.45	560,158.18	1.22
FHMS K-023 A2	8/25/2022	496,589.98	490,024.86	1.17
FHMS K-023 A2	8/25/2022	1,143,093.92	1,127,981.75	1.17
FHMS K-SMC A2	1/25/2023	1,175,160.15	1,182,879.20	2.05
FHMS K-SMC A2	1/25/2023	308,728.52	310,756.40	2.05
FHMS K-SMC A2	1/25/2023	2,030,198.44	2,044,977.60	2.05
FHMS K-SMC A2	1/25/2023	410,500.00	400,976.00	2.05
FHMS K-026 A2	11/25/2022	1,172,453.48	1,153,392.03	1.76
FHMS K-026 A2	11/25/2022	2,205,802.31	2,169,940.93	1.76
FHMS K-026 A2	11/25/2022	498,345.78	488,725.43	1.76
FHMS K-S01 A2	1/25/2023	86,184.03	88,492.09	2.14
FHMS K-034 A1	2/25/2023	61,823.60	62,267.12	1.27
FHMS K-034 A1	2/25/2023	135,155.74	136,125.33	1.27
FHMS K-035 A1	3/25/2023	26,483.86	26,777.58	1.40
FHMS K-035 A1	3/25/2023	31,459.25	31,808.14	1.40
FHR 4285 BA	12/15/2023	277,837.77	270,936.05	2.54
FHMS K-040 A2	9/25/2024	1,446,975.00	1,444,032.00	3.04
FHMS K-041 A1	8/25/2024	760,908.25	729,531.92	2.34
FHMS K-046 A1	1/25/2025	334,974.96	320,690.09	2.71
FHMS K-PLB A	5/25/2025	2,156,328.13	1,975,720.00	3.14
FHMS K-PLB A	5/25/2025	2,640,039.06	2,469,650.00	3.14
FHMS K-047 A1	12/25/2024	0.01	0.01	0.33
FHMS K-720 A2	6/25/2022	77,607.12	77,768.01	-0.06
FHMS K-720 A2	6/25/2022	98,409.02	98,613.04	-0.06
FHMS K-720 A2	6/25/2022	80,567.70	80,173.21	-0.06
FHMS K-050 A1	1/25/2025	2,113,698.80	2,006,152.40	2.83
FHMS K-051 A2	9/25/2025	4,348,857.42	3,963,430.00	3.15
FHMS K-051 A2	9/25/2025	330,046.88	301,020.00	3.15
FHMS K-051 A2	9/25/2025	1,337,686.53	1,219,131.00	3.15
FHMS K-052 A2	11/25/2025	985,992.19	898,686.00	3.15
FHMS K-724 A1	3/25/2023	182,827.19	184,496.44	1.18
FHMS K-724 A1	3/25/2023	138,624.86	139,890.53	1.18
FHMS K-J33 A1	12/25/2025	122,681.44	117,806.17	2.75
FHMS K-J33 A1	12/25/2025	280,719.73	269,564.13	2.75
FHMS K-727 A2	7/25/2024	1,357,699.22	1,259,848.80	2.87
FHMS K-727 A2	7/25/2024	3,135,638.67	2,909,650.80	2.87
FHMS K-P05 A	7/25/2023	47,419.18	46,645.91	4.44
FHMS K-J23 A2	12/25/2022	184,547.97	180,634.09	2.15
FHMS K-J23 A2	12/25/2022	393,070.13	384,733.91	2.15
FHMS K-J27 A1	7/25/2024	260,784.82	260,232.99	2.20
FHMS K-J30 A1	1/25/2025	320,483.82	308,740.22	2.60
FHMS K-J30 A1	1/25/2025	734,936.79	709,316.72	2.60
FN AM0359	8/1/2022	2,599,488.88	2,574,112.81	2.14
FN AM8730	7/1/2025	1,753,952.11	1,610,829.62	3.53
FN AN0429	1/1/2025	967,895.17	886,542.75	3.48
FNR 0338C MP	5/25/2023	60,895.22	59,204.99	2.06
FNR 0338C MP	5/25/2023	67,028.89	65,011.96	2.06
FNR 0333J LB	5/25/2023	35,134.49	34,198.57	2.46
FNR 0364L HQ	7/25/2023	46,029.62	45,024.64	2.11
FHR 2666 OD	8/15/2023	43,615.69	42,519.97	2.71
FHR 2666 OD	8/15/2023	45,379.17	44,165.91	2.71
FHR 2756 KA	2/15/2024	173,384.70	167,524.78	2.50
FN BM6007	5/1/2023	247,094.22	237,400.57	2.40
FITAT 2019-1 A3	12/15/2023	70,555.42	70,733.95	1.28
FORDO 2022-A A3	6/15/2026	769,908.52	742,665.00	3.03

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FORDF 2017-3 A	9/15/2022	776,132.81	752,032.50	1.77
FORDF 2019-2 B	4/15/2024	1,831,369.92	1,696,918.50	3.68
FORDF 2019-3 A1	9/15/2024	4,105,937.50	4,010,080.00	1.57
FORDF 2019-4 A	9/15/2024	4,357,395.70	4,128,395.40	3.52
FORDF 2020-1 A1	9/15/2025	1,007,617.19	966,640.00	3.20
FORDF 2020-1 A1	9/15/2025	180,935.16	173,995.20	3.20
FORDF 2020-1 A1	9/15/2025	1,005,625.00	966,640.00	3.20
FORDO 2021-A A3	8/15/2025	1,139,287.50	1,110,200.40	2.56
FORDO 2021-A A3	8/15/2025	259,978.08	253,203.60	2.56
FORDO 2021-A A3	8/15/2025	599,949.42	584,316.00	2.56
GMCAR 2021-4 A3	9/16/2026	1,074,972.59	1,032,956.75	2.59
GMCAR 2021-4 A3	9/16/2026	299,992.35	288,267.00	2.59
GMCAR 2021-4 A3	9/16/2026	719,981.64	691,840.80	2.59
GMALT 2020-3	10/21/2024	349,369.92	349,469.10	2.91
GMCAR 2019-1 A3	11/16/2023	77,555.43	77,631.50	1.83
GMCAR 2022-2 A3	2/16/2027	309,935.21	309,163.00	3.23
GMCAR 2022-2 A3	2/16/2027	899,811.90	897,570.00	3.23
GMCAR 2020-3 A3	4/16/2025	228,530.61	225,709.62	1.91
GMCAR 2020-3 A3	4/16/2025	533,238.08	526,655.78	1.91
GMALT 2020-1 B	12/20/2023	65,068.55	65,055.25	1.34
GMALT 2020-1 B	12/20/2023	535,731.45	535,454.75	1.34
GMCAR 2020-4 A3	8/18/2025	129,972.22	127,939.50	2.02
GMCAR 2020-4 A3	8/18/2025	294,936.96	290,324.25	2.02
GMALT 2021-1 A3	2/20/2024	224,982.42	223,024.50	2.33
GMALT 2021-1 A3	2/20/2024	329,966.21	327,102.60	2.33
GMALT 2021-1 A3	2/20/2024	754,922.69	748,371.10	2.33
GMALT 2022-1 A3	3/20/2025	3,329,971.36	3,264,365.70	3.16
GMCAR 2022-1 A3	11/16/2026	1,049,908.75	1,008,378.00	3.08
GMCAR 2022-1 A3	11/16/2026	274,976.10	264,099.00	3.08
GMCAR 2022-1 A3	11/16/2026	804,930.05	773,089.80	3.08
GALC 212 A3	7/15/2025	899,884.71	849,609.00	---
GALC 212 A3	7/15/2025	2,299,705.37	2,171,223.00	---
HDMOT 2020-A A3	10/15/2024	107,518.25	107,533.11	1.89
HDMOT 2020-A A3	10/15/2024	247,494.85	247,529.04	1.89
HDMOT 2019-A A3	2/15/2024	112,867.21	112,967.36	1.67
HDMOT 2019-A A3	2/15/2024	263,356.82	263,590.51	1.67
HDMOT 2022-A A3	4/17/2023	639,893.44	636,249.60	3.31
HDMOT 2022-A A3	4/17/2023	1,894,684.48	1,883,895.30	3.31
HAROT 2020-1 A3	4/22/2024	1,824,521.33	1,820,572.29	2.02
HAROT 2022-1 A3	5/15/2026	1,084,836.82	1,054,793.60	3.13
HAROT 2021-3 A3	11/18/2025	5,399,921.16	5,198,688.00	2.66
HAROT 2021-4 A3	1/21/2026	1,509,681.69	1,452,363.30	2.87
HAROT 2021-4 A3	1/21/2026	354,925.17	341,449.65	2.87
HAROT 2021-4 A3	1/21/2026	959,797.63	923,356.80	2.87
HAROT 2019-3 A3	8/15/2023	828,401.31	828,896.95	1.59
HART 2019-B C	6/15/2026	1,557,011.72	1,486,950.00	2.90
HALST 2021-A A3	1/16/2024	149,981.28	148,659.00	2.25
HALST 2021-A A3	1/16/2024	344,956.94	341,915.70	2.25
HALST 2022-A A3	1/15/2025	1,919,957.57	1,866,163.20	3.08
HALST 2022-A A3	1/15/2025	2,099,953.59	2,041,116.00	3.08
HALST 2022-A A4	12/15/2025	1,999,625.40	1,919,800.00	3.47
HART 2022-A A3	10/15/2026	684,973.63	670,108.10	3.17
HART 2022-A A3	10/15/2026	2,014,922.42	1,971,193.90	3.17
HART 2019-A A3	6/15/2023	21,560.25	21,579.69	1.46
HART 2021-A A3	9/15/2025	1,759,814.85	1,708,960.00	2.54
HART 2021-A A3	9/15/2025	264,972.12	257,315.00	2.54
HART 2021-A A3	9/15/2025	604,936.36	587,455.00	2.54
HALST 21C A3	8/15/2024	499,954.75	483,830.00	3.13
HALST 21C A3	8/15/2024	1,209,890.49	1,170,868.60	3.13
HART 2021-B A3	1/15/2026	3,614,202.17	3,476,653.95	2.98
HART 2021-C A3	5/15/2026	274,938.62	262,941.25	3.01
HART 2021-C A3	5/15/2026	679,848.22	650,182.00	3.01
JDOT 2019-B A3	12/15/2023	295,334.50	295,979.15	1.59
JDOT 2022 A3	9/15/2026	1,994,558.71	1,949,913.00	3.36
JDOT 2019 A3	7/17/2023	23,648.51	23,671.28	1.62
JDOT 2019 A3	7/17/2023	54,700.03	54,752.71	1.62
JDOT 2020 A3	8/15/2024	1,319,885.10	1,313,418.72	2.01
KCOT 221 A2	4/15/2025	229,992.07	227,819.60	3.24
KCOT 221 A2	4/15/2025	659,977.23	653,743.20	3.24
KCOT 221 A3	10/15/2026	649,907.05	633,997.00	3.65
KCOT 221 A3	10/15/2026	1,849,735.45	1,804,453.00	3.65
KCOT 2021-1 A3	8/15/2025	274,943.73	262,517.75	3.48
KCOT 2021-1 A3	8/15/2025	639,869.06	610,950.40	3.48
MBALT 2020-B A3	11/15/2023	2,982,406.14	2,958,904.00	1.89
MBALT 2020-B A3	11/15/2023	75,216.32	74,790.62	1.89
MBALT 2020-B A3	11/15/2023	169,236.71	168,278.90	1.89
MBALT 2021-B A3	11/15/2024	1,989,849.76	1,931,494.00	3.69
MBART 2020-1 A3	2/18/2025	139,405.60	138,158.95	1.79
MBART 2020-1 A3	2/18/2025	319,165.45	316,311.28	1.79
MMAF 20B A3	8/14/2025	3,469,950.38	3,338,140.00	3.04
MMAF 20B A3	8/14/2025	1,229,246.88	1,192,880.00	3.04
MMAF 20A A2	4/9/2024	891,962.25	884,400.38	2.31
NAROT 2018-C A3	6/15/2023	10,535.92	10,547.11	1.67
NAROT 2018-C A3	6/15/2023	21,071.85	21,094.22	1.67
NAROT 2020-B A3	7/15/2024	215,037.46	213,679.98	1.65
NAROT 2020-B A3	7/15/2024	491,514.20	488,411.39	1.65
NAROT 2019-C A3	7/15/2024	1,285,471.23	1,285,384.84	1.96
NAROT 2019-C A3	7/15/2024	117,454.22	117,446.33	1.96
NAROT 2019-C A3	7/15/2024	274,059.86	274,041.44	1.96
PFSFC 2020-B A	6/17/2024	1,564,789.51	1,564,374.00	1.50
PFSFC 2020-B A	6/17/2024	150,984.38	149,940.00	1.50
PFSFC 20E A	10/15/2025	302,156.25	289,608.00	3.46
PFSFC 20E A	10/15/2025	1,007,421.87	965,360.00	3.46
PACIFICORP	4/1/2024	2,196,837.00	2,189,420.25	3.19
SCART 20A A	10/15/2024	379,380.35	379,073.92	1.66
SDART 2021-4 A3	8/15/2025	749,931.07	738,772.50	2.22
SDART 2021-4 B	6/15/2026	249,972.17	241,830.00	3.00
SDART 2021-1 A3	9/16/2024	285,782.13	285,554.12	1.06
SDART 2021-1 A3	9/16/2024	661,473.25	660,945.50	1.06
SRT 22A A3	1/15/2025	2,199,830.38	2,117,390.00	3.48
SDART 2021-3 A3	3/17/2025	1,049,887.23	1,043,469.00	1.54
SDART 2021-3 B	12/15/2025	1,449,739.00	1,428,975.00	1.86
TAOT 2020-D A3	1/15/2025	1,604,378.39	1,586,448.21	2.00
TAOT 2020-D A3	1/15/2025	420,012.72	414,917.22	2.00
TAOT 2022-B A3	9/15/2026	359,991.58	358,588.80	3.11
TAOT 2022-B A3	9/15/2026	1,039,975.66	1,035,923.20	3.11
TAOT 2021-D A3	4/15/2026	364,992.23	351,137.30	2.68
TAOT 2021-D A3	4/15/2026	899,980.83	865,818.00	2.68
TAOT 2019-C A3	9/15/2023	142,333.99	142,581.38	1.25
TAOT 2019-C A3	9/15/2023	331,249.98	331,825.76	1.25
TAOT 2019-C A3	9/15/2023	0.00	0.01	0.59
TAOT 2019-C A3	9/15/2023	0.01	0.01	0.59
TLOT 21B A3	10/21/2024	239,996.76	232,118.40	3.23
TLOT 21B A3	10/21/2024	559,992.44	541,609.60	3.23
TAOT 2021-A A3	5/15/2025	3,699,313.28	3,621,634.00	2.35
UART 211 A3	6/16/2025	328,878.00	326,528.40	1.82
VZOT 2020-B A	2/20/2025	239,949.60	236,371.20	2.55
VZOT 2020-B A	2/20/2025	559,882.40	551,532.80	2.55
VZOT 2019-A B	9/20/2023	3,981,174.22	3,922,042.80	2.05
VZOT 2019-C A1A	4/22/2024	200,147.02	200,292.55	1.76
VZOT 2019-C A1A	4/22/2024	463,130.89	463,467.65	1.76
VZOT 2020-A A1A	7/22/2024	209,346.68	209,358.64	1.87
VZOT 2020-A A1A	7/22/2024	488,475.59	488,503.48	1.87
VALET 2021-1 A3	6/22/2026	239,990.59	230,556.00	3.07
VALET 2021-1 A3	6/22/2026	1,139,955.31	1,095,141.00	3.07

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DESCRIPTION	MATURITY DATE	BOOK VALUE	MARKET VALUE	YIELD
WLAKE 2021-3 A3	6/16/2025	999,982.60	974,110.00	2.80
WLAKE 2021-3 A3	6/16/2025	2,849,950.41	2,776,213.50	2.80
WOLS 2021-A A3	8/15/2024	899,893.26	869,085.00	3.35
WOLS 2021-A A3	8/15/2024	2,099,750.94	2,027,865.00	3.35
WOART 2021-D A3	10/15/2026	434,940.75	416,525.55	2.90
WOART 2021-D A3	10/15/2026	1,069,854.27	1,024,557.10	2.90
WOART 2020-B A3	5/15/2025	244,709.14	241,926.19	2.06
WOART 2020-B A3	5/15/2025	570,987.99	564,494.43	2.06
SUB-TOTAL		*224,784,205.20*	*217,938,399.31*	
Municipal Debt				
ALAMEDA CNTY CALIF JT PWRS AUTH LEASE REV	6/1/2022	387,657.00	380,570.00	1.29
ALAMEDA CNTY CALIF JT PWRS AUTH LEASE REV	6/1/2022	887,530.50	871,305.00	1.29
ANAHEIM CALIF HSG & PUB IMPT AUTH REV	10/1/2023	2,215,000.00	2,206,317.20	2.92
BAY AREA TOLL AUTH CALIF TOLL BRDG REV	4/1/2023	1,110,000.00	1,109,012.10	2.28
BAY AREA TOLL AUTH CALIF TOLL BRDG REV	4/1/2023	2,590,000.00	2,587,694.90	2.28
BAY AREA TOLL AUTH CALIF TOLL BRDG REV	4/1/2023	240,000.00	239,786.40	2.33
BAY AREA TOLL AUTH CALIF TOLL BRDG REV	4/1/2023	550,000.00	549,510.50	2.33
CALIFORNIA EARTHQUAKE AUTH REV	7/1/2022	250,000.00	250,095.00	1.10
CALIFORNIA EARTHQUAKE AUTH REV	7/1/2022	565,000.00	565,214.70	1.10
CALIFORNIA EARTHQUAKE AUTH REV	7/1/2023	105,000.00	103,751.55	2.51
CALIFORNIA EARTHQUAKE AUTH REV	7/1/2023	260,000.00	256,908.60	2.51
CALIFORNIA ST	4/1/2024	3,239,373.40	3,086,881.85	2.97
CALIFORNIA ST DEPT WTR RES CENT VY PROJ REV	12/1/2022	190,000.00	188,457.20	1.74
CALIFORNIA ST DEPT WTR RES CENT VY PROJ REV	12/1/2022	435,000.00	431,467.80	1.74
CALIFORNIA ST DEPT WTR RES CENT VY PROJ REV	12/1/2023	70,000.00	67,476.50	2.75
CALIFORNIA ST DEPT WTR RES CENT VY PROJ REV	12/1/2023	160,000.00	154,232.00	2.75
CALIFORNIA ST UNIV REV	11/1/2023	330,000.00	318,532.50	2.85
CALIFORNIA ST UNIV REV	11/1/2023	760,000.00	733,590.00	2.85
CALIFORNIA ST UNIV REV	11/1/2023	300,000.00	289,575.00	2.85
CALIFORNIA ST UNIV REV	11/1/2023	700,000.00	675,675.00	2.85
CALIFORNIA STATEWIDE CMNTYS DEV AUTH REV	2/1/2023	265,000.00	261,886.25	1.92
CALIFORNIA STATEWIDE CMNTYS DEV AUTH REV	2/1/2023	610,000.00	602,832.50	1.92
CONNECTICUT ST	7/1/2023	70,417.90	69,591.90	2.51
CONNECTICUT ST	7/1/2023	155,925.35	154,096.35	2.51
COOPERATIEVE RABOBANK UA (NEW YORK BRANCH)	1/10/2025	523,393.50	497,253.75	3.44
COOPERATIEVE RABOBANK UA (NEW YORK BRANCH)	1/10/2025	1,520,333.50	1,444,403.75	3.44
CORONA CALIF PENSION OBLIG	5/1/2024	430,000.00	410,000.70	3.12
CORONA CALIF PENSION OBLIG	5/1/2024	1,080,000.00	1,029,769.20	3.12
EL CAJON CALIF	4/1/2023	610,000.00	600,252.20	2.41
EL CAJON CALIF	4/1/2024	540,000.00	518,038.20	3.12
EL DORADO CALIF IRR DIST REV	3/1/2023	720,000.00	707,515.20	2.98
EL DORADO CALIF IRR DIST REV	3/1/2024	720,000.00	692,683.20	3.22
EL SEGUNDO CALIF PENSION OBLIG	7/1/2023	415,000.00	404,388.45	2.60
EL SEGUNDO CALIF PENSION OBLIG	7/1/2023	970,000.00	945,197.10	2.60
FLORIDA ST BRD ADMIN FIN CORP REV	7/1/2025	310,000.00	289,791.10	3.45
FLORIDA ST BRD ADMIN FIN CORP REV	7/1/2025	715,000.00	668,389.15	3.45
GOLDEN ST TOB SECURITIZATION CORP CALIF TOB SETTLE	6/1/2025	610,000.00	569,233.70	3.71
GOLDEN ST TOB SECURITIZATION CORP CALIF TOB SETTLE	6/1/2025	1,510,000.00	1,409,086.70	3.71
HAWAII ST ARPTS SYS CUSTOMER FAC CHARGE REV	7/1/2022	715,000.00	715,486.20	1.42
HAWAII ST ARPTS SYS CUSTOMER FAC CHARGE REV	7/1/2024	715,000.00	693,256.85	3.47
LOS ALTOS CALIF SCH DIST	10/1/2024	1,065,466.50	1,002,225.00	2.96
LOS ALTOS CALIF SCH DIST	10/1/2024	2,486,088.50	2,338,525.00	2.96
LOS ANGELES CALIF CMNTY COLLEGE DIST	8/1/2023	230,000.00	224,072.90	2.54
LOS ANGELES CALIF CMNTY COLLEGE DIST	8/1/2023	530,000.00	516,341.90	2.54
LOS ANGELES CALIF MUN IMPT CORP LEASE REV	11/1/2022	1,620,000.00	1,608,903.00	1.69
LOS ANGELES CALIF MUN IMPT CORP LEASE REV	11/1/2022	1,649,983.50	1,638,697.50	1.69
LOS ANGELES CALIF MUN IMPT CORP LEASE REV	11/1/2025	480,000.00	440,500.80	3.46
LOS ANGELES CALIF MUN IMPT CORP LEASE REV	11/1/2025	1,120,000.00	1,027,835.20	3.46
LOS ANGELES CALIF MUN IMPT CORP LEASE REV	11/1/2022	305,868.00	301,617.00	1.91
LOS ANGELES CALIF MUN IMPT CORP LEASE REV	11/1/2022	713,692.00	703,773.00	1.91
LOS ANGELES CALIF MUN IMPT CORP LEASE REV	11/1/2022	900,000.00	894,699.00	1.69
LOS ANGELES CALIF MUN IMPT CORP LEASE REV	11/1/2023	720,000.00	697,327.20	2.80
LOS ANGELES CALIF MUN IMPT CORP LEASE REV	11/1/2023	755,102.40	755,437.80	2.80
MARYLAND ST	8/1/2023	545,000.00	531,642.05	2.40
MARYLAND ST	8/1/2023	1,580,000.00	1,541,274.20	2.40
MASSACHUSETTS (COMMONWEALTH OF)	5/1/2022	354,008.00	340,000.00	2.60
MASSACHUSETTS (COMMONWEALTH OF)	5/1/2022	832,960.00	800,000.00	2.60
MASSACHUSETTS ST WTR RES AUTH IAM COML PAPER NTS 3	8/1/2023	2,365,000.00	2,339,954.65	2.63
MISSISSIPPI ST	11/1/2023	280,000.00	271,009.20	2.61
MISSISSIPPI ST	11/1/2023	645,000.00	624,289.05	2.61
NEW JERSEY ST TPK AUTH TPK REV	1/1/2025	255,000.00	238,090.95	3.52
NEW JERSEY ST TPK AUTH TPK REV	1/1/2025	595,000.00	555,545.55	3.52
NEW YORK ST	2/15/2024	3,000,000.00	2,956,560.00	2.84
NEW YORK STATE DORMITORY AUTHORITY	3/15/2025	2,690,000.00	2,505,062.50	3.42
NEW YORK STATE DORMITORY AUTHORITY	3/15/2024	3,570,000.00	3,511,523.40	3.22
NEW YORK ST URBAN DEV CORP REV	3/15/2023	275,000.00	270,512.00	2.37
NEW YORK ST URBAN DEV CORP REV	3/15/2023	640,000.00	629,555.20	2.37
NEW YORK ST URBAN DEV CORP REV	3/15/2024	845,000.00	805,656.80	3.19
NEW YORK ST URBAN DEV CORP REV	3/15/2024	1,945,000.00	1,854,440.80	3.19
OHLONE CALIF CMNTY COLLEGE DIST	8/1/2022	800,000.00	801,104.00	1.15
PALM DESERT CALIF REDEV AGY SUCCESSOR AGY TAX ALLO	10/1/2022	330,661.50	326,680.25	1.51
PALM DESERT CALIF REDEV AGY SUCCESSOR AGY TAX ALLO	10/1/2022	783,413.40	773,980.90	1.51
PORT AUTH N Y & N J	7/1/2023	1,064,864.00	1,049,648.60	2.75
PORT AUTH N Y & N J	7/1/2023	2,914,031.50	2,874,271.40	2.75
PORT AUTH N Y & N J	7/1/2023	661,362.45	652,351.70	2.75
RANCHO SANTIAGO CALIF CMNTY COLLEGE DIST	9/1/2023	865,000.00	840,978.95	2.54
REDONDO BEACH CALIF CMNTY FING AUTH LEASE REV	5/1/2026	450,000.00	410,517.00	3.70
REDONDO BEACH CALIF CMNTY FING AUTH LEASE REV	5/1/2026	1,045,000.00	953,311.70	3.70
RHODE IS ST TPK & BRDG AUTH TOLL REV	12/1/2022	400,000.00	400,736.00	1.84
RIVERSIDE CNTY CALIF PENSION OBLIG	2/15/2023	415,000.00	411,933.15	3.31
RIVERSIDE CNTY CALIF PENSION OBLIG	2/15/2023	960,000.00	952,905.60	3.31
RIVERSIDE CNTY CALIF INFRASTRUCTURE FING AUTH LEAS	11/1/2024	520,000.00	487,037.20	3.54
RIVERSIDE CNTY CALIF INFRASTRUCTURE FING AUTH LEAS	11/1/2024	1,290,000.00	1,208,226.90	3.54
SAN BERNARDINO CALIF CMNTY COLLEGE DIST	8/1/2024	270,000.00	256,394.70	3.28
SAN BERNARDINO CALIF CMNTY COLLEGE DIST	8/1/2024	620,000.00	588,758.20	3.28
SAN DIEGO CALIF CMNTY COLLEGE DIST	8/1/2022	1,500,000.00	1,502,775.00	1.20
SAN DIEGO CALIF CMNTY COLLEGE DIST	8/1/2022	1,225,995.75	1,217,247.75	1.20
SAN DIEGO CNTY CALIF REGL ARPT AUTH ARPT REV	7/1/2023	3,560,000.00	3,470,466.00	2.85
SAN DIEGO CNTY CALIF WTR AUTH WTR REV	5/1/2024	1,440,000.00	1,375,156.80	2.92
SAN FRANCISCO CALIF CITY & CNTY PUB UTILS COMMN WT	11/1/2022	190,000.00	190,290.70	1.64
SAN FRANCISCO CALIF CITY & CNTY PUB UTILS COMMN WT	11/1/2022	440,000.00	440,673.20	1.64
SAN FRANCISCO CALIF CITY & CNTY ARPTS COMMN INTL A	5/1/2022	710,000.00	710,000.00	3.00
SAN FRANCISCO CALIF CITY & CNTY ARPTS COMMN INTL A	5/1/2022	1,640,000.00	1,640,000.00	3.00
SAN FRANCISCO CALIF CITY & CNTY ARPTS COMMN INTL A	5/1/2023	1,635,140.00	1,650,945.25	2.11
SAN JOSE EVERGREEN CALIF CMNTY COLLEGE DIST	9/1/2022	430,000.00	429,049.70	1.35
SAN JOSE EVERGREEN CALIF CMNTY COLLEGE DIST	9/1/2023	430,000.00	417,607.40	2.71
SEMITROPIC IMPT DIST SEMITROPIC WTR STORAGE DIST C	12/1/2022	497,505.60	480,672.00	1.92
SEMITROPIC IMPT DIST SEMITROPIC WTR STORAGE DIST C	12/1/2022	1,140,117.00	1,101,540.00	1.92
SOUTHERN CALIF PUB PWR AUTH PWR PROJ REV	7/1/2023	825,000.00	807,303.75	2.39
SOUTHERN CALIF PUB PWR AUTH PWR PROJ REV	7/1/2023	1,910,000.00	1,869,030.50	2.39
UNIV CALIF REGTS MED CTR POOLED REV	5/15/2022	478,342.50	470,131.60	1.25
UNIV CALIF REGTS MED CTR POOLED REV	5/15/2022	1,099,170.00	1,080,302.40	1.25
UNIVERSITY CALIF REVS	5/15/2022	582,035.80	580,411.80	1.66
UNIVERSITY CALIF REVS	5/15/2022	1,344,703.40	1,340,951.40	1.66
UPPER SANTA CLARA VY JT PWRS AUTH CALIF REV	8/1/2022	740,000.00	738,483.00	1.33
UPPER SANTA CLARA VY JT PWRS AUTH CALIF REV	8/1/2022	1,720,000.00	1,716,474.00	1.33
UPPER SANTA CLARA VY JT PWRS AUTH CALIF REV	8/1/2023	2,590,000.00	2,526,648.60	2.67

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UPPER SANTA CLARA VY JT PWRS AUTH CALIF REV	8/1/2024	2,625,000.00	2,487,870.00	3.25
UTAH HSG CORP SINGLE FAMILY MTG REV	7/1/2022	290,000.00	290,336.40	1.46
VALLEJO CALIF WTR REV	5/1/2023	250,000.00	247,102.50	2.65
VALLEJO CALIF WTR REV	5/1/2023	590,000.00	583,161.90	2.65
VENTURA CNTY CALIF PUB FING AUTH LEASE REV	11/1/2022	560,000.00	557,558.40	1.72
VENTURA CNTY CALIF PUB FING AUTH LEASE REV	11/1/2023	720,000.00	700,977.60	2.85
VENTURA CNTY CALIF PUB FING AUTH LEASE REV	11/1/2023	722,793.60	700,977.60	2.85
VENTURA CNTY CALIF PUB FING AUTH LEASE REV	11/1/2023	728,517.60	700,977.60	2.85
SUB-TOTAL		*107,546,454.15*	*104,688,237.00*	
Variable & Floating Rate				
ACAR 2021-4 B	2/13/2026	449,930.07	435,919.50	2.87
ACAR 2021-4 B	2/13/2026	1,049,836.83	1,017,145.50	2.87
AMERICAN EXPRESS CO	11/4/2026	950,000.00	940,490.50	1.14
AMERICAN EXPRESS CO	11/4/2026	2,360,000.00	2,336,376.40	1.14
ANALOG DEVICES INC	10/1/2024	125,000.00	124,406.25	0.72
ANALOG DEVICES INC	10/1/2024	310,000.00	308,527.50	0.72
BANK OF AMERICA CORP	3/5/2024	319,278.00	300,192.00	2.70
BANK OF AMERICA CORP	3/5/2024	744,982.00	700,448.00	2.70
BANK OF AMERICA CORP	10/22/2025	658,281.25	601,725.00	3.51
BANK OF AMERICA CORP	10/22/2025	1,527,212.50	1,396,002.00	3.51
BANK OF AMERICA CORP	5/19/2024	430,000.00	422,221.30	2.51
BANK OF AMERICA CORP	5/19/2024	995,000.00	977,000.45	2.51
BANK OF AMERICA CORP	10/24/2024	2,256,637.50	2,159,595.00	2.57
BANK OF AMERICA CORP	10/24/2024	802,424.00	767,856.00	2.57
BANK OF AMERICA CORP	10/24/2024	645,000.00	619,083.90	2.57
BANK OF AMERICA CORP	10/24/2024	1,510,000.00	1,449,328.20	2.57
BANK OF AMERICA CORP	4/22/2025	525,000.00	495,962.25	2.92
BANK OF AMERICA CORP	4/22/2025	1,220,000.00	1,152,521.80	2.92
BANK OF AMERICA CORP	4/22/2025	255,000.00	240,895.95	2.92
BANK OF AMERICA CORP	4/22/2025	595,000.00	562,090.55	2.92
BANK OF AMERICA CORP	4/2/2026	550,000.00	538,048.50	3.55
CARMX 2020-3 A3	3/17/2025	185,219.22	183,554.07	1.85
CARMX 2020-3 A3	3/17/2025	425,610.12	421,783.82	1.85
CITIGROUP INC	10/30/2024	625,000.00	598,068.75	3.61
CITIGROUP INC	10/30/2024	1,440,000.00	1,377,950.40	3.61
CITIGROUP INC	10/30/2024	760,000.00	727,251.60	3.61
CITIGROUP INC	10/30/2024	1,740,000.00	1,665,023.40	3.61
CITIGROUP INC	5/1/2025	2,515,000.00	2,371,368.35	2.97
CITIGROUP INC	5/1/2025	1,749,352.50	1,650,057.50	2.97
CITIGROUP INC	5/1/2025	185,000.00	174,434.65	2.97
CITIGROUP INC	5/1/2025	430,000.00	405,442.70	2.97
CITIGROUP INC	5/1/2025	85,000.00	80,145.65	2.97
CITIGROUP INC	5/1/2025	205,000.00	193,292.45	2.97
JOHN DEERE CAPITAL CORP	10/11/2024	790,000.00	790,126.40	0.46
JOHN DEERE CAPITAL CORP	10/11/2024	1,965,000.00	1,965,314.40	0.46
FNA 2014-M8 A2	6/25/2024	539,521.02	496,884.66	3.87
FNA 2014-M8 A2	6/25/2024	1,243,012.00	1,144,781.33	3.87
FHMS K-029 A2	2/25/2023	1,036,924.24	997,386.53	2.07
FHMS K-029 A2	2/25/2023	523,456.66	503,534.95	2.07
FHMS K-029 A2	2/25/2023	1,127,445.11	1,084,536.81	2.07
FHMS K-029 A2	2/25/2023	789,255.84	764,985.78	2.07
FHMS K-029 A2	2/25/2023	1,728,918.17	1,636,488.57	2.07
FHMS K-031 A2	4/25/2023	1,139,967.97	1,076,377.20	2.43
FHMS K-031 A2	4/25/2023	2,631,514.84	2,484,721.20	2.43
FHMS K-032 A2	5/25/2023	1,149,819.14	1,136,531.40	2.53
FHMS K-032 A2	5/25/2023	2,655,776.95	2,625,085.80	2.53
FHMS K-033 A2	7/25/2023	1,143,989.06	1,094,043.90	2.55
FHMS K-033 A2	7/25/2023	2,665,809.38	2,549,423.40	2.55
FHMS K-035 A2	8/25/2023	518,105.47	504,175.00	2.55
FHMS K-048 A2	6/25/2025	180,617.00	165,417.45	3.14
FHMS K-730 AM	1/25/2025	3,800,660.16	3,477,565.50	3.21
FHMS K-I05 A	7/25/2024	45,632.88	45,583.60	1.40
FHMS K-I05 A	7/25/2024	106,476.73	106,361.73	1.40
FHMS Q-015 A	8/25/2024	341,741.36	341,543.15	0.54
FHMS Q-015 A	8/25/2024	797,277.80	796,815.38	0.54
FN AL3382	3/1/2023	394,654.85	389,671.18	2.41
FIRST REPUBLIC BANK	2/12/2024	150,000.00	148,360.50	1.97
FIRST REPUBLIC BANK	2/12/2024	350,000.00	346,174.50	1.97
GMALT 2020-3 A3	8/21/2023	131,649.78	131,300.33	1.66
GMALT 2020-3 A3	8/21/2023	301,408.72	300,608.64	1.66
GMCAR 2021-1 A3	10/16/2025	369,941.10	362,873.80	2.05
GMALT 2021-2 A3	5/20/2024	479,924.64	471,470.40	2.72
GMALT 2021-2 A3	5/20/2024	1,109,825.73	1,090,275.30	2.72
GOLDMAN SACHS GROUP INC	6/5/2023	657,292.80	639,878.40	2.37
GOLDMAN SACHS GROUP INC	6/5/2023	1,519,989.60	1,479,718.80	2.37
GOLDMAN SACHS GROUP INC	11/17/2023	1,511,963.00	1,486,836.60	1.75
GOLDMAN SACHS GROUP INC	11/17/2023	510,000.00	502,176.60	1.75
GOLDMAN SACHS GROUP INC	11/17/2023	1,165,000.00	1,147,128.90	1.75
GOLDMAN SACHS GROUP INC	3/8/2024	635,000.00	619,455.20	2.11
GOLDMAN SACHS GROUP INC	3/8/2024	1,480,000.00	1,443,769.60	2.11
GOLDMAN SACHS GROUP INC	10/21/2024	4,730,000.00	4,545,151.60	2.50
GOLDMAN SACHS GROUP INC	10/21/2024	320,236.80	307,494.40	2.50
GOLDMAN SACHS GROUP INC	10/21/2024	310,000.00	305,660.00	1.33
GOLDMAN SACHS GROUP INC	10/21/2024	775,000.00	764,150.00	1.33
JPMORGAN CHASE & CO	12/5/2024	413,666.25	376,695.00	3.17
JPMORGAN CHASE & CO	12/5/2024	3,961,748.25	3,616,272.00	3.17
JPMORGAN CHASE & CO	12/5/2024	335,235.60	316,423.80	3.17
JPMORGAN CHASE & CO	6/1/2024	475,000.00	467,452.25	2.68
JPMORGAN CHASE & CO	6/1/2024	1,100,000.00	1,082,521.00	2.68
JPMORGAN CHASE & CO	9/16/2024	350,000.00	338,478.00	2.42
JPMORGAN CHASE & CO	9/16/2024	810,000.00	783,334.80	2.42
JPMORGAN CHASE & CO	9/16/2024	90,000.00	87,037.20	2.42
JPMORGAN CHASE & CO	9/16/2024	210,000.00	203,086.80	2.42
JPMORGAN CHASE & CO	2/16/2025	275,000.00	260,601.00	2.77
JPMORGAN CHASE & CO	2/16/2025	640,000.00	606,489.60	2.77
JPMORGAN CHASE & CO	2/16/2025	245,000.00	232,171.80	2.77
JPMORGAN CHASE & CO	2/16/2025	570,000.00	540,154.80	2.77
JPMORGAN CHASE & CO	3/16/2024	640,000.00	625,548.80	2.32
JPMORGAN CHASE & CO	3/16/2024	1,470,000.00	1,436,807.40	2.32

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JPMORGAN CHASE & CO	6/1/2025	865,000.00	813,843.90	3.02
JPMORGAN CHASE & CO	6/1/2025	2,308,757.15	2,168,682.30	3.02
JPMORGAN CHASE & CO	6/1/2025	1,151,840.00	1,081,989.00	3.02
JPMORGAN CHASE & CO	6/1/2025	405,000.00	381,048.30	3.02
JPMORGAN CHASE & CO	6/1/2025	930,000.00	874,999.80	3.02
JPMORGAN CHASE & CO	6/1/2025	240,000.00	225,806.40	3.02
JPMORGAN CHASE & CO	6/1/2025	545,000.00	512,768.70	3.02
JPMORGAN CHASE & CO	8/9/2025	310,000.00	290,085.60	2.83
JPMORGAN CHASE & CO	8/9/2025	790,000.00	739,250.40	2.83
JPMORGAN CHASE & CO	2/24/2026	945,000.00	909,090.00	3.31
JPMORGAN CHASE & CO	2/24/2026	1,625,000.00	1,563,250.00	3.31
JPMORGAN CHASE & CO	4/26/2026	305,000.00	304,225.30	3.55
JPMORGAN CHASE & CO	4/26/2026	695,000.00	693,234.70	3.55
JDOT 2021 A3	9/15/2025	1,454,720.35	1,404,147.75	2.58
JDOT 2021 A3	9/15/2025	1,099,871.10	1,061,555.00	2.58
JDOT 2021 A3	9/15/2025	709,863.54	685,185.50	2.58
JDOT 2021 A3	9/15/2025	1,639,684.79	1,582,682.00	2.58
KEYBANK NA	1/3/2024	440,000.00	432,392.40	1.58
KEYBANK NA	1/3/2024	1,010,000.00	992,537.10	1.58
KEYBANK NA	6/14/2024	615,000.00	597,300.30	1.89
KEYBANK NA	6/14/2024	1,430,000.00	1,388,844.60	1.89
KCOT 212 A3	11/17/2025	464,982.47	440,155.05	3.55
KCOT 212 A3	11/17/2025	1,064,959.85	1,008,097.05	3.55
MORGAN STANLEY	10/21/2025	185,000.00	171,533.85	3.13
MORGAN STANLEY	10/21/2025	430,000.00	398,700.30	3.13
MORGAN STANLEY	11/10/2023	5,725,000.00	5,646,395.75	1.59
MORGAN STANLEY	11/10/2023	1,801,008.00	1,775,286.00	1.59
MORGAN STANLEY	11/10/2023	350,000.00	345,194.50	1.59
MORGAN STANLEY	11/10/2023	810,000.00	798,878.70	1.59
MORGAN STANLEY	1/25/2024	550,000.00	538,582.00	1.86
MORGAN STANLEY	1/25/2024	1,290,000.00	1,263,219.60	1.86
MORGAN STANLEY	1/22/2025	520,000.00	493,714.00	2.72
MORGAN STANLEY	1/22/2025	1,200,000.00	1,139,340.00	2.72
MORGAN STANLEY	1/22/2025	321,938.50	308,571.25	2.72
MORGAN STANLEY	1/22/2025	990,580.00	949,450.00	2.72
MORGAN STANLEY	2/18/2026	1,215,000.00	1,169,619.75	3.33
MORGAN STANLEY	2/18/2026	390,000.00	375,433.50	3.33
MORGAN STANLEY	2/18/2026	1,365,000.00	1,314,017.25	3.33
MORGAN STANLEY	4/5/2024	265,000.00	258,025.20	2.21
MORGAN STANLEY	4/5/2024	610,000.00	593,944.80	2.21
MORGAN STANLEY	4/5/2024	75,000.00	73,026.00	2.21
NATIONAL RURAL UTILITIES COOPERATIVE FINANCE CORP	10/18/2024	680,000.00	677,484.00	0.75
NATIONAL RURAL UTILITIES COOPERATIVE FINANCE CORP	10/18/2024	1,690,000.00	1,683,747.00	0.75
NEXTERA ENERGY CAPITAL HOLDINGS INC	11/3/2023	1,245,000.00	1,238,189.85	1.03
NALT 2020-B A3	10/16/2023	111,292.86	110,937.01	1.96
NALT 2020-B A3	10/16/2023	252,549.18	251,741.67	1.96
SPIRE MISSOURI INC	12/2/2024	1,330,000.00	1,324,480.50	0.93
SPIRE MISSOURI INC	12/2/2024	3,605,000.00	3,590,039.25	0.93
TRUIST BANK	8/2/2024	1,283,244.00	1,208,172.00	2.63
TRUIST BANK	8/2/2024	2,994,236.00	2,819,068.00	2.63
TLOT 2021-A A3	4/20/2024	2,344,726.34	2,293,855.55	3.04
TLOT 2021-A A3	4/20/2024	329,961.49	322,802.70	3.04
TLOT 2021-A A3	4/20/2024	754,911.89	738,533.45	3.04
WELLS FARGO & CO	10/30/2025	657,237.50	600,281.25	3.53
WELLS FARGO & CO	10/30/2025	1,524,791.00	1,392,652.50	3.53
WELLS FARGO & CO	6/2/2024	6,140,580.00	5,897,820.00	2.60
WELLS FARGO & CO	5/19/2025	135,000.00	126,928.35	2.86
WELLS FARGO & CO	5/19/2025	320,000.00	300,867.20	2.86
WELLS FARGO & CO	4/25/2026	490,000.00	486,555.30	3.55
WELLS FARGO & CO	4/25/2026	1,360,000.00	1,350,439.20	3.55
SUB-TOTAL		*150,418,958.89*	*144,815,821.40*	
Supranationals				
INTER-AMERICAN DEVELOPMENT BANK	5/24/2023	*789,731.40*	*774,286.90*	2.39
INTER-AMERICAN DEVELOPMENT BANK	5/24/2023	*1,809,384.60*	*1,773,999.10*	2.39
INTER-AMERICAN DEVELOPMENT BANK	9/23/2024	*6,764,990.20*	*6,401,644.30*	2.86
INTER-AMERICAN DEVELOPMENT BANK	9/23/2024	*1,219,097.20*	*1,153,619.80*	2.86
INTER-AMERICAN DEVELOPMENT BANK	9/23/2024	*2,992,783.70*	*2,832,042.05*	2.86
INTERNATIONAL BANK FOR RECONSTRUCTION AND DEVELOPM	3/19/2024	*5,349,700.00*	*4,978,450.00*	2.73
INTERNATIONAL BANK FOR RECONSTRUCTION AND DEVELOPM	11/24/2023	*3,043,442.50*	*2,939,041.00*	2.63
INTERNATIONAL BANK FOR RECONSTRUCTION AND DEVELOPM	11/24/2023	*803,269.25*	*775,714.10*	2.63
INTERNATIONAL BANK FOR RECONSTRUCTION AND DEVELOPM	11/24/2023	*1,841,033.25*	*1,777,878.90*	2.63
INTERNATIONAL BANK FOR RECONSTRUCTION AND DEVELOPM	4/20/2023	*868,199.10*	*851,877.90*	2.30
INTERNATIONAL BANK FOR RECONSTRUCTION AND DEVELOPM	4/20/2023	*1,990,870.35*	*1,953,444.15*	2.30
SUB-TOTAL		*27,472,501.55*	*26,211,998.20*	
SHORT-TERM PORTFOLIO - TOTAL		**$ 1,974,732,782.57**	**$ 1,910,284,995.30**	

BOND PROCEEDS PORTFOLIO

DESCRIPTION	MATURITY DATE	BOOK VALUE		YIELD
2021 Bond Anticipation Notes (BANs) - US Bank				
FIRST AMERICAN TREAS OBLIGATIONS	N/A	*100,132,207.80*	*100,132,207.80*	0.01%
US BANK COMMERCIAL PAPER	6/1/2022-7/1/2022	*39,967,966.67*	*39,967,966.67*	0.11%-0.13%
BOND PROCEEDS PORTFOLIO-TOTAL		**$ 140,100,174.47**		

DEBT SERVICE RESERVE FUNDS

DESCRIPTION	MATURITY DATE	BOOK VALUE	REQUIRED AMOUNT	YIELD
91 EXPRESS LANES 2013 BONDS (US Bank)	2030		*10,799,437.46*	
US BANK COMMERCIAL PAPER	8/11/2022	11,498,506.25		1.09%
FIRST AMERICAN TREAS OBLIGATIONS	N/A	683.32		0.01%
91 EXPRESS LANES 2013 BONDS - OPERATING & MAINTENANCE RESERVES			*13,000,000.00*	
BANK DEPOSITS	N/A	242,418.50		
OPERATING RESERVE	6/10/2022	3,096,073.33		0.38%
MAINTENANCE RESERVE	6/10/2022	10,486,700.00		0.38%
DEBT SERVICE RESERVE FUNDS - TOTAL		**$ 25,324,381.40**		

	Book Value	Market Value
TOTAL PORTFOLIO	**$ 2,424,091,876.02**	**$ 2,319,676,122.08**

COMMITTEE TRANSMITTAL

June 13, 2022

To: Members of the Board of Directors

From: Andrea West, Interim Clerk of the Board

Subject: Fiscal Year 2021-22 Third Quarter Budget Status Report

Finance and Administration Committee Meeting of June 8, 2022

Present: Directors Goodell, Harper, Hennessey, Jones, and Muller
Absent: Directors Hernandez and Sarmiento

Committee Vote

This item was passed by the Members present.

Committee Recommendations

A. Receive and file as an information item.

B. Approve a budget transfer of $6 million in the Orange County Transportation Authority Fiscal Year 2021-22 Budget from the Services and Supplies major object to the Capital/Fixed Assets major object to accommodate a change in accounting practices issued by the Governmental Accounting Standards Board.

OCTA

June 8, 2022

To: Finance and Administration Committee

From: Darrell E. Johnson, Chief Executive Officer

Subject: Fiscal Year 2021-22 Third Quarter Budget Status Report

Overview

Orange County Transportation Authority staff has implemented the fiscal year 2021-22 budget. This report summarizes the material variances between the budget and actual revenues and expenses through the third quarter of fiscal year 2021-22.

Recommendations

A. Receive and file as an information item.

B. Approve a budget transfer of $6 million in the Orange County Transportation Authority Fiscal Year 2021-22 Budget from the Services and Supplies major object to the Capital/Fixed Assets major object to accommodate a change in accounting practices issued by the Governmental Accounting Standards Board.

Background

The Board of Directors (Board) approved the Orange County Transportation Authority (OCTA) Fiscal Year (FY) 2021-22 Budget on June 14, 2021. The approved budget itemized the anticipated revenues and expenses necessary to deliver OCTA's transportation programs and projects.

The balanced budget as originally approved by the Board in June was $1.267 billion. Sources of funds were comprised of $971 million in current FY revenues and $296 million in use of prior year designations. Uses of funds were comprised of $1.199 billion of current FY expenditures and $68 million of designations.

The Board approved one amendment through the third quarter, increasing the expense budget by $5.7 million. This increased the budget to $1.273 billion as summarized in Table 1 on the following page.

Table 1 - Working Budget

Date	Description	Amount*
7/1/2021	Adopted Budget	$ 1,267,114
11/22/2021	Project Definition Report for Coastal Rail Infrastructure Improvements	700
11/22/2021	Metrolink track stabilization - San Clemente	5,000
	Subtotal Amendments	*5,700*
	Total Working Budget	**$ 1,272,814**

*in thousands

In addition, the OCTA budget is controlled at the "major object" summary level, which means that staff is authorized to transfer funds throughout the year within major object categories, but Board approval is required to transfer funds between major object categories. The three major object categories are, salaries and benefits, services and supplies, and capital/fixed assets. An updated accounting standard related to lease agreements requires a transfer of funds from the services and supplies major object to the capital/fixed assets major object.

Based on a new standard issued by the Governmental Accounting Standards Board (GASB) called GASB Statement No. 87 (GASB 87), there is no longer a distinction between operating and capital leases. Going forward, all agreements meeting the definition of a lease will be classified as a finance lease, which is a similar designation as the current capital lease classification. As a result, to pay for these costs according to the new guideline, OCTA needs to move the funds budgeted for operating leases within services and supplies to the capital/fixed major object. The transfer amount required is $6 million.

Discussion

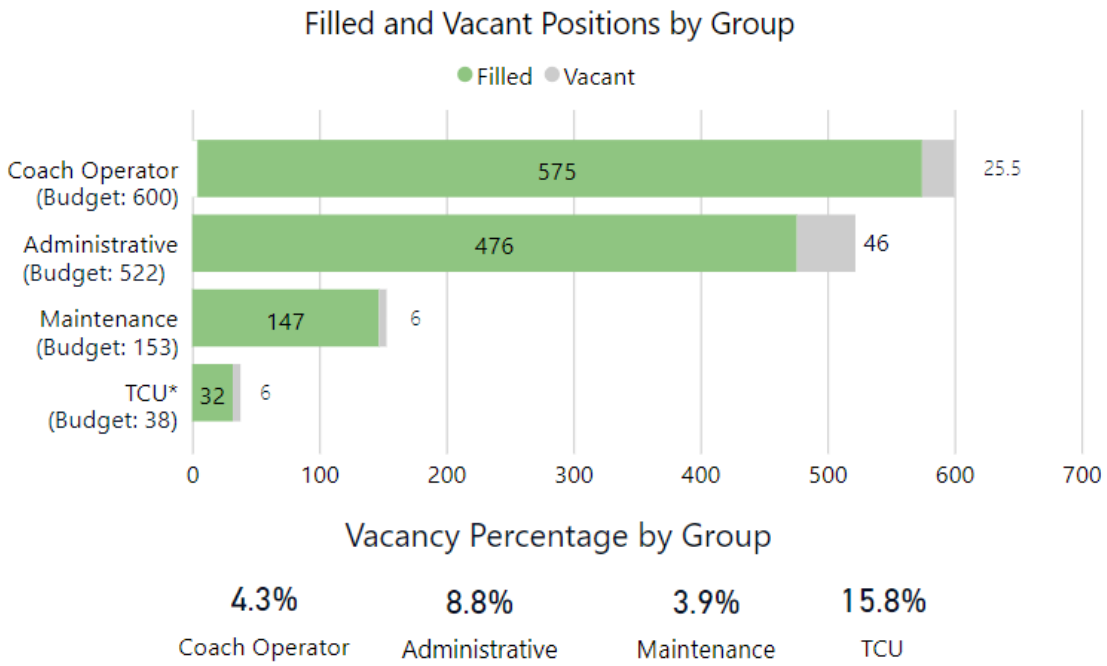
Staff monitors and analyzes revenues and expenditures versus the working budget. This report provides a summary level overview of staffing levels and explanations for material budget to actual variances within each pertinent OCTA program. The OCTA programs included are Bus, Commuter Rail, 91 Express Lanes, Motorist Services, and Measure M2 (M2). A visual dashboard summary of this report is provided in Attachment A.

Unless indicated on an individual chart, the general color pattern used is outlined below:

- Gray – Budget
- Green – Within budget
- Yellow – Within five percent variance of budget
- Red – Over five percent variance of budget

Staffing

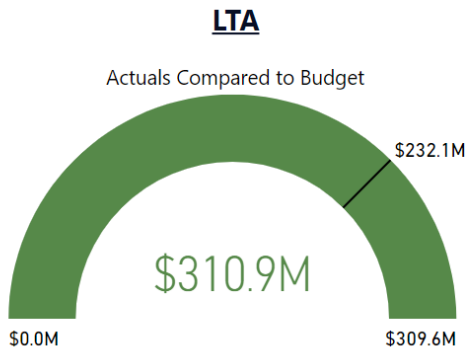
Total salaries and benefits underran the budget by $4.4 million. This is primarily due to vacancies agency-wide, with the largest vacancy percentage in the Transportation Community International Union (TCU) group (15.8 percent) followed by the administrative group (8.8 percent).

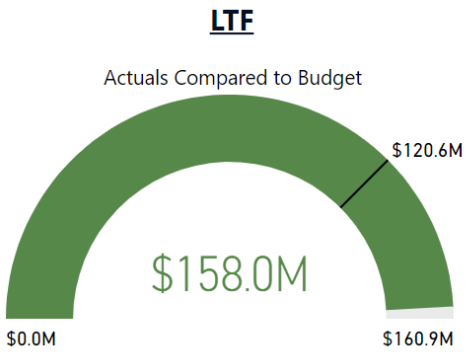


*TCU - Transportation Communications International Union

Sales Tax Receipts

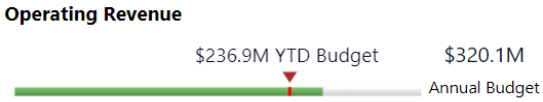
The charts below provide a FY snapshot for both the Local Transportation Authority (LTA) M2 Program and Local Transportation Fund (LTF) Bus Program sales tax revenues against the budget. LTA sales tax receipts of $310.9 million were $77.5 million higher than the budget and LTF sales tax receipts of $158 million were $37.4 million higher than the budget. Sales tax figures are outperforming the budget through the third quarter of FY 2021-22.

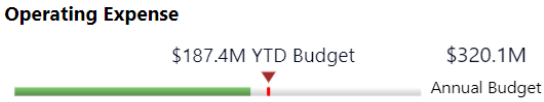




Major Programs

Bus Program



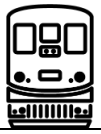


Bus Program operating revenue of $264.5 million was $27.6 million over the third quarter budget. This is primarily due to the continued growth in LTF sales tax. Staff anticipates this trend will continue through the end of the FY. Bus Program operating expenses of $174.1 million underran the budget by $13.3 million. Demand-based paratransit service was $4.5 million lower than budgeted and paratransit service continues to recover from the pandemic at lower levels than budgeted. Staffing vacancies contributed $2.1 million to the underrun. Additionally, recurring as-needed services and items, which can vary based on need, such as shop supplies, maintenance parts, and marketing efforts were lower than expected.

Bus Program capital revenue of $13.3 million was $2.6 million under the third quarter budget due to less than anticipated revenue reimbursements based on lower capital expenses. Capital revenue is often sought on a reimbursement basis after capital expenditures have occurred; therefore, underruns in capital revenue are often due to timing of capital expenditures. Bus Program capital

expense underran the budget of $15.9 million by $2.6 million. This is primarily due to the timing of building improvement projects at the Anaheim Bus Base, Santa Ana Bus Base, and the Fullerton Park-and-Ride facilities that are now planned to take place in the last quarter of the FY.

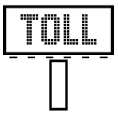
Rail Program



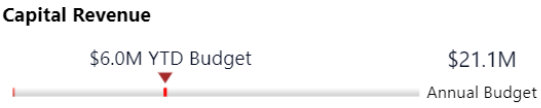
Rail Program operating revenue of $8.4 million was $3.4 million over the third quarter budget, primarily due to federal reimbursements from prior FYs that were received in the current FY. Operating expenses of $8.4 million overran by $3.4 million primarily due to the timing of an encumbered contract for Irvine Station improvements. This contract was expected to be encumbered in the fourth quarter but was able to be encumbered in the third quarter. Expenses will align to budget by the end of the FY.

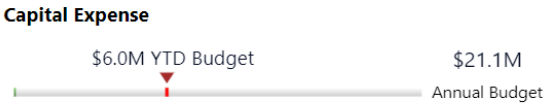
Rail Program capital revenue of $2 million was $1 million under the third quarter budget due to less than anticipated revenue reimbursements based on lower capital expenses. Capital revenue is often sought on a reimbursement basis after capital expenditures have occurred; therefore, underruns in capital revenue are often due to timing of capital expenditures. Capital expenses of $0.9 million were $0.05 million under the budget primarily due to the timing of expenses for the Laguna Niguel to San Juan Capistrano Passing Siding Project, which was offset by an overrun for the Anaheim Canyon Metrolink Station new track and platform extension project. Staff anticipates that the actuals will align to budget by the end of the FY.

91 Express Lanes Program



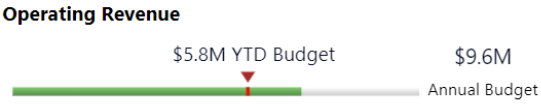
The 91 Express Lanes Program operating revenue of $47.6 million exceeded the budget by $18.6 million, primarily due to higher than anticipated traffic volumes. After budgeting conservatively due to the coronavirus (COVID-19), volumes have rebounded faster than anticipated. Operating expenses of $11.4 million underran by $15.4 million, primarily due to timing of milestones and expenditures–associated with toll road projects led by outside agencies. Staff anticipates this underrun will continue through the end of the FY.

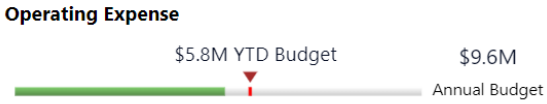




The 91 Express Lanes program had no capital revenue or expense activity through the quarter due to schedule changes for the 91 Express Lanes back-office system.

Motorist Services Program

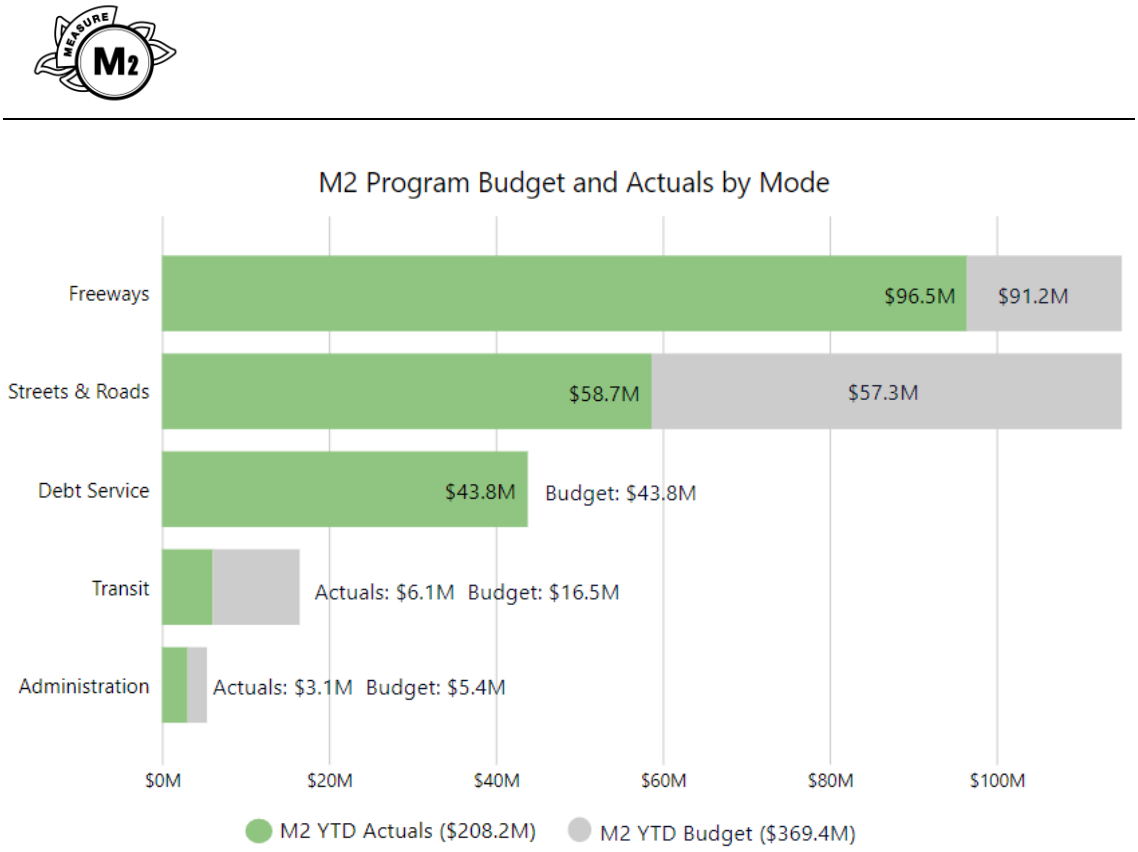




Motorist Services Program revenue of $7.1 million overran the budgeted amount by $1.3 million through the quarter. This was primarily due to revenues for the Freeway Service Patrol being received earlier than anticipated. The amounts are expected to align to budget by the end of the FY. Operating expenses for the program of $5.2 million underran the budget by $0.6 million, primarily due to the timing of invoices from California Highway Patrol to support Freeway Service

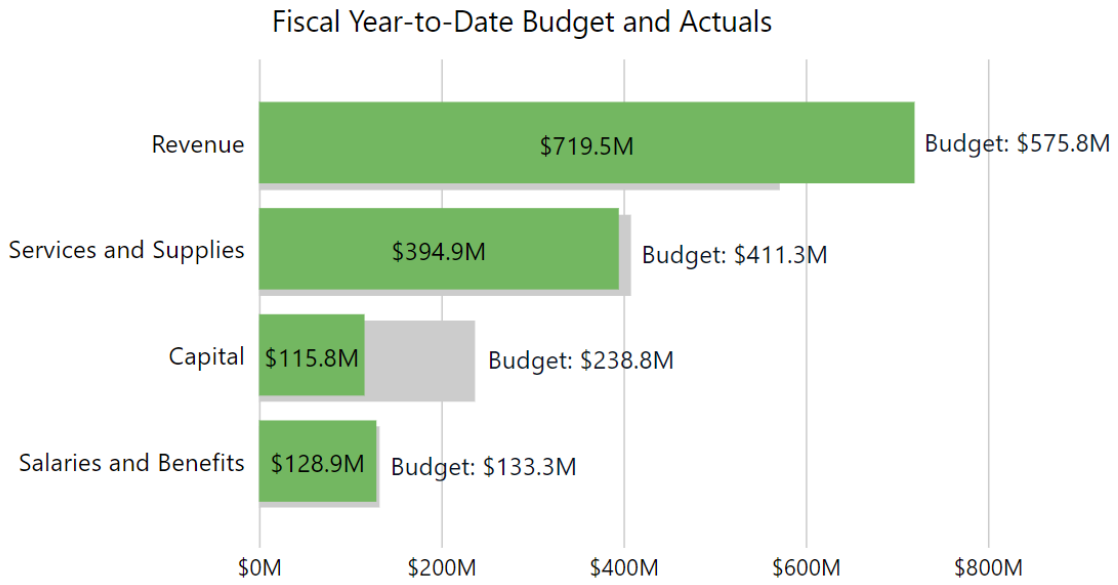
Patrol, as well as lower than expected call box equipment maintenance expenditures. Staff anticipates invoices will align to the budget by end of the FY.

M2 Program



Total actual expenses for the M2 Program of $208.2 million underran the budget by $161.2 million, primarily due to less construction and right-of-way (ROW) expenditures compared to the budget through the quarter for the State Route 55 (SR-55) Widening Project, from Interstate 5 (I-5) to Interstate 405 (I-405) ($67.8 million). Similarly, there was less usage of construction and ROW for the I-405 Improvement Project from SR-55 to Interstate 605 (I-605) ($47.5 million). In addition, there were lower than anticipated project payment requests from local jurisdictions for the Regional Capacity Program ($37.1 million).

Summary



Overall, revenue of $719.5 million exceeded the budget by $143.7 million, primarily due to greater than anticipated sales tax receipts.

Operating expenses of $394.9 million underran the budget by $16.4 million, primarily due to an underrun in contributions to local agencies based on less project payment requests for competitive M2 programs. Additionally, as-needed services and supplies as well as ROW services for the programs contributed to the underrun.

Capital expenses of $115.8 million underran the budget by $123 million, primarily due to less construction and ROW expenses compared to the budget from the SR-55 widening project, from I-5 to I-405.

Salaries and benefits of $128.9 million underran the budget by $4.4 million, due to vacancies, primarily in the TCU and administrative groups.

Attachment

A. FY 2021-22 Third Quarter Budget Status Summary

Prepared by:

Anthony Baruch
Section Manager,
Financial Planning and Analysis
(714) 560-5332

Approved by:

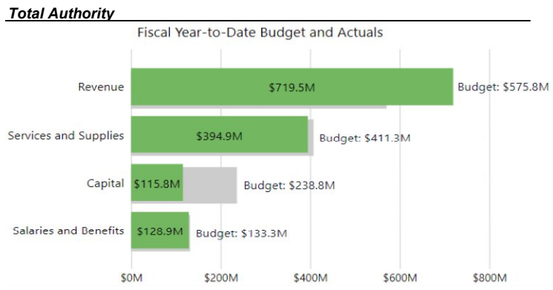
Andrew Oftelie
Chief Financial Officer,
Finance and Administration
(714) 560-5649

FY 2021-22 Third Quarter Budget Status Summary

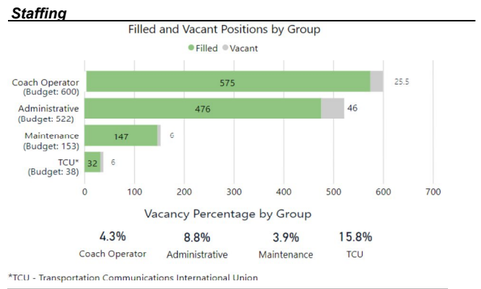
ATTACHMENT A

Budget | Within Budget | Within 5% Variance | Over 5% Variance

Total Authority



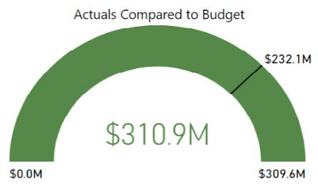
Staffing



Sales Tax Receipts

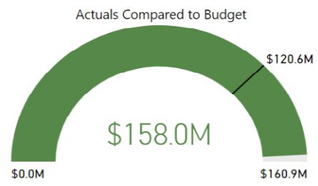
Local Transportation Authority (LTA)

LTA



Local Transportation Fund (LTF)

LTF



Major Operating Programs

Year-to-Date (YTD)

Bus Program

Operating Revenue
$236.9M YTD Budget — $320.1M Annual Budget

Operating Expense
$187.4M YTD Budget — $320.1M Annual Budget

Capital Revenue
$15.9M YTD Budget — $66.3M Annual Budget

Capital Expense
$15.9M YTD Budget — $66.3M Annual Budget

Rail Program

Operating Revenue
$5.0M YTD Budget — $49.6M Annual Budget

Operating Expense
$5.0M YTD Budget — $49.6M Annual Budget

Capital Revenue
$3.0M YTD Budget — $37.8M Annual Budget

Capital Expense
$0.9M YTD Budget — $37.8M Annual Budget

91 Express Lanes Program

Operating Revenue
$29.0M YTD Budget — $59.2M Annual Budget

Operating Expense
$26.7M YTD Budget — $59.2M Annual Budget

Capital Revenue
$6.0M YTD Budget — $21.1M Annual Budget

Capital Expense
$6.0M YTD Budget — $21.1M Annual Budget

Motorist Services Program

Operating Revenue
$5.8M YTD Budget — $9.6M Annual Budget

Operating Expense
$5.8M YTD Budget — $9.6M Annual Budget

COMMITTEE TRANSMITTAL

June 13, 2022

To: Members of the Board of Directors

From: Andrea West, Interim Clerk of the Board

Subject: Annual Update to Investment Policy

Finance and Administration Committee Meeting of June 8, 2022

Present: Directors Goodell, Harper, Hennessey, Jones, and Muller
Absent: Directors Hernandez and Sarmiento

Committee Vote

This item was passed by the Members present.

Committee Recommendations

A. Adopt the Fiscal Year 2022-23 Investment Policy July 1, 2022.

B. Authorize the Treasurer, to invest, reinvest, purchase, exchange, sell, and manage Orange County Transportation Authority funds during fiscal year 2022-23.

OCTA

June 8, 2022

To: Finance and Administration Committee

From: Darrell E. Johnson, Chief Executive Officer

Subject: Annual Update to Investment Policy

Overview

The Treasurer is presenting the Orange County Transportation Authority's Proposed Fiscal Year 2022-23 Investment Policy. The governing body of a local agency is required to annually renew the delegation of authority for the Treasurer to invest, reinvest, purchase, exchange, sell, or manage public funds for a period of one year. Additionally, and as recommended under California Government Code Section 53646(a)(2), the Orange County Transportation Authority is submitting its Proposed Fiscal Year 2022-23 Investment Policy to be reviewed at a public meeting.

Recommendations

A. Adopt the Fiscal Year 2022-23 Investment Policy July 1, 2022.

B. Authorize the Treasurer, to invest, reinvest, purchase, exchange, sell, and manage Orange County Transportation Authority funds during fiscal year 2022-23.

Background

The Investment Policy (Policy) sets forth the guidelines for all Orange County Transportation Authority (OCTA) investments that must conform to the California Government Code (Code). The main objectives of the Policy continue to be the preservation of capital, liquidity, diversification, and a market average rate of return through economic cycles.

The Policy is reviewed, updated and approved by the Board of Directors (Board) at least annually. However, relevant changes to the Code may warrant amendments to the Policy throughout the year.

Discussion

The Proposed Fiscal Year 2022-23 Policy is being submitted for review and adoption by the Board. OCTA's four investment managers performed an objective evaluation of the policy as it relates to effectiveness and risk. There was no new legislation affecting the Code or strategic changes requiring updates to the Policy.

While there was marginal sentiment to reduce credit quality and increase the maximum allocation of funds for certain investments, staff believes that the current structure is a good match for the risk tolerance of OCTA, while providing sufficient latitude to navigate the fixed-income market.

Changes to improve clarity of the policy and organizational changes within the document for consistency and to improve readability are summarized below:

- Moved language form Section 11-18, Derivatives, to Section 12, Prohibited Investment Vehicles and Practices, for clarity.
- Added language to the Authorized Investments, Issuer Concentrations & Maturity Restrictions table, to clarify issuer concentrations allowable under the code, and under the Investment Policy.

The Proposed Fiscal Year 2022-23 Investment Policy can be found in Attachment A, and as reference, a black line copy of the Policy (reflecting all proposed changes, including minor adjustments) can be found in Attachment B.

Next Steps

If the Board approves the Proposed Fiscal Year 2022-23 Investment Policy, a copy of the final Policy will be provided to each portfolio manager. Each portfolio manager will be required to acknowledge receipt and understanding of the Policy changes.

Summary

California Government Code Section 53646(a)(2) recommends that local agencies annually review their Investment Policy at a public meeting. The Treasurer is submitting the Orange County Transportation Authority's Proposed Fiscal Year 2022-23 Investment Policy for approval by the Board of Directors. Further, the Orange County Transportation Authority requests approval by the Board of Directors, authorizing the Treasurer, for a period of one year, to invest, reinvest, purchase, exchange, sell, and manage Orange County Transportation Authority funds during fiscal year 2022-23.

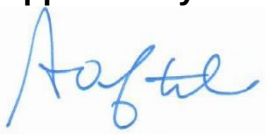
Attachments

A. Orange County Transportation Authority's Proposed Fiscal Year 2022-23 Investment Policy, July 1, 2022
B. Black-line Copy of Orange County Transportation Authority's Proposed Fiscal Year 2022-23 Investment Policy, July 1, 2022

Prepared by:

Robert Davis
Department Manager
Treasury/Public Finance
714-560-5675

Approved by:



Andrew Oftelie
Chief Financial Officer,
Finance and Administration
714-560-5649

ATTACHMENT A

Orange County Transportation Authority
Fiscal Year 2022-23 Investment Policy
July 1, 2022

1. PURPOSE

This Investment Policy (Policy) sets forth the investment guidelines for all funds of the Orange County Transportation Authority (OCTA). The objective of this Investment Policy is to ensure OCTA's funds are prudently invested to preserve capital, provide necessary liquidity and to achieve a market-average rate of return through economic cycles.

Investments may only be made as authorized by this Investment Policy. The OCTA Investment Policy conforms to the California Government Code (the Code) as well as customary standards of prudent investment management. Irrespective of these policy provisions, should the provisions of the Code be or become more restrictive than those contained herein, such provisions will be considered immediately incorporated into the Investment Policy and adhered to.

2. SCOPE

The policy applies to the investment of all funds, excluding the investment of employees' retirement funds, separate trusts, Environmental Mitigation Program Endowment Fund and funds invested separately under Bond Indenture Agreements (Bond Agreements). Bond Funds and Accounts (Bond Funds) shall be invested in the securities permitted by the applicable Bond Agreements. If the Bond Agreements are silent as to the permitted investments, the Bond Funds will be invested in the securities permitted by this policy. Notwithstanding the other provisions of this Policy, the percentage limitations listed elsewhere in this Policy do not apply to Bond Funds.

3. INVESTMENT OBJECTIVES

The primary objectives, in priority order, of investment activities shall be:

a. **Safety of Principal --** Safety of principal is the foremost objective of the OCTA. Each investment transaction shall seek to ensure that capital losses are avoided, whether from institutional default, broker-dealer default, or erosion of market value of the securities.

b. **Liquidity --** It is important that the portfolio contain investments for which there is an active secondary market, and which offer the flexibility to be easily sold at any time with minimal risk of loss of either the principal or interest based upon then prevailing rates.

c. **Total Return --** The OCTA's portfolio shall be designed to attain a market-average rate of return through economic cycles.

d. **Diversification –** Finally, the OCTA shall diversify its portfolio(s) to avoid incurring unreasonable market risks.

4. PRUDENCE

OCTA's Board of Directors or persons authorized to make investment decisions on behalf of OCTA are trustees and fiduciaries subject to the prudent investor standard.

The standard of prudence to be used by investment officials shall be the "prudent investor" standard as defined in the Code below and shall be applied in the context of managing an overall portfolio. OCTA's investment professionals acting in accordance with written procedures and the Investment Policy and exercising due diligence shall be relieved of personal responsibility for an individual security's credit risk or market price changes, provided deviations from expectations are reported in a timely fashion and appropriate action is taken to control developments.

The Prudent Investor Standard: When investing, reinvesting, purchasing, acquiring, exchanging, selling, or managing public funds, a trustee shall act with care, skill, prudence, and diligence under the circumstances then prevailing, including but not limited to, the general economic conditions and the anticipated needs of OCTA, that a prudent person acting in a like capacity and familiarity with those matters would use in the conduct of funds of a like character and with like aims, to safeguard the principal and maintain the liquidity needs of the agency.

5. ETHICS AND CONFLICTS OF INTEREST

OCTA's officers and employees involved in the investment process shall not participate in personal business activity that conflicts with the proper execution of OCTA's investment program, or which impairs their ability to make impartial investment decisions. OCTA's investment professionals and Treasury/Public Finance Department employees are not permitted to have any material financial interests in financial institutions that conduct business with OCTA, and they are not permitted to have any personal financial/investment holdings that have a material effect on the performance of OCTA's investments.

6. DELEGATION OF AUTHORITY

Authority to manage OCTA's investment program is derived from an order of the Board of Directors. Management responsibility for the investment program is hereby delegated to OCTA's Treasurer pursuant to Section 53607 of the Code. On an annual basis, the Board of Directors is required to renew the authority of OCTA's Treasurer to invest or reinvest OCTA funds. The Treasurer is hereby authorized to delegate his authority as he determines to be appropriate. No person may engage in an investment transaction except as provided under the terms of this Investment Policy and the procedures established by the Treasurer. The Treasurer shall be responsible for all actions undertaken and shall establish a system of controls to regulate the activities of subordinate professionals.

The Treasurer shall develop administrative procedures and internal control, consistent with this Investment Policy, for the operation of OCTA's investment program. Such procedures shall be designed to prevent losses of public funds arising from fraud, employee error, misrepresentation by third parties, or imprudent actions by employees of OCTA.

7. RESPONSIBILITIES

The Finance and Administration Committee of the OCTA Board of Directors, subject to the approval of the OCTA Board of Directors, is responsible for establishing the Investment Policy and ensuring investments are made in compliance with this Investment Policy. This Investment Policy shall be reviewed annually by the Board of Directors at a public meeting.

The Treasurer is responsible for making investments and for compliance with this policy pursuant to the delegation of authority to invest funds or to sell or exchange securities. Pursuant to Section 53607 of the Code, the Treasurer shall make a monthly report to the Board of Directors. The OCTA provides a monthly report to the Finance and Administration Committee and the Board of Directors in accordance with Section 53607 of the Code

The Treasurer is responsible for establishing a procedural manual for OCTA's investment program and for having an annual independent audit performed on OCTA's investments.

8. COMPLIANCE

The OCTA has provided each of its portfolio managers with a copy of this Investment Policy as a part of their contract and expects its portfolio managers to invest each portfolio they manage for OCTA in accordance with the provisions of the Investment Policy or the respective Bond Agreements as applicable When diversification limits are exceeded by a portfolio manager, the Treasurer will document the situation and include a write-up in the monthly Debt and Investment Report to the Finance and Administration Committee and the Board of Directors.

The OCTA Treasurer is responsible for verifying each portfolio manager's compliance as well as OCTA's entire portfolio's compliance with the provisions of the Investment Policy.

If OCTA's Treasurer, in his sole discretion, finds that a portfolio manager has made an investment that does not comply with the provisions of the Investment Policy, the Treasurer shall immediately notify the portfolio manager of the compliance violation. At that point, the portfolio manager is on probation for a period of one year. The second time a violation occurs while the portfolio manager is on probation, the Finance and Administration Committee shall review the error and may request that the portfolio manager responsible for the compliance violation meet with the Chair of the Finance and Administration Committee and the Treasurer as soon as practical at which time it will be decided whether the Board of Directors will be notified of the violation.

If OCTA's Treasurer finds that the portfolio manager has made a third investment while on probation that does not comply with the provisions of the Investment Policy, the Treasurer shall notify the Board of Directors of the compliance violations. OCTA may terminate services for its convenience any time by providing at least 30 days written notice.

9. FINANCIAL BENCHMARKS

In order to establish a basis for evaluating investment results, the Authority uses two nationally recognized fixed income security performance benchmarks to evaluate return on investments.

The ICE/BAML 1-3-year Treasury Index and the ICE/BAML 1–3-year AAA-A U.S. Corporate and Government Index benchmarks are used for OCTA's short-term portfolios.

10. SAFEKEEPING AND CUSTODY

To protect against potential losses by collapse of individual securities dealers, all deliverable securities owned by OCTA, including collateral on repurchase agreements, shall be held in safekeeping by a third-party bank trust department acting as agent for OCTA under the terms of a custody agreement executed by the bank and by OCTA. All deliverable securities will be received and delivered using standard delivery-versus-payment procedures.

11. PERMITTED INVESTMENTS

Maturity and Term

All investments, unless otherwise specified, are subject to a maximum stated term of five years. Maturity shall mean the stated final maturity or the mandatory redemption date of the security, or the unconditional put option date if the security contains such a provision. Term or tenure shall mean the remaining time to maturity from the settlement date.

The Board of Directors must grant express written authority to make an investment or to establish an investment program of a longer term no less than three months prior to the investment.

Eligible Instruments and Quality

OCTA policy is to invest only in high quality instruments as permitted by the Code, subject to the limitations of this Investment Policy. If an eligible security already contained in the Authority's portfolio is subsequently placed on "Negative Credit Watch" (Credit Watch) by any of the three Nationally Recognized Statistical Rating Organizations (NRSROs), or a purchase is made of a security already on "Negative Credit Watch" (Credit Watch) by any of the three NRSROs, which is permitted under this Investment Policy, then the security will be handled under the provisions of Credit Rating Actions. Percentage holding limits and credit quality minimums in this section are applicable at the time of purchase.

11-1. OCTA NOTES AND BONDS

Notes and bonds issued by OCTA, including notes and bonds payable solely out of the revenues from a revenue-producing property owned, controlled, or operated by OCTA or by a department, board, agency or authority of OCTA which may bear interest at a fixed or floating rate.

11-2. U.S. TREASURY OBLIGATIONS

United States Treasury notes, bonds, bills, or certificates of indebtedness, or those for which the faith and credit of the United States are pledged for the payment of principal and interest.

11-3. FEDERAL AGENCY OR U.S. GOVERNMENT SPONSORED ENTERPRISES

Federal agency or United States government-sponsored enterprise obligations, participations, or other instruments, including those issued by or fully guaranteed as to principal and interest by federal agencies or the U.S. government sponsored enterprises.

11-4. MUNICIPAL DEBT

Such instruments defined as being issued by a local or state agency, including:

A. Registered state warrants or treasury notes or bonds of this state, including bonds payable solely out of revenues from a revenue-producing property owned, controlled, or operated by the state or by a department, board, agency, or authority of the state.

B. Bonds, notes, warrants, or other evidence of indebtedness of a local agency within this state, including bonds payable solely out of revenues from a revenue-producing property owned, controlled, or operated by the state or local agency or by a department, board, agency or authority of the local agency.

C. Registered treasury notes or bonds of any of the other 49 states in addition to California, including bonds payable solely out of the revenues from a revenue-producing property owned, controlled, or operated by a state or by a department, board, agency, or authority of any of the other 49 states, in addition to California.

D. Defeased state and local obligations (as defined in A, B, or C above) as long as the obligations have been legally defeased with State and Local Government Series (SLGS), U.S. Treasury, and U.S. Agency securities and such obligations mature or otherwise terminate within five years of the date of purchase.

11-5. BANKERS ACCEPTANCES

Bankers' acceptances otherwise known as bills of exchange or time drafts that are drawn on and accepted by a commercial bank.

11-6. COMMERCIAL PAPER

The entity that issues commercial paper shall meet the following conditions:

A. be issued by corporations that have debt other than commercial paper, if any, that is rated in the ratings category of A or its equivalent or higher by two NRSROs

B. be issued by corporations organized and operating within the United States and having total assets in excess of five hundred million dollars ($500,000,000)

11-7. NEGOTIABLE CERTIFICATES OF DEPOSIT

Negotiable Certificates of Deposit issued by a nationally or state-chartered bank or state, a savings association or a federal association (as defined by Section 5102 of the Financial Code), a state or federally licensed or state licensed branch of a foreign bank.

11-8. REPURCHASE AGREEMENTS

Repurchase agreements collateralized by U.S. Treasuries or Agency securities as defined in the Investment Policy with any registered broker-dealer subject to the Securities Investors Protection Act or any commercial banks insured by the FDIC provided:

A. a Securities Industry and Financial Markets Association (SIFMA) master repurchase agreement and a tri-party agreement, if applicable, representing a custodial undertaking in connection with a master repurchase agreement, which governs the transaction and has been signed by OCTA; and

B. the securities are held free and clear of any lien by OCTA's custodian or trustee or an independent third party acting as agent "Agent" for the custodian or trustee, and such third party is (i) a Federal Reserve Bank, or (ii) a bank which is a member of the Federal Deposit Insurance Corporation and which has combined capital, surplus and undivided profits of not less than $50 million and the custodian or trustee shall have received written confirmation from such third party that it holds such securities, free and clear of any lien, as agent for OCTA's custodian or trustee; and

C. a perfected first security interest under the Uniform Commercial Code, or book entry procedures prescribed at 31 C.F.R. 306.1 et seq. or 31 C.F.R. 350.0 et seq. in such securities is created for the benefit of OCTA's custodian or trustee and OCTA; and

D. the Agent provides OCTA's custodian or trustee and OCTA with valuation of the collateral securities no less frequently than weekly and will liquidate the collateral securities if any deficiency in the required 102 percent collateral percentage is not restored within two business days of such valuation.

11-9. MEDIUM TERM NOTES

Medium term notes are defined as all corporate and depository institution debt securities issued by corporations organized and operating within the United States or by depository institutions licensed by the United States or any state and operating within the United States.

11-10. MONEY MARKET MUTUAL FUNDS

Shares of beneficial interest issued by diversified management companies that are money market funds registered with the Securities and Exchange Commission under the Investment Company Act of 1940. Shares may not represent more than 10 percent of the funds or pool’s asset and no more than 10% of the total portfolio may be invested in shares of any one money market mutual fund.

11-11. MORTGAGE OR ASSET-BACKED SECURITIES

Any mortgage pass-through security, collateralized mortgage obligation, mortgage-backed or other pay-through bond, equipment lease-backed certificate, consumer receivable pass-through certificate, or consumer receivable-backed bond.

11-12. SUPRANATIONALS

US Dollar denominated senior unsecured unsubordinated obligations issued or unconditionally guaranteed by the International Bank for Reconstruction and Development, International Finance Corporation, or Inter-American Development Bank.

11-13. STATE OF CALIFORNIA LOCAL AGENCY INVESTMENT FUND (LAIF)

LAIF is a pooled fund managed by the State Treasurer referred to in Section 16429.1 of the Code. All securities are purchased under the authority of the Code Section 16430 and 16480.4.

11-14. ORANGE COUNTY TREASURY INVESTMENT POOL (OCIP)

The OCIP is a pooled fund managed by the Orange County Treasurer and is comprised of two funds, the Money Market Fund and Extended Fund. The Money Market Fund is invested in cash equivalent securities. The Extended Fund is for cash requirements past one year and is based on the Code Sections 53601 and 53635. These pools are based on the investment requirements detailed in Government Code Sections 53600 et seq. and 53630 et seq.

11-15. INVESTMENT POOLS

Shares of beneficial interest issued by a joint powers authority organized pursuant to Government Code Section 6509.7 that invests in the securities and obligations as authorized under the pools investment policy and that comply with the investment restrictions of Government Code Sections 53600 through 53610 and Section 53630.

11-16. VARIABLE AND FLOATING RATE SECURITIES

Variable and floating rate securities are restricted to investments in securities with a final maturity of not to exceed five years as described above, must utilize traditional money market reset indices such as U. S. Treasury bills, Federal Funds, commercial paper or LIBOR (London Interbank Offered Rate) or SOFR (Secured Overnight Financing Rate), and must meet all minimum credit requirements previously detailed in the Investment Policy. Investments in floating rate securities whose reset is calculated using more than one of the above indices are not permitted, i.e. dual index notes.

11-17. BANK DEPOSITS

Bank deposits in California banks which have a minimum short-term rating of A-1, or its equivalent or higher, by a NRSRO. Bank deposits are required to be collateralized as specified under Government Code section 53630. The Treasurer shall draft and execute a contract describing provisions for bank deposits.

11-18. DERIVATIVES

Derivatives are to be used as a tool for bonafide hedging investments only where deemed appropriate. Derivatives shall not be used for the purpose of interest rate speculation.

Derivative products in any of the eligible investment categories listed above may be permitted. The Treasurer has the sole responsibility for determining which prospective investments are derivatives. Each prospective investment in a derivative product must be documented by the Treasurer as to the purpose and specific financial risk being hedged. Each such investment must be approved by the Finance and Administration Committee prior to entering into such investment.

[moved this section to “Prohibited Investment Vehicles and Practices” for clarity]

Credit Rating Actions

Rating criteria will apply at the time of purchase of a security and monitored for changes while retained within OCTA’s portfolio. A security whose credit rating is on Credit Watch at the time of purchase, has been placed on Credit Watch, or whose credit rating has been downgraded (including downgrades resulting in the rating falling below the minimum credit rating requirements) subsequent to the time of purchase, is not a violation of OCTA’s Investment Policy.

For any security, whose credit rating falls below the minimum required rating as per the California Government Code and the Investment Policy or placed on Negative Credit Watch for imminent downgrade to below the minimum required ratings, the Treasurer will make the decision whether to continue to retain or sell the security. For all other security rating downgrades, and for securities placed on Negative Credit Watch, the decision to retain or sell the security will be left to the Investment Manager, and OCTA will be notified immediately of the decision along with rationale regarding the decision to retain or sell.

The Authority will notify the Board through its monthly reporting practices of all securities on Credit Watch at the time of purchase, placed on Credit Watch or downgraded during the reporting period. Securities whose credit rating falls below the minimum requirements, will be noticed in the monthly debt and investment reports until the security is sold or meets the minimum credit rating requirements.

Diversification and Maturity Restrictions

Diversification and maturity restrictions ensure the portfolio is not unduly concentrated in the securities of one type, industry, entity, or specific maturity thereby assuring adequate portfolio liquidity should one sector or company experience difficulties.

Outside portfolio managers must review the portfolios they manage to ensure compliance with OCTA's diversification guidelines on an ongoing basis.

AUTHORIZED INVESTMENTS, ISSUER CONCENTRATION & MATURITY RESTRICTIONS

Authorized Investments, Issuer Concentration and Maturity Restrictions					
Type of Investment	**CA Code Maximum Maturity**	**CA Code Maximum % of Portfolio**	**CA Code Minimum Quality Requirements**	**OCTA Maximum % of Portfolio***	**OCTA Code Minimum Quality Requirements**
OCTA Notes and Bonds	5 Years	100%	None	25%	Same as CA Code
U.S. Treasury Obligations	5 Years	100%	None	Same as CA Code	Same as CA Code
Federal Agency's or U.S. Government Sponsored Enterprises	5 Years	100%	None	Same as CA Code	Same as CA Code
Municipal Debt	5 Years	100%	None	30% total, no more than 5% by any one issuer	"A" rating category or "A-1" rated, or its equivalent or higher, by an NRSRO
Bankers Acceptances	180 Days	40%, 30% of a single issuer	None	30%, no more than 5% any single issuer	"A-1" rated, or its equivalent or higher, by 2 NRSROs
Commercial Paper	270 Days	40% **	"A-1" rated, or its equivalent or higher by an NRSRO	40%**	"A-1" rated, or its equivalent or higher, by 2 NRSROs
Negotiable Certificates of Deposit	5 Years	30%	None	30%, no more than 5% in any single issuer	"A" rating category or "A-1" rated, or its equivalent or higher, by 2 NRSROs
Repurchase Agreements	1 Year	100%	None	25%	"A" rating category or "A-1"rated, or its equivalent

					or higher, by 2 NRSROs
Medium Term Maturity Notes**	5 Years	30%**	"A" rating category, or its equivalent or higher, by an NRSRO	30%**	Same as CA Code
Money Market/Mutual Funds	N/A	20%, 10% of any one mutual fund	"AAA" rated, or its equivalent, by 2 NRSROs	20%, 10% of fund's assets, 10% of any one mutual fund	Same as CA Code
Mortgage Pass-Through and Asset-backed Securities	5 Years	20%	"AA" rating category, or its equivalent or higher, by an NRSRO	Same as CA Code	Same as CA Code
Supranationals	5 Years	30%	"AA" rating category, or its equivalent or higher, by an NRSRO	20%, no more than 10% in any single issuer	Same as CA Code
Local Agency Investment Fund (LAIF)***	N/A	$75 million per account	None	$75 million per account	Same as CA Code
Orange County Investment Pool (OCIP)	N/A	100%	None	10%	Same as CA Code
Joint Powers Authority (JPA) Investment Pools	N/A	100%	None	10%	Same as CA Code

*Additional portfolio restrictions include bank deposits (5%) and variable and floating rate securities (30%)
**Combined 10% per issuer limit on commercial paper and medium term maturity notes pursuant to the Code. 5% per issuer limit in any one issuer pursuant to this Investment Policy, see section titled Issuer/Counter-Party Diversificaton Guidelines for all Securities Except U.S. Treasuries and U.S. Government Agency Securities herein.
***Current deposit limits for LAIF regular account are set by the State Treasurer

Issuer/Counter-Party Diversification Guidelines for All Securities Except U.S. Treasuries and U.S. Government Agency Securities

Unless otherwise specified in this policy, any one corporation, bank, local agency, special purpose vehicle or other corporate issuer name for one or more series of securities shall not exceed 5% of the portfolio.

Issuer/Counter-Party Diversification Guidelines for OCTA's Debt

The Authority can purchase all or a portion of the Orange County Transportation Authority's debt, including notes and bonds payable solely out of the revenues from a revenue-producing property owned, controlled, or operated by OCTA or by a department, board, agency or authority of OCTA which may bear interest at a fixed or floating rate, providing the purchase

does not exceed 25% of the Maximum Portfolio.

12. PROHIBITED INVESTMENT VEHICLES AND PRACTICES

- State law notwithstanding, any investments not specifically described herein are prohibited, including, but not limited to futures and options.
- In accordance with Government Code, Section 53601.6, investment in inverse floaters, range notes, or mortgage derived interest-only strips is prohibited.
- Investment in any security that could result in a zero-interest accrual if held to maturity is prohibited. Except securities backed by the U.S. Government that could result in a zero- or negative-interest accrual if held to maturity are permitted, under a provision sunsetting on January 1, 2026,
- Step-up notes and dual index notes are prohibited.
- Trading securities for the sole purpose of speculating on the future direction of interest rates is prohibited.
- Purchasing or selling securities on margin is prohibited.
- The use of reverse repurchase agreements, securities lending or any other form of borrowing or leverage is prohibited.
- The purchase of foreign currency denominated securities is prohibited.
- Agencies that are not Qualified Institutional Buyers (QIB) as defined by the Securities and Exchange Commission are prohibited from purchasing Private Placement Securities. The SEC defines a QIB as having at least $100,000,000 in securities owned and invested.

13. SECURITIES SAFE KEEPING

All deliverable security transactions, including collateral for repurchase agreements, entered into by OCTA shall be conducted on a delivery-versus-payment basis. Deliverable securities shall be held by a third-party custodian designated by the Treasurer, evidenced by safe keeping receipts and in compliance with Code Section 53608.

14. BROKER DEALERS

The Treasurer, and investment professionals authorized by the Treasurer, may buy securities from a list of broker dealers and financial institutions that will be periodically reviewed.

Outside portfolio managers must certify that they will purchase securities from broker/dealers (other than themselves) or financial institutions in compliance with this Investment Policy.

15. INVESTMENT POLICY REVIEW

This Investment Policy shall be reviewed annually by the Finance and Administration Committee of the OCTA Board of Directors to ensure its consistency with the overall objectives of preservation of principal, liquidity, yield and diversification and its relevance to current law and economic trends.

16. DEFINITION OF TERMS

ACCRUED INTEREST: The amount of interest that is earned but unpaid since the last interest payment date.

AGENCY SECURITIES: (See U.S. Government Agency Securities)

ASK PRICE: (Offer Price) The price at which securities are offered from a seller.

ASSET BACKED SECURITIES (ABS): Securities collateralized or backed by receivables such as automobile loans and credit card receivables. The assets are transferred or sold by the company to a Special Purpose Vehicle and held in trust. The SPV or trust will issue debt collateralized by the receivables.

BANKERS ACCEPTANCES (BAs): Time drafts which a bank "accepts" as its financial responsibility as part of a trade finance process. These short-term notes are sold at a discount and are obligations of the drawer (the bank's trade finance client) as well as the bank. Once accepted, the bank is irrevocably obligated to pay the BA upon maturity if the drawer does not.

BASIS POINT: When a yield is expressed as X.YZ%, the YZ digits to the right of the decimal point are known as basis points. One basis point equals 1/100 of one percent. Basis points are used more often to describe changes in yields on bonds, notes and other fixed-income securities.

BID PRICE: The price at which a buyer offers to buy a security.

BOOK ENTRY: The system, maintained by the Federal Reserve, by which most securities are "delivered" to an investor's custodian bank. The Federal Reserve maintains an electronic record of the ownership of these securities and records any changes in ownership corresponding to payments made over the Federal Reserve wire (delivery versus payment). These securities do not receive physical certificates.

BOOK VALUE: The original cost of the investment.

CALLABLE BONDS: A bond issue which all or part of its outstanding principal amount may be redeemed before maturity by the issuer under specified conditions.

CAPITAL GAIN/LOSS: The profit or loss realized from the sale of a security.

CERTIFICATES OF DEPOSIT (NEGOTIABLE CDs): A negotiable (marketable or transferable) receipt for a time deposit at a bank or other financial institution for a fixed time and interest rate.

COLLATERAL: Securities or cash pledged by a borrower to secure repayment of a loan or repurchase agreement. Also, securities pledged by a financial institution to secure deposits in an Investment Agreement.

COMMERCIAL PAPER (CP): Unsecured promissory notes issued by companies and government entities usually at a discount. Commercial paper is negotiable, although it is typically held to maturity.

COUPON: The annual rate of interest received by an investor from the issuer of certain types of fixed-income securities. Also known as “interest rate.”

CURRENT YIELD: The annual income from an investment divided by the current market value. Since the mathematical calculation relies on the current market value rather than the investor's cost, current yield is unrelated to the actual return the investor will earn if the security is held to maturity.

CUSTODIAN: A bank or other financial institution that keeps custody of assets in the name of the depositor.

DELIVERY VERSUS PAYMENT (DVP): Delivery of securities with a simultaneous exchange of money for the securities.

DERIVATIVE SECURITY: Financial instrument created from, or whose value depends upon, one or more underlying assets or indexes of asset values.

DISCOUNT: The difference between the par value of a bond and the cost of the bond, when the cost is below par. Some short-term securities, such as Treasury bills and bankers' acceptances, are known as discount securities. They sell at a discount from par and return the par value to the investor at maturity without additional interest. Other securities, which have fixed coupons, trade at a discount when the coupon rate is lower than the current market rate for securities of that maturity and/or quality.

DIVERSIFICATION: An investment principal designed to spread the risk in a portfolio by dividing investments by sector, maturity and quality rating.

DOLLAR-WEIGHTED AVERAGE MATURITY: A calculation that expresses the "average maturity" of an investment portfolio using each investment's maturity weighted by the size or book-value of that investment.

DURATION: A measure of the timing of cash flows, such as the interest payments and principal repayment, to be received from a given fixed-income security.

FEDERAL FUNDS RATE: Interest rate at which banks lend federal funds to each other.

FEDERAL OPEN MARKET COMMITTEE (FOMC): A committee within the Federal Reserve System that makes short-term monetary policy for the Fed. The committee decides either to sell securities to reduce the money supply, or to buy government securities to increase the money supply. Decisions made at FOMC meetings will cause interest rates to either rise or fall.

FEDERAL RESERVE SYSTEM: A U.S. centralized banking system which has supervisory powers over the 2 Federal Reserve banks and about 3,000-member banks.

FITCH Ratings referred to as Fitch: (See Nationally Recognized Statistical Rating Organizations)

INTEREST: The amount earned while owning a debt security, generally calculated as a percentage of the principal amount.

INTEREST RATE RISK: The risk associated with declines or rises in interest rates, which causes the market price of a fixed-income security to increase or decrease in value.

LIQUIDITY: The speed and ease with which an investment can be converted to cash.

MARK-TO-MARKET: The process by where the value of a security is adjusted to reflect current market conditions.

MARKET RISK: The risk that the value of a security will rise or decline as a result in changes in market conditions.

MARKET VALUE: The current market price of a security.

MATURITY: The date that the principal or stated value of an investment becomes due and payable.

MEDIUM TERM MATURITY CORPORATE SECURITIES: Notes issued by corporations organized and operating within the United States or by depository institutions licensed by the United States or any state and operating within the United States.

MONEY MARKET: The market in which short-term debt instruments (Treasury bills, discount notes, commercial paper, bankers' acceptances, etc.) are issued and traded.

MONEY MARKET MUTUAL FUNDS: An investment company that pools money from investors and invest in a variety of short-term money market instruments.

MOODY'S INVESTORS SERVICE, INC. referred to as Moody's: (See Nationally Recognized Statistical Rating Organizations)

MORTGAGE-BACKED SECURITY: A debt instrument with a pool of real estate loans as the underlying collateral. The mortgage payments of the individual real estate assets are used to pay interest and principal on the bonds.

MUNICIPAL DEBT: Issued by public entities to meet capital needs.

NATIONALLY RECOGNIZED STATISTICAL RATING ORGANIZATIONS (NRSRO's): Firms that review the creditworthiness of the issuers of debt securities, and express their opinion in the form of letter ratings (e.g. AAA, AA, A, BBB, etc.) The primary rating agencies include Standard & Poor's Global Ratings; Moody's Investor Services, Inc., Fitch Ratings and Kroll Bond Rating Agency, Inc.

NEGOTIABLE CD: (See Certificates of Deposit)

NET ASSET VALUE (NAV): The market value of one share of an investment company, such as a mutual fund. This figure is calculated by totaling the fund's assets which includes securities, cash and accrued earnings, then subtracting this from the fund's liabilities and dividing by the total number of shares outstanding. This is calculated once a day based on the closing price for each security in the fund's portfolio.

NON-CALLABLE: Bond that is exempt from any kind of redemption for a stated time period.

OCTA BONDS: Bonds, notes, warrants, or other evidences of indebtedness.

OFFER PRICE: An indicated price at which market participants are willing to sell a security.

PAR VALUE: The amount of principal that must be paid at maturity. Also referred to as the face amount of a bond, normally quoted in $1,000 increments per bond.

PHYSICAL DELIVERY: The delivery of an investment to a custodian bank in the form of a certificate and/or supporting documents evidencing the investment (as opposed to "book entry" delivery).

PORTFOLIO: A group of securities held by an investor.

PREMIUM: The amount by which the price paid for a security exceeds the security's par value.

PRIME RATE: A preferred interest rate charged by commercial banks to their most creditworthy customers.

PRINCIPAL: The face value or par value of an investment.

PURCHASE DATE: See (Trade Date)

REINVESTMENT RISK: The risk that coupon payments (or other payments received) cannot be reinvested at the same rate as the initial investment.

REPURCHASE AGREEMENTS (REPOS): A purchase of securities under a simultaneous agreement to sell these securities back at a fixed price on some future date. This is in essence a collateralized investment, with the difference between the purchase price and sales price determining the earnings.

SAFEKEEPING: Holding of assets (e.g. securities) by a financial institution.

SECURITES & EXCHANCE COMMISSION (SEC): The federal agency responsible for supervising and regulating the securities industry.

SETTLEMENT DATE: The date on which the purchase or sale of securities is executed. For example, in a purchase transaction, the day securities are physically delivered or wired to the buyer in exchange for cash is the settlement date.

SPECIAL PURPOSE VEHICLE (SPV): A trust or similar structure created specifically to purchase securities and reprofile cash flows and/or credit risk. Mortgage or Asset-backed securities may be issued out of the SPV and secured by the collateral transferred from the corporation.

STANDARD & POOR'S GLOBAL RATINGS referred to as Standard and Poor's or S & P: (See Nationally Recognized Statistical Rating Organizations)

SUPRANATIONAL: A supranational is a multi-national organization whereby member states transcend national boundaries or interests to share in the decision making to promote economic development in member countries.

THIRD-PARTY CUSTODIAL AGREEMENT: (See Custodian)

TOTAL RETURN: The sum of all investment income plus changes in the capital value of the portfolio.

TRADE DATE: The date and time corresponding to an investor's commitment to buy or sell a security.

U.S. GOVERNMENT AGENCY SECURITIES or FEDERAL AGENCIES: U.S. Government related organizations, the largest of which are government financial intermediaries assisting specific credit markets (housing, agriculture).

U.S. TREASURY OBLIGATIONS: Securities issued by the U.S. Treasury and backed by the full faith and credit of the United States. The Treasury issues both discounted securities and fixed coupon notes and bonds.

> **Treasury bills:** non-interest-bearing discount securities of the U.S. Treasury with maturities under one year.
>
> **Treasury notes:** interest-bearing obligations of the U.S. Treasury with maturities ranging from two to ten years from the date of issue.
>
> **Treasury bond:** interest-bearing obligations issued by the U.S. Treasury with maturities ranging from ten to thirty years from the date of issue.
>
> **Treasury STRIPS:** U.S. Treasury securities that have been separated into their component parts of principal and interest payments and recorded as such in the Federal Reserve book entry record-keeping system.
>
> **Treasury TIPS:** U.S. Treasury securities whose principal increases at the same rate as the Consumer Price Index. The interest payment is then calculated from the inflated principal and repaid at maturity.

VARIABLE AND FLOATING RATE SECURITIES: Variable and floating rate securities are appropriate investments when used to enhance yield and reduce risk. They should have the same stability, liquidity and quality as traditional money market securities.

VOLATILITY: The degree of fluctuation in the price and valuation of securities.

YIELD: The current rate of return on an investment security generally expressed as a percentage of the securities current price.

ZERO COUPON SECURITIES: Security that is issued at a discount and makes no periodic interest payments. The rate of return consists of a gradual accretion of the principal of the security and is payable at par upon maturity.

ATTACHMENT B

Orange County Transportation Authority
Fiscal Year 2022~~1~~-23~~2~~ Investment Policy
Julyne ~~9~~1, 2022~~1~~

1. PURPOSE

This Investment Policy sets forth the investment guidelines for all funds of the Orange County Transportation Authority (OCTA). The objective of this Investment Policy is to ensure OCTA's funds are prudently invested to preserve capital, provide necessary liquidity and to achieve a market-average rate of return through economic cycles.

Investments may only be made as authorized by this Investment Policy. The OCTA Investment Policy conforms to the California Government Code (the Code) as well as customary standards of prudent investment management. Irrespective of these policy provisions, should the provisions of the Code be or become more restrictive than those contained herein, such provisions will be considered immediately incorporated into the Investment Policy and adhered to.

2. SCOPE

The policy applies to the investment of all funds, excluding the investment of employees' retirement funds, separate trusts, Environmental Mitigation Program Endowment Fund and funds invested separately under Bond Indenture Agreements (Bond Agreements). Bond Funds and Accounts (Bond Funds) shall be invested in the securities permitted by the applicable Bond Agreements. If the Bond Agreements are silent as to the permitted investments, the Bond Funds will be invested in the securities permitted by this Policy. Notwithstanding the other provisions of this Policy, the percentage limitations listed elsewhere in this Policy do not apply to Bond Funds.

3. INVESTMENT OBJECTIVES

The primary objectives, in priority order, of investment activities shall be:

a. **Safety of Principal --** Safety of principal is the foremost objective of the OCTA. Each investment transaction shall seek to ensure that capital losses are avoided, whether from institutional default, broker-dealer default, or erosion of market value of the securities.

b. **Liquidity --** It is important that the portfolio contain investments for which there is an active secondary market, and which offer the flexibility to be easily sold at any time with minimal risk of loss of either the principal or interest based upon then prevailing rates.

c. **Total Return --** The OCTA's portfolio shall be designed to attain a market-average rate of return through economic cycles.

d. **Diversification –** Finally, the OCTA shall diversify its portfolio(s) to avoid incurring unreasonable market risks.

4. PRUDENCE

OCTA's Board of Directors or persons authorized to make investment decisions on behalf of OCTA are trustees and fiduciaries subject to the prudent investor standard.

The standard of prudence to be used by investment officials shall be the "prudent investor" standard as defined in the Code below and shall be applied in the context of managing an overall portfolio. OCTA's investment professionals acting in accordance with written procedures and the Investment Policy and exercising due diligence shall be relieved of personal responsibility for an individual security's credit risk or market price changes, provided deviations from expectations are reported in a timely fashion and appropriate action is taken to control developments.

The Prudent Investor Standard: When investing, reinvesting, purchasing, acquiring, exchanging, selling, or managing public funds, a trustee shall act with care, skill, prudence, and diligence under the circumstances then prevailing, including but not limited to, the general economic conditions and the anticipated needs of OCTA, that a prudent person acting in a like capacity and familiarity with those matters would use in the conduct of funds of a like character and with like aims, to safeguard the principal and maintain the liquidity needs of the agency.

5. ETHICS AND CONFLICTS OF INTEREST

OCTA's officers and employees involved in the investment process shall not participate in personal business activity that conflicts with the proper execution of OCTA's investment program, or which impairs their ability to make impartial investment decisions. OCTA's investment professionals and Treasury/Public Finance Department employees are not permitted to have any material financial interests in financial institutions that conduct business with OCTA, and they are not permitted to have any personal financial/investment holdings that have a material effect on the performance of OCTA's investments.

6. DELEGATION OF AUTHORITY

Authority to manage OCTA's investment program is derived from an order of the Board of Directors. Management responsibility for the investment program is hereby delegated to OCTA's Treasurer pursuant to Section 53607 of the Code. On an annual basis, the Board of Directors is required to renew the authority of OCTA's Treasurer to invest or reinvest OCTA funds. The Treasurer is hereby authorized to delegate his authority as he determines to be appropriate. No person may engage in an investment transaction except as provided under the terms of this Investment Policy and the procedures established by the Treasurer. The Treasurer shall be responsible for all actions undertaken and shall establish a system of controls to regulate the activities of subordinate professionals.

The Treasurer shall develop administrative procedures and internal control, consistent with this Investment Policy, for the operation of OCTA's investment program. Such procedures shall be designed to prevent losses of public funds arising from fraud, employee error, misrepresentation by third parties, or imprudent actions by employees of OCTA.

7. RESPONSIBILITIES

The Finance and Administration Committee of the OCTA Board of Directors, subject to the approval of the OCTA Board of Directors, is responsible for establishing the Investment Policy and ensuring investments are made in compliance with this Investment Policy. This Investment Policy shall be reviewed annually by the Board of Directors at a public meeting.

The Treasurer is responsible for making investments and for compliance with this policy pursuant to the delegation of authority to invest funds or to sell or exchange securities. Pursuant to Section 53607 of the Code, the Treasurer shall make a monthly report to the Board of Directors. The OCTA provides a monthly report to the Finance and Administration Committee and the Board of Directors in accordance with Section 53607 of the Code

The Treasurer is responsible for establishing a procedural manual for OCTA's investment program and for having an annual independent audit performed on OCTA's investments.

8. COMPLIANCE

The OCTA has provided each of its portfolio managers with a copy of this Investment Policy as a part of their contract and expects its portfolio managers to invest each portfolio they manage for OCTA in accordance with the provisions of the Investment Policy or the respective Bond Agreements as applicable When diversification limits are exceeded by a portfolio manager, the Treasurer will document the situation and include a write-up in the monthly Debt and Investment Report to the Finance and Administration Committee and the Board of Directors.

The OCTA Treasurer is responsible for verifying each portfolio manager's compliance as well as OCTA's entire portfolio's compliance with the provisions of the Investment Policy.

If OCTA's Treasurer, in his sole discretion, finds that a portfolio manager has made an investment that does not comply with the provisions of the Investment Policy, the Treasurer shall immediately notify the portfolio manager of the compliance violation. At that point, the portfolio manager is on probation for a period of one year. The second time a violation occurs while the portfolio manager is on probation, the Finance and Administration Committee shall review the error and may request that the portfolio manager responsible for the compliance violation meet with the Chair of the Finance and Administration Committee and the Treasurer as soon as practical at which time it will be decided whether the Board of Directors will be notified of the violation.

If OCTA's Treasurer finds that the portfolio manager has made a third investment while on probation that does not comply with the provisions of the Investment Policy, the Treasurer shall notify the Board of Directors of the compliance violations. OCTA may terminate services for its convenience any time by providing at least 30 days written notice.

9. FINANCIAL BENCHMARKS

In order to establish a basis for evaluating investment results, the Authority uses two nationally recognized fixed income security performance benchmarks to evaluate return on investments.

The ICE/BAML 1-3-year Treasury Index and the ICE/BAML 1–3-year AAA-A U.S. Corporate and Government Index benchmarks are used for OCTA's short-term portfolios.

10. SAFEKEEPING AND CUSTODY

To protect against potential losses by collapse of individual securities dealers, all deliverable securities owned by OCTA, including collateral on repurchase agreements, shall be held in safekeeping by a third-party bank trust department acting as agent for OCTA under the terms of a custody agreement executed by the bank and by OCTA. All deliverable securities will be received and delivered using standard delivery-versus-payment procedures.

11. PERMITTED INVESTMENTS

Maturity and Term

All investments, unless otherwise specified, are subject to a maximum stated term of five years. Maturity shall mean the stated final maturity or the mandatory redemption date of the security, or the unconditional put option date if the security contains such a provision. Term or tenure shall mean the remaining time to maturity from the settlement date.

The Board of Directors must grant express written authority to make an investment or to establish an investment program of a longer term no less than three months prior to the investment

Eligible Instruments and Quality

OCTA policy is to invest only in high quality instruments as permitted by the Code, subject to the limitations of this Investment Policy. If an eligible security already contained in the Authority's portfolio is subsequently placed on "Negative Credit Watch" (Credit Watch) by any of the three Nationally Recognized Statistical Rating Organizations (NRSROs), or a purchase is made of a security already on "Negative Credit Watch" (Credit Watch) by any of the three NRSROs, which is permitted under this Investment Policy, then the security will be handled under the provisions of Credit Rating Actions. Percentage holding limits and credit quality minimums in this section are applicable at the time of purchase.

11-1. OCTA NOTES AND BONDS

Notes and bonds issued by OCTA, including notes and bonds payable solely out of the revenues from a revenue-producing property owned, controlled, or operated by OCTA or by a department, board, agency or authority of OCTA which may bear interest at a fixed or floating rate.

11-2. U.S. TREASURY OBLIGATIONS

United States Treasury notes, bonds, bills, or certificates of indebtedness, or those for which the faith and credit of the United States are pledged for the payment of principal and interest.

11-3. FEDERAL AGENCY OR U.S. GOVERNMENT SPONSORED ENTERPRISES

Federal agency or United States government-sponsored enterprise obligations, participations, or other instruments, including those issued by or fully guaranteed as to principal and interest by federal agencies or the U.S. government sponsored enterprises.

11-4. MUNICIPAL DEBT

Such instruments defined as being issued by a local or state agency, including:

A. Registered state warrants or treasury notes or bonds of this state, including bonds payable solely out of revenues from a revenue-producing property owned, controlled, or operated by the state or by a department, board, agency, or authority of the state.

B. Bonds, notes, warrants, or other evidence of indebtedness of a local agency within this state, including bonds payable solely out of revenues from a revenue-producing property owned, controlled, or operated by the state or local agency or by a department, board, agency or authority of the local agency.

C. Registered treasury notes or bonds of any of the other 49 states in addition to California, including bonds payable solely out of the revenues from a revenue-producing property owned, controlled, or operated by a state or by a department, board, agency, or authority of any of the other 49 states, in addition to California.

D. Defeased state and local obligations (as defined in A, B, or C above) as long as the obligations have been legally defeased with State and Local Government Series (SLGS), U.S. Treasury, and U.S. Agency securities and such obligations mature or otherwise terminate within five years of the date of purchase.

11-5. BANKERS ACCEPTANCES

Bankers' acceptances otherwise known as bills of exchange or time drafts that are drawn on and accepted by a commercial bank.

11-6. COMMERCIAL PAPER

The entity that issues commercial paper shall meet the following conditions:

A. be issued by corporations that have debt other than commercial paper, if any, that is rated in the ratings category of A or its equivalent or higher by two NRSROs

B. be issued by corporations organized and operating within the United States and having total assets in excess of five hundred million dollars ($500,000,000)

~~C. may not purchase more than 10 percent of the outstanding paper of any single issuer.~~

11-7. NEGOTIABLE CERTIFICATES OF DEPOSIT

Negotiable Certificates of Deposit issued by a nationally or state-chartered bank or state, a savings association or a federal association (as defined by Section 5102 of the Financial Code), a state or federally licensed or state licensed branch of a foreign bank.

11-8. REPURCHASE AGREEMENTS

Repurchase agreements collateralized by U.S. Treasuries or Agency securities as defined in the Investment Policy with any registered broker-dealer subject to the Securities Investors Protection Act or any commercial banks insured by the FDIC provided:

A. a Securities Industry and Financial Markets Association (SIFMA) master repurchase agreement and a tri-party agreement, if applicable, representing a custodial undertaking in connection with a master repurchase agreement, which governs the transaction and has been signed by OCTA; and

B. the securities are held free and clear of any lien by OCTA's custodian or trustee or an independent third party acting as agent "Agent" for the custodian or trustee, and such third party is (i) a Federal Reserve Bank, or (ii) a bank which is a member of the Federal Deposit Insurance Corporation and which has combined capital, surplus and undivided profits of not less than $50 million and the custodian or trustee shall have received written confirmation from such third party that it holds such securities, free and clear of any lien, as agent for OCTA's custodian or trustee; and

C. a perfected first security interest under the Uniform Commercial Code, or book entry procedures prescribed at 31 C.F.R. 306.1 et seq. or 31 C.F.R. 350.0 et seq. in such securities is created for the benefit of OCTA's custodian or trustee and OCTA; and

D. the Agent provides OCTA's custodian or trustee and OCTA with valuation of the collateral securities no less frequently than weekly and will liquidate the collateral securities if any deficiency in the required 102 percent collateral percentage is not restored within two business days of such valuation.

11-9. MEDIUM TERM NOTES

Medium term notes are defined as all corporate and depository institution debt securities issued by corporations organized and operating within the United States or by depository institutions licensed by the United States or any state and operating within the United States.

11-10. MONEY MARKET MUTUAL FUNDS

Shares of beneficial interest issued by diversified management companies that are money market funds registered with the Securities and Exchange Commission under the Investment Company Act of 1940. Shares may not represent more than 10 percent of the funds or pool’s asset and no more than 10% of the total portfolio may be invested in shares of any one money market mutual fund.

11-11. MORTGAGE OR ASSET-BACKED SECURITIES

Any mortgage pass-through security, collateralized mortgage obligation, mortgage-backed or other pay-through bond, equipment lease-backed certificate, consumer receivable pass-through certificate, or consumer receivable-backed bond.

11-12. SUPRANATIONALS

US Dollar denominated senior unsecured unsubordinated obligations issued or unconditionally guaranteed by the International Bank for Reconstruction and Development, International Finance Corporation, or Inter-American Development Bank.

11-13. STATE OF CALIFORNIA LOCAL AGENCY INVESTMENT FUND (LAIF)

LAIF is a pooled fund managed by the State Treasurer referred to in Section 16429.1 of the Code. All securities are purchased under the authority of the Code Section 16430 and 16480.4.

11-14. ORANGE COUNTY TREASURY INVESTMENT POOL (OCIP)

The OCIP is a pooled fund managed by the Orange County Treasurer and is comprised of two funds, the Money Market Fund and Extended Fund. The Money Market Fund is invested in cash equivalent securities. The Extended Fund is for cash requirements past one year and is based on the Code Sections 53601 and 53635. These pools are based on the investment requirements detailed in Government Code Sections 53600 et seq. and 53630 et seq.

11-15. INVESTMENT POOLS

Shares of beneficial interest issued by a joint powers authority organized pursuant to Government Code Section 6509.7 that invests in the securities and obligations as authorized under the pools investment policy and that comply with the investment restrictions of Government Code Sections 53600 through 53610 and Section 53630.

11-16. VARIABLE AND FLOATING RATE SECURITIES

Variable and floating rate securities are restricted to investments in securities with a final maturity of not to exceed five years as described above, must utilize traditional money market reset indices such as U. S. Treasury bills, Federal Funds, commercial paper or LIBOR (London Interbank Offered Rate) or SOFR (Secured Overnight Financing Rate), and must meet all minimum credit requirements previously detailed in the Investment Policy. Investments in floating rate securities whose reset is calculated using more than one of the above indices are not permitted, i.e. dual index notes.

11-17. BANK DEPOSITS

Bank deposits in California banks which have a minimum short-term rating of A-1, or its equivalent or higher, by a NRSRO. Bank deposits are required to be collateralized as specified under Government Code section 53630. The Treasurer shall draft and execute a contract describing provisions for bank deposits.

11-18. DERIVATIVES

Derivatives are to be used as a tool for bonafide hedging investments only where deemed appropriate. Derivatives shall not be used for the purpose of interest rate speculation.

Derivative products in any of the eligible investment categories listed above may be permitted. The Treasurer has the sole responsibility for determining which prospective investments are derivatives. Each prospective investment in a derivative product must be documented by the Treasurer as to the purpose and specific financial risk being hedged. Each such investment must be approved by the Finance and Administration Committee prior to entering into such investment.

~~No investments shall be permitted that have the possibility of returning a zero or negative yield if held to maturity. In addition, the investment in inverse floaters, range notes, strips derived from mortgage obligations, step-up notes and dual index notes are not permitted investments.~~ [moved this section to "Prohibited Investment Vehicles and Practices" for clarity]

Credit Rating Actions

Rating criteria will apply at the time of purchase of a security and monitored for changes while retained within OCTA's portfolio. A security whose credit rating is on Credit Watch at the time of purchase, has been placed on Credit Watch, or whose credit rating has been downgraded (including downgrades resulting in the rating falling below the minimum credit rating requirements) subsequent to the time of purchase, is not a violation of OCTA's Investment Policy.

For any security, whose credit rating falls below the minimum required rating as per the California Government Code and the Investment Policy or placed on Negative Credit Watch for imminent downgrade to below the minimum required ratings, the Treasurer will make the decision whether to continue to retain or sell the security. For all other security rating downgrades, and for securities placed on Negative Credit Watch, the decision to retain or sell the security will be left to the Investment Manager, and OCTA will be notified immediately of the decision along with rationale regarding the decision to retain or sell.

The Authority will notify the Board through its monthly reporting practices of all securities on Credit Watch at the time of purchase, placed on Credit Watch or downgraded during the reporting period. Securities whose credit rating falls below the minimum requirements, will be noticed in the monthly debt and investment reports until the security is sold or meets the minimum credit rating requirements.

Diversification and Maturity Restrictions

Diversification and maturity restrictions ensure the portfolio is not unduly concentrated in the securities of one type, industry, entity, or specific maturity thereby assuring adequate portfolio liquidity should one sector or company experience difficulties.

Outside portfolio managers must review the portfolios they manage to ensure compliance with OCTA's diversification guidelines on an ongoing basis.

AUTHORIZED INVESTMENTS, ISSUER CONCENTRATION & MATURITY RESTRICTIONS

Authorized Investments, Issuer Concentration and Maturity Restrictions					
Type of Investment	**CA Code Maximum Maturity**	**CA Code Maximum % of Portfolio**	**CA Code Minimum Quality Requirements**	**OCTA Maximum % of Portfolio***	**OCTA Code Minimum Quality Requirements**
OCTA Notes and Bonds	5 Years	100%	None	25%	Same as CA Code
U.S. Treasury Obligations	5 Years	100%	None	Same as CA Code	Same as CA Code
Federal Agency's or U.S. Government Sponsored Enterprises	5 Years	100%	None	Same as CA Code	Same as CA Code
Municipal Debt	5 Years	100%	None	30% total, no more than 5% by any one issuer	"A" rating category or "A-1" rated, or its equivalent or higher, by an NRSRO
Bankers Acceptances	180 Days	40%, 30% of a single issuer	None	30%, no more than 5% any single issuer	"A-1" rated, or its equivalent or higher, by 2 NRSROs
Commercial Paper	270 Days	40%~~**of the agency's money~~	"A-1" rated, or its equivalent or higher by an NRSRO	40%**~~, no more than 10% by any one single issuer~~	"A-1" rated, or its equivalent or higher, by 2 NRSROs
Negotiable Certificates of Deposit	5 Years	30%	None	30%, no more than 5% in any single issuer	"A" rating category or "A-1" rated, or its equivalent or higher, by 2 NRSROs
Repurchase Agreements	1 Year	100%	None	25%	"A" rating category or "A-1"rated, or its equivalent

					or higher, by 2 NRSROs
Medium Term Maturity Notes	5 Years	30%**	"A" rating category, or its equivalent or higher, by an NRSRO	30% **~~total, no more than 5% in any one issuer~~	Same as CA Code
Money Market/Mutual Funds	N/A	20%, 10% of any one mutual fund	"AAA" rated, or its equivalent, by 2 NRSROs	20%, 10% of fund's assets, 10% of any one mutual fund	Same as CA Code
Mortgage Pass-Through and Asset-backed Securities	5 Years	20%	"AA" rating category, or its equivalent or higher, by an NRSRO	Same as CA Code	Same as CA Code
Supranationals	5 Years	30%	"AA" rating category, or its equivalent or higher, by an NRSRO	20%, no more than 10% in any single issuer	Same as CA Code
Local Agency Investment Fund (LAIF)***	N/A	$75 million per account	None	$75 million per account	Same as CA Code
Orange County Investment Pool (OCIP)	N/A	100%	None	10%	Same as CA Code
Joint Powers Authority (JPA) Investment Pools	N/A	100%	None	10%	Same as CA Code

*Additional portfolio restrictions include bank deposits (5%) and variable and floating rate securities (30%)
**Combined 10% per issuer limit on commercial paper and medium term maturity notes pursuant to the Code. 5% per issuer limit in any one issuer pursuant to this Investment Policy.
***Current deposit limits for LAIF regular account are set by the State Treasurer

Issuer/Counter-Party Diversification Guidelines for All Securities Except U.S. Treasuries and U.S. Government Agency Securities

Unless otherwise specified in this policy, any one corporation, bank, local agency, special purpose vehicle or other corporate issuer name for one or more series of securities shall not exceed 5% of the portfolio.

Issuer/Counter-Party Diversification Guidelines for OCTA's Debt

The Authority can purchase all or a portion of the Orange County Transportation Authority's debt, including notes and bonds payable solely out of the revenues from a revenue-producing property owned, controlled, or operated by OCTA or by a department, board, agency or authority of OCTA which may bear interest at a fixed or floating rate, providing the purchase does not exceed 25% of the Maximum Portfolio.

12. PROHIBITED INVESTMENT VEHICLES AND PRACTICES

- State law notwithstanding, any investments not specifically described herein are prohibited, including, but not limited to futures and options.
- In accordance with Government Code, Section 53601.6, investment in inverse floaters, range notes, or mortgage derived interest-only strips is prohibited.
- Investment in any security that could result in a zero-interest accrual if held to maturity is prohibited. Except securities backed by the U.S. Government that could result in a zero- or negative-interest accrual if held to maturity are permitted, under a provision sunsetting on January 1, 2026,
- Step-up notes and dual index notes are prohibited.
- Trading securities for the sole purpose of speculating on the future direction of interest rates is prohibited.
- Purchasing or selling securities on margin is prohibited.
- The use of reverse repurchase agreements, securities lending or any other form of borrowing or leverage is prohibited.
- The purchase of foreign currency denominated securities is prohibited.
- Agencies that are not Qualified Institutional Buyers (QIB) as defined by the Securities and Exchange Commission are prohibited from purchasing Private Placement Securities. The SEC defines a QIB as having at least $100,000,000 in securities owned and invested.

13. SECURITIES SAFE KEEPING

All deliverable security transactions, including collateral for repurchase agreements, entered into by OCTA shall be conducted on a delivery-versus-payment basis. Deliverable securities shall be held by a third-party custodian designated by the Treasurer, evidenced by safe keeping receipts and in compliance with Code Section 53608.

14. BROKER DEALERS

The Treasurer, and investment professionals authorized by the Treasurer, may buy securities from a list of broker dealers and financial institutions that will be periodically reviewed.

Outside portfolio managers must certify that they will purchase securities from broker/dealers (other than themselves) or financial institutions in compliance with this Investment Policy.

15. INVESTMENT POLICY REVIEW

This Investment Policy shall be reviewed annually by the Finance and Administration Committee of the OCTA Board of Directors to ensure its consistency with the overall objectives of preservation of principal, liquidity, yield and diversification and its relevance to current law and economic trends.

16. DEFINITION OF TERMS

ACCRUED INTEREST: The amount of interest that is earned but unpaid since the last interest payment date.

AGENCY SECURITIES: (See U.S. Government Agency Securities)

ASK PRICE: (Offer Price) The price at which securities are offered from a seller.

ASSET BACKED SECURITIES (ABS): Securities collateralized or backed by receivables such as automobile loans and credit card receivables. The assets are transferred or sold by the company to a Special Purpose Vehicle and held in trust. The SPV or trust will issue debt collateralized by the receivables.

BANKERS ACCEPTANCES (BAs): Time drafts which a bank "accepts" as its financial responsibility as part of a trade finance process. These short-term notes are sold at a discount and are obligations of the drawer (the bank's trade finance client) as well as the bank. Once accepted, the bank is irrevocably obligated to pay the BA upon maturity if the drawer does not.

BASIS POINT: When a yield is expressed as X.YZ%, the YZ digits to the right of the decimal point are known as basis points. One basis point equals 1/100 of one percent. Basis points are used more often to describe changes in yields on bonds, notes and other fixed-income securities.

BID PRICE: The price at which a buyer offers to buy a security.

BOOK ENTRY: The system, maintained by the Federal Reserve, by which most securities are "delivered" to an investor's custodian bank. The Federal Reserve maintains an electronic record of the ownership of these securities and records any changes in ownership corresponding to payments made over the Federal Reserve wire (delivery versus payment). These securities do not receive physical certificates.

BOOK VALUE: The original cost of the investment.

CALLABLE BONDS: A bond issue which all or part of its outstanding principal amount may be redeemed before maturity by the issuer under specified conditions.

CAPITAL GAIN/LOSS: The profit or loss realized from the sale of a security.

CERTIFICATES OF DEPOSIT (NEGOTIABLE CDs): A negotiable (marketable or transferable) receipt for a time deposit at a bank or other financial institution for a fixed time and interest rate.

COLLATERAL: Securities or cash pledged by a borrower to secure repayment of a loan or repurchase agreement. Also, securities pledged by a financial institution to secure deposits in an Investment Agreement.

COMMERCIAL PAPER (CP): Unsecured promissory notes issued by companies and government entities usually at a discount. Commercial paper is negotiable, although it is typically held to maturity.

COUPON: The annual rate of interest received by an investor from the issuer of certain types of fixed-income securities. Also known as “interest rate.”

CURRENT YIELD: The annual income from an investment divided by the current market value. Since the mathematical calculation relies on the current market value rather than the

investor's cost, current yield is unrelated to the actual return the investor will earn if the security is held to maturity.

CUSTODIAN: A bank or other financial institution that keeps custody of assets in the name of the depositor.

DELIVERY VERSUS PAYMENT (DVP): Delivery of securities with a simultaneous exchange of money for the securities.

DERIVATIVE SECURITY: Financial instrument created from, or whose value depends upon, one or more underlying assets or indexes of asset values.

DISCOUNT: The difference between the par value of a bond and the cost of the bond, when the cost is below par. Some short-term securities, such as Treasury bills and bankers' acceptances, are known as discount securities. They sell at a discount from par and return the par value to the investor at maturity without additional interest. Other securities, which have fixed coupons, trade at a discount when the coupon rate is lower than the current market rate for securities of that maturity and/or quality.

DIVERSIFICATION: An investment principal designed to spread the risk in a portfolio by dividing investments by sector, maturity and quality rating.

DOLLAR-WEIGHTED AVERAGE MATURITY: A calculation that expresses the "average maturity" of an investment portfolio using each investment's maturity weighted by the size or book-value of that investment.

DURATION: A measure of the timing of cash flows, such as the interest payments and principal repayment, to be received from a given fixed-income security.

FEDERAL FUNDS RATE: Interest rate at which banks lend federal funds to each other.

FEDERAL OPEN MARKET COMMITTEE (FOMC): A committee within the Federal Reserve System that makes short-term monetary policy for the Fed. The committee decides either to sell securities to reduce the money supply, or to buy government securities to increase the money supply. Decisions made at FOMC meetings will cause interest rates to either rise or fall.

FEDERAL RESERVE SYSTEM: A U.S. centralized banking system which has supervisory powers over the 2 Federal Reserve banks and about 3,000-member banks.

FITCH Ratings referred to as Fitch: (See Nationally Recognized Statistical Rating Organizations)

INTEREST: The amount earned while owning a debt security, generally calculated as a percentage of the principal amount.

INTEREST RATE RISK: The risk associated with declines or rises in interest rates, which causes the market price of a fixed-income security to increase or decrease in value.

LIQUIDITY: The speed and ease with which an investment can be converted to cash.

MARK-TO-MARKET: The process by where the value of a security is adjusted to reflect current market conditions.

MARKET RISK: The risk that the value of a security will rise or decline as a result in changes in market conditions.

MARKET VALUE: The current market price of a security.

MATURITY: The date that the principal or stated value of an investment becomes due and payable.

MEDIUM TERM MATURITY CORPORATE SECURITIES: Notes issued by corporations organized and operating within the United States or by depository institutions licensed by the United States or any state and operating within the United States.

MONEY MARKET: The market in which short-term debt instruments (Treasury bills, discount notes, commercial paper, bankers' acceptances, etc.) are issued and traded.

MONEY MARKET MUTUAL FUNDS: An investment company that pools money from investors and invest in a variety of short-term money market instruments.

MOODY'S INVESTORS SERVICE, INC. referred to as Moody's: (See Nationally Recognized Statistical Rating Organizations)

MORTGAGE-BACKED SECURITY: A debt instrument with a pool of real estate loans as the underlying collateral. The mortgage payments of the individual real estate assets are used to pay interest and principal on the bonds.

MUNICIPAL DEBT: Issued by public entities to meet capital needs.

NATIONALLY RECOGNIZED STATISTICAL RATING ORGANIZATIONS (NRSRO's): Firms that review the creditworthiness of the issuers of debt securities, and express their opinion in the form of letter ratings (e.g. AAA, AA, A, BBB, etc.) The primary rating agencies include Standard & Poor's Global Ratings; Moody's Investor Services, Inc., Fitch Ratings and Kroll Bond Rating Agency, Inc.

NEGOTIABLE CD: (See Certificates of Deposit)

NET ASSET VALUE (NAV): The market value of one share of an investment company, such as a mutual fund. This figure is calculated by totaling the fund's assets which includes securities, cash and accrued earnings, then subtracting this from the fund's liabilities and dividing by the total number of shares outstanding. This is calculated once a day based on the closing price for each security in the fund's portfolio.

NON-CALLABLE: Bond that is exempt from any kind of redemption for a stated time period.

OCTA BONDS: Bonds, notes, warrants, or other evidences of indebtedness.

OFFER PRICE: An indicated price at which market participants are willing to sell a security.

PAR VALUE: The amount of principal that must be paid at maturity. Also referred to as the face amount of a bond, normally quoted in $1,000 increments per bond.

PHYSICAL DELIVERY: The delivery of an investment to a custodian bank in the form of a certificate and/or supporting documents evidencing the investment (as opposed to "book entry" delivery).

PORTFOLIO: A group of securities held by an investor.

PREMIUM: The amount by which the price paid for a security exceeds the security's par value.

PRIME RATE: A preferred interest rate charged by commercial banks to their most creditworthy customers.

PRINCIPAL: The face value or par value of an investment.

PURCHASE DATE: See (Trade Date)

REINVESTMENT RISK: The risk that coupon payments (or other payments received) cannot be reinvested at the same rate as the initial investment.

REPURCHASE AGREEMENTS (REPOS): A purchase of securities under a simultaneous agreement to sell these securities back at a fixed price on some future date. This is in essence a collateralized investment, with the difference between the purchase price and sales price determining the earnings.

SAFEKEEPING: Holding of assets (e.g. securities) by a financial institution.

SECURITES & EXCHANCE COMMISSION (SEC): The federal agency responsible for supervising and regulating the securities industry.

SETTLEMENT DATE: The date on which the purchase or sale of securities is executed. For example, in a purchase transaction, the day securities are physically delivered or wired to the buyer in exchange for cash is the settlement date.

SPECIAL PURPOSE VEHICLE (SPV): A trust or similar structure created specifically to purchase securities and reprofile cash flows and/or credit risk. Mortgage or Asset-backed securities may be issued out of the SPV and secured by the collateral transferred from the corporation.

STANDARD & POOR'S GLOBAL RATINGS referred to as Standard and Poor's or S & P: (See Nationally Recognized Statistical Rating Organizations)

SUPRANATIONAL: A supranational is a multi-national organization whereby member states transcend national boundaries or interests to share in the decision making to promote economic development in member countries.

THIRD-PARTY CUSTODIAL AGREEMENT: (See Custodian)

TOTAL RETURN: The sum of all investment income plus changes in the capital value of the portfolio.

TRADE DATE: The date and time corresponding to an investor's commitment to buy or sell a security.

U.S. GOVERNMENT AGENCY SECURITIES or FEDERAL AGENCIES: U.S. Government related organizations, the largest of which are government financial intermediaries assisting specific credit markets (housing, agriculture).

U.S. TREASURY OBLIGATIONS: Securities issued by the U.S. Treasury and backed by the full faith and credit of the United States. The Treasury issues both discounted securities and fixed coupon notes and bonds.

> **Treasury bills:** non-interest-bearing discount securities of the U.S. Treasury with maturities under one year.
>
> **Treasury notes:** interest-bearing obligations of the U.S. Treasury with maturities ranging from two to ten years from the date of issue.
>
> **Treasury bond:** interest-bearing obligations issued by the U.S. Treasury with maturities ranging from ten to thirty years from the date of issue.
>
> **Treasury STRIPS:** U.S. Treasury securities that have been separated into their component parts of principal and interest payments and recorded as such in the Federal Reserve book entry record-keeping system.
>
> **Treasury TIPS:** U.S. Treasury securities whose principal increases at the same rate as the Consumer Price Index. The interest payment is then calculated from the inflated principal and repaid at maturity.

VARIABLE AND FLOATING RATE SECURITIES: Variable and floating rate securities are appropriate investments when used to enhance yield and reduce risk. They should have the same stability, liquidity and quality as traditional money market securities.

VOLATILITY: The degree of fluctuation in the price and valuation of securities.

YIELD: The current rate of return on an investment security generally expressed as a percentage of the securities current price.

ZERO COUPON SECURITIES: Security that is issued at a discount and makes no periodic interest payments. The rate of return consists of a gradual accretion of the principal of the security and is payable at par upon maturity.

COMMITTEE TRANSMITTAL

June 13, 2022

To: Members of the Board of Directors

From: Andrea West, Interim Clerk of the Board

Subject: Amendment to Agreement for Information Technology Contract Technical Staffing

Finance and Administration Committee Meeting of June 8, 2022

Present: Directors Goodell, Harper, Hennessey, Jones, and Muller
Absent: Directors Hernandez and Sarmiento

Committee Vote

This item was passed by the Members present.

Committee Recommendation

Authorize the Chief Executive Officer to negotiate and execute Amendment No. 3 to Agreement No. C-7-1949 between the Orange County Transportation Authority and Intratek Computer, Inc., in the amount of $1,492,292, to continue providing contract staffing services for information technology technical positions. This will increase the maximum cumulative obligation of the agreement to a total contract value of $12,760,052.

OCTA

June 8, 2022

To: Finance and Administration Committee

From: Darrell E. Johnson, Chief Executive Officer

Subject: Amendment to Agreement for Information Technology Contract Technical Staffing

Overview

On January 22, 2018, the Orange County Transportation Authority Board of Directors approved an agreement with Intratek Computer, Inc., to provide contract staffing services for information technology technical positions for a five-year term. An amendment is required to increase the maximum cumulative payment obligation to continue services due to increased workload requirements to replace three major systems.

Recommendation

Authorize the Chief Executive Officer to negotiate and execute Amendment No. 3 to Agreement No. C-7-1949 between the Orange County Transportation Authority and Intratek Computer, Inc., in the amount of $1,492,292, to continue providing contract staffing services for information technology technical positions. This will increase the maximum cumulative obligation of the agreement to a total contract value of $12,760,052.

Discussion

Since consolidation in 1991, the Orange County Transportation Authority (OCTA) has continually sought to improve the way which business is conducted by identifying opportunities for privatization and contracting. By contracting various technical positions, the Information Systems (IS) Department has been able to extend the coverage of the existing full-time staff and keep up with the increasing workload of the department. Technical staffing needs are evaluated annually; however, on average, ten to 12 full-time equivalent positions are contracted. Supplemental staffing allows the IS Department to quickly adjust resources based on overall workload and projects. The decision to replace three major systems for asset management, human resource and capital management, and risk management requires additional technical staff.

This request is for an increase in the maximum cumulative obligation by $1,492,292 to the agreement with Intratek Computer, Inc. (Intratek). The increase is necessary to continue technical staffing services for the duration of the contract term until March 31, 2023. Since the agreement was awarded, an increased demand for contracted technical staff support has accelerated requests to fill technical staffing positions in the last year. In addition, added resources were required for the replacements of both the Enterprise Asset Management and Risk Management systems due to staff requested enhancements. OCTA anticipates acquiring four additional System Business Analysts to support the design and implementation of the new human capital and payroll system, as well as assist with daily operational tasks for employees assigned to the project.

Procurement Approach

The procurement was originally handled in accordance with the OCTA's Board of Directors (Board)-approved policies and procedures for professional and technical services. On January 22, 2018, the Board approved the award of the agreement with Intratek. The original agreement was awarded on a competitive basis and included a five-year term. This agreement has been previously amended as shown on Attachment A.

The term of the agreement is through March 31, 2023. Amending the agreement will increase the maximum cumulative payment obligation by $1,492,292, bringing the total contract value to $12,760,052, which will allow for additional technical staff to support OCTA's system replacement projects. The rates for the newly contracted staff will be as originally negotiated. The budget for this amendment is deemed fair and reasonable as it is consistent with current usage and takes into account the need for additional technical staff support. In addition, it is consistent with the OCTA Project Manager's independent cost estimate.

Fiscal Impact

Funds are included in the OCTA Proposed Fiscal Year 2022-23 Budget, Finance and Administration/Information Systems and are funded through local funds.

Summary

Staff requests Board of Directors' approval to authorize the Chief Executive Officer to negotiate and execute Amendment No. 3 to Agreement No. C-7-1949 between the Orange County Transportation Authority and Intratek

Computer Inc., in the amount of $1,492,292, to continue providing contract technical staffing services for Information Technology technical positions.

Attachment

A. Intratek Computer, Inc., Agreement No. C-7-1949 Fact Sheet

Prepared by:

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Approved by:

Andrew Oftelie
Chief Financial Officer,
Finance & Administration
714-560-5649

Pia Veesapen
Director, Contracts Administration and
Materials Management
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ATTACHMENT A

Intratek Computer, Inc.
Agreement No. C-7-1949 Fact Sheet

1. January 22, 2018, Agreement No. C-7-1949, $11,267,760, for a five-year term, approved by the Board of Directors (Board).

   - Agreement for long-term contract personnel for various positions within the Information Systems Department.

   - Effective February 15, 2018 through March 31, 2023.

2. July 9, 2018, Amendment No. 1 to Agreement No. C-7-1949, $0.00, approved by the Contracts Administration and Materials Management Department (CAMM).

   - Amendment to add positions for long-term contract personnel.

3. February 12, 2020, Amendment No. 2 to Agreement No. C-7-1949, $0.00, approved by CAMM.

   - Amendment to add a position for long-term contract personnel.

4. June 13, 2022, Amendment No. 3 to Agreement No. C-7-1949, $1,492,292, pending approval by the Board.

   - Increased maximum cumulative payment obligation to continue contract staffing services for Information Technology technical positions.

Total committed to Intratek Computer, Inc., under Agreement No. C-7-1949: $12,760,052.

COMMITTEE TRANSMITTAL

June 13, 2022

To: Members of the Board of Directors

From: Andrea West, Interim Clerk of the Board

Subject: SB 1196 (Umberg, D Santa Ana) Update

Executive Committee Meeting of June 6, 2022

Present: Chairman Murphy, Directors Bartlett, Do, Hennessey, Jones, and Muller
Absent: Vice Chairman Hernandez

Committee Vote

This item was declared passed by the Members present.

Committee Recommendation

Direct staff to adopt an OPPOSE position for SB 1196 (Umberg, D-Santa Ana).

OCTA

June 6, 2022

To: Executive Committee

From: Darrell E. Johnson, Chief Executive Officer

Subject: SB 1196 (Umberg, D-Santa Ana) Update

Overview

SB 1196 (Umberg, D-Santa Ana) seeks to make the Anaheim Transportation Network eligible for state transit funding. The bill was presented to the Orange County Transportation Authority Legislative and Communications Committee and Board of Directors with a recommended oppose position on March 17, 2022, and April 11, 2022, respectively. While no position was adopted at that time, pursuant to direction by the Orange County Transportation Authority Board of Directors, additional conversations have taken place with Senator Umberg and the Anaheim Transportation Network. An update is provided on the status of those discussions.

Recommendation

Provide staff direction on a position for SB 1196 (Umberg, D-Santa Ana).

Discussion

SB 1196 (Umberg, D-Santa Ana): Transportation Development Act: eligibility: Anaheim Transportation Network.

SB 1196 was initially introduced on February 17, 2022, and sought to define the Anaheim Transportation Network (ATN) as a public transportation "operator" in statute to allow ATN to be eligible to receive state transit funding under the Transportation Development Act – from both the Local Transportation Fund (LTF) and State Transit Assistance (STA). By doing this, the bill would have also made ATN eligible for formula funds from both SB 1 (Chapter 5, Statutes of 2017) State of Good Repair (SGR) funding and cap-and-trade Low Carbon Transit Operations Program (LCTOP) funds, which are both allocated via the STA formula. In addition, the bill would have allowed increased eligibility for ATN to apply for competitive grant programs as a transit "operator." OCTA is currently the primarily recipient for all of these funds in Orange County. Funding from the LTF and STA are the only sources of state transit funding that OCTA can use for

operational purposes, while funding from LCTOP and SGR have been used for a variety of capital and fare programs, including such things as the Youth Ride Free program, the college pass program, and zero-emission technology.

According to their articles of incorporation, ATN is a nonprofit public benefit corporation that was initially formed through an environmental mitigation measure under the Anaheim Resort Specific Plan environmental impact report to consolidate various shuttles operated by resorts and attractions within the Anaheim resort area.

Based within the Anaheim resort area, ATN's Board of Directors are not elected officials, but rather consist of resort hoteliers, Disneyland, Angels Baseball, the Honda Center, and other hospitality organizations. The City of Anaheim has a seat on the Board of Directors, currently held by the city's Deputy Director of Convention, Sports & Entertainment. ATN provides a service primarily designed to transport guests to and from Disneyland and other tourist destinations and is not designed to serve Orange County's general transit riding public. Illustrating this point, in ATN's 2021 Annual Stakeholder Report, it stated that 79 percent of total passenger boardings for 2021 were from Disneyland's Toy Story parking lot. In 2020, 46 percent of ATN's total revenues were generated from this parking lot.

As originally introduced, this bill would have significant impacts on OCTA funding while not providing a commensurate level of public transportation. Based on the analysis of the bill in its initial form, Orange County Transportation Authority (OCTA) staff estimated that if SB 1196 passed as introduced, ATN could be eligible for about $26 million from all funding sources, representing about 17 percent of OCTA's existing service levels. A majority of these funds would be diverted away from OCTA.

OCTA staff presented on SB 1196 to the March 17, 2022, Legislative and Communications Committee meeting, and the April 11, 2022, Board of Directors (Board) meeting, and recommended an "oppose" position. Staff presented this "oppose" recommendation because of concerns not only about the significant shift of funding away from OCTA to an entity that does not currently meet the definition of a public transportation "operator," directly impacting transit services throughout Orange County, but also because of concerns that this bill was inconsistent with statutory intent to facilitate coordinated transit planning and service in the County through OCTA. OCTA's initial analysis of the bill is included as Attachment A. Following its deliberation, the Board did not take a position, rather directing staff to meet with ATN and explore the potential for a non-legislative pathway, and work with Senator Umberg to limit the impacts of the bill. The Board also emphasized the importance of working with Senator Umberg to ensure that in any alternative, the result would be a net funding gain for Orange County and would not divert funds form OCTA.

Since that Board direction, OCTA staff has met with both ATN and Senator Umberg. In these meetings, OCTA has conveyed that existing statute affords ATN the opportunity to qualify for state transit funding if they can qualify as a "municipal operator," as defined under statute. This would mean that ATN would have to be "wholly owned or controlled by the city or county." OCTA has offered to work with ATN and assist them in meeting this requirement, if this is a path ATN would like to pursue. Senator Umberg has indicated that while he supports those conversations, he would like to pursue a double-track approach, and continue moving forward with SB 1196.

SB 1196 has been amended since it was initially presented to the Board. The bill in its current form is included as Attachment B. As SB 1196 currently reads, ATN would be defined as an "STA-eligible operator," for purposes of Section 99314 of the Public Utilities Code, which governs the distribution of STA funding based on each transit agency's annual revenues. This would only be the case if ATN's bylaws are amended to increase transparency and accountability, including to provide for appointment of ATN's Board of Directors by the Anaheim City Council.

While this language is an effort to try to narrow ATN's eligibility for state transit funding and increase public accountability of its Board of Directors, there are still concerns that this would not preclude ATN from accessing funds from other state transit funding sources, redirecting funding from OCTA. This concern was confirmed in the Senate Floor Legislative Analyses for the bill (Attachment C), in addition to that analysis confirming an existing process to allow for eligibility, as provided under a bill OCTA supported in 2017, AB 1113 (Chapter 86, Statutes of 2017). Similar conclusions were also reached in the Senate Appropriations Committee analysis (Attachment D), which also notes that ATN is not a public transportation operator and that is why they do not currently qualify for state transit funding. Senate Appropriations Committee analysis expresses concern that SB 1196 creates a precedent of ATN sidestepping existing law by avoiding restructuring as a fully public transit district, and instead just defining themselves as eligible for state transit funding in statute. This could be replicated by other entities in the State if successful, further diluting funding available for public transportation purposes.

In a good faith effort to make SB 1196 be consistent with the stated intent of Senator Umberg and ATN, and also address concerns raised by OCTA and state legislative staff, OCTA staff drafted amendments to the bill, which are included as Attachment E. These amendments would do the following:

1. Remove the amendments out of the existing section to a standalone section, and clearly state that ATN would only be eligible for funding the revenue share of STA funding, and will not be eligible for or claim funds from the LTF, SGR, LCTOP, or future transit operations funding. The language would also ensure that OCTA is reimbursed for any funding lost

due to ATN's eligibility for funding it receives pursuant to Public Utilities Code section 99314.

2. Consistent with existing law, clearly state that OCTA is the entity which would make the findings that ATN is eligible for the funding provided pursuant to Public Utilities Code section 99314.

3. Include required findings to ensure that ATN increases transparency and is in compliance with government transparency and accountability rules – including existing language in SB 1196 related to the appointment of the ATN Board of Directors by the Anaheim City Council, and additional language to ensure compliance by ATN with the Ralph M. Brown Act, Fair Political Practices Commission requirements and the California Public Records Act.

    a. As part of the findings, ensure there is no duplication of routes between OCTA and ATN, and that ATN reimburses OCTA for any complementary paratransit service required as part of ATN's service.

    b. As part of the findings, ensure that ATN is addressing a demand that exists for transit service, and that OCTA cannot otherwise provide that service. As part of this effort, analysis can be done related to equity considerations.

    c. Include a requirement that ATN must supply OCTA with any required documentation to make the associated findings.

4. Include language to cross-reference existing statutory provisions that make OCTA the lead agency for the planning and development of any future fixed guideway projects.

5. Cross-reference existing requirements related to STA funding that ATN would be subject to, if deemed eligible.

OCTA has shared these amendments with Senator Umberg's office, who at the time this staff report was drafted, has shared them with ATN and is awaiting comment or input. At the June 6, 2022, Executive Committee meeting, OCTA staff will provide an update on the status of these suggested amendments. SB 1196 is currently pending in the Assembly Transportation Committee, and must be voted on before July 1, 2022, to remain viable. The last scheduled Assembly Transportation Committee hearing is June 27, 2022, with position letters due by June 20, 2022. The last day for the author to amend the bill prior to the committee hearing, pursuant to Assembly Transportation Committee deadlines, is June 17, 2022. Given these deadlines, if the Board wishes to inform this bill when it is heard in policy committee, a position would need to be adopted at the June 13, 2022, Board meeting.

Summary

An update is provided on a bill to allow the Anaheim Transportation Network to be eligible for state transit funding.

Attachments

A. SB 1196 (Umberg, D-Santa Ana) Bill Analysis, dated February 28, 2022
B. SB 1196 (Umberg, D-Santa Ana) Bill Language
C. Senate Rules Committee, Office of Senate Floor Analysis – SB 1196 (Umberg, D-Santa Ana)
D. Senate Committee on Appropriations Analysis – SB 1196 (Umberg, D-Santa Ana)
E. OCTA Proposed Amendments to SB 1196 (Umberg, D-Santa Ana)

Prepared by:

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Approved by:

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BILL: SB 1196 (Umberg, D-Santa Ana)
Introduced February 17, 2022

SUBJECT: SB 1196 would redirect state transit funding to a private shuttle operator from public transportation purposes in Orange County

STATUS: Pending in Senate Transportation Committee

SUMMARY AS OF FEBRUARY 28, 2022:

SB 1196 (Umberg, D-Santa Ana) would define Anaheim Transportation Network (ATN) as a public transportation "operator" in statute and allow ATN to be eligible to receive state transit funding under the Transportation Development Act (TDA) – from both the Local Transportation Fund (LTF) and State Transit Assistance (STA). In addition, ATN would be eligible for formula funds from both SB 1 (Chapter 5, Statutes of 2017) State of Good Repair (SGR) funding and cap-and-trade Low Carbon Transit Operations Program (LCTOP) funds, which are both allocated via the STA formula. By being defined as a public "operator" in statute, ATN could be eligible for various state competitive funding programs like the Transit and Intercity Rail Capital Program.

EFFECTS ON ORANGE COUNTY:

According to their articles of incorporation, ATN is a nonprofit public benefit corporation that was initially formed through an environmental mitigation measure under the Anaheim Resort Specific Plan environmental impact report to consolidate various shuttles operated by resorts and attractions within the Anaheim resort area. Based in the Anaheim resort area, ATN's Board of Directors are not elected officials, but rather consist of resort hoteliers, Disneyland, Angels Baseball, the Honda Center and other hospitality organizations. The City of Anaheim has a seat, currently held by the city's Deputy Director of Convention, Sports & Entertainment. While primarily focused on transporting riders within the resort district of Anaheim, ATN has previously operated routes in other cities, including Costa Mesa, Garden Grove, Buena Park and Orange. These routes were all intended, however, to serve guests of the resort district. According to their 2021 Title VI Plan:

- 88 percent of ATN's ridership live outside of Southern California
- 64 percent of ATN's ridership live outside of the State
- 93 percent of trips on ATN were for vacations or to attend conventions or meetings

ATN provides a service primarily designed to transport guests to and from Disneyland and other tourist destinations and is not intended to serve Orange County's general transit riding public. Illustrating this point, in ATN's 2021 Annual Stakeholder Report, it stated that 79 percent of total passenger boardings for 2021 were from Disneyland's Toy Story parking lot. In 2020, 46 percent of ATN's total revenues were generated from this parking lot.

SB 1196 is unprecedented in not only seeking to add an additional entity within the definition of public "operator" in an area already served by an existing transit district, but in also adding an entity that is primarily created and operated to serve private interests.

This is inconsistent with the intent of the statutes governing state transit funding, and in the State's overall goals to facilitate coordinated transit planning to promote increased ridership.

SB 1196 would not only define ATN as a public "operator," making it eligible for both the population and revenue components of STA funding, but it would also define ATN's operation area – tied specifically to its articles of incorporation – for purposes of LTF eligibility. This would significantly shift transit funding within Orange County as a result of ATN seeking eligibility for both STA and LTF, in addition to those funding sources like LCTOP and SGR that are directly linked to STA. In total, it is estimated that ATN could be eligible for about $26 million from all funding sources, representing about 17 percent of the Orange County Transportation Authority's (OCTA) existing service levels. Only about $900,000 is estimated to be based on new revenues to Orange County, with the vast majority coming directly from OCTA's share of those fund sources. Any increased funding to Orange County, as a result of this bill, would come directly from other transit agencies in the State. Because of uncertainties associated with ATN's current revenues, and on its ability to comply with TDA requirements related to farebox, operational costs, etc., there is the potential that less funding could be generated, and Orange County could actually lose funding if ATN cannot comply with state requirements.

If SB 1196 were to pass, nothing in the bill requires OCTA to approve this funding shift or conduct any oversight related to the need for these funds or services, which is what occurs in the case of municipal operators in other parts of the State. There is no requirement this diversion of funds be negotiated in any manner, nor is any limitation placed on total funds that can be provided to ATN. Because of the broad definition of operating area included in SB 1196, and the ability for ATN to amend its articles of incorporation at any time, ATN would have discretion to argue for an even higher share of funding than what is outlined above.

Because of the immediate impact to OCTA's budget, a significant decrease in service and workforce demands would immediately take place. OCTA would potentially be forced to stop operating its service within ATN's operating area, including the complementary paratransit service. ATN does not offer paratransit service that complies with federal requirements, which could impact residents in that service area. By having to eliminate service, this could lead to a disruption on some of OCTA's most in-demand transit routes in the county's most disadvantaged communities that connect to other cities within Orange County. Adding a new transit operator to the county would also create increased complexity in fares and tickets, inconsistent with statewide trends. This would be a direct impact to some of the most disadvantaged residents of the county, and completely disrupt coordinated transit planning. Furthermore, the reduction in funding from sources like LCTOP and SGR could directly impact OCTA's projects funded by those programs, including the Youth Ride Free program, college pass programs, and zero-emission bus purchases.

An OPPOSE position is consistent with OCTA's 2021-22 State Legislative Platform principle to "Oppose redirecting or reclassifying transportation revenue sources, including

earned interest, for anything other than their intended purposes" and to "Support the retention of existing and future local revenue sources."

OCTA POSITION:

Staff recommends: OPPOSE

AMENDED IN SENATE APRIL 18, 2022

AMENDED IN SENATE APRIL 4, 2022

SENATE BILL No. 1196

Introduced by Senator Umberg

February 17, 2022

An act to amend Section 99312.2 of the Public Utilities Code, relating to transportation.

LEGISLATIVE COUNSEL'S DIGEST

SB 1196, as amended, Umberg. State Transit Assistance Program: eligibility: Anaheim Transportation Network.

Existing law establishes the State Transit Assistance (STA) Program under the Transportation Development Act. Existing law requires the transfer of a specified portion of the sales tax on diesel fuel, in addition to various other revenues, to the Public Transportation Account, a trust fund in the State Transportation Fund. Pursuant to the STA program, existing law requires certain funds in the account to be allocated by the Controller by formula to specified local transportation agencies for public transportation purposes. Existing law provides that only STA-eligible operators are eligible to receive an allocation from a local transportation agency from the portion of program funds based on transit operator revenues and makes those operators eligible for other certain funds under the STA program, as provided. Under existing law, an STA-eligible operator is defined as a public transportation operator eligible to claim local transportation funds.

This bill would, for purposes of the STA ~~program,~~ *program funds allocated based on transit operator revenues,* expand the definition of an STA-eligible operator to include the Anaheim Transportation Network if its bylaws are revised to increase transparency and

accountability, including to provide for the appointment of its board of directors by the Anaheim City Council.

Vote: majority. Appropriation: no. Fiscal committee: yes. State-mandated local program: no.

The people of the State of California do enact as follows:

SECTION 1. Section 99312.2 of the Public Utilities Code is amended to read:

99312.2. (a) The State Transit Assistance Program, also known as the STA program, which provides for allocations of funds made available from the Public Transportation Account pursuant to Sections 99313 and 99314, and which is governed by Sections 99312 to 99314.9, inclusive, is hereby continued in existence. The purpose of the STA program is to provide a source of state funding to eligible public transportation operators and other transportation agencies in order to support their local and regional transit operating and capital needs.

(b) For purposes of the STA program, the following terms shall have the following meanings:

(1) "Public transportation operator" has the same meaning as "operator," as defined in Section 99210, as long as that operator operates a "public transportation system," as defined in Section 99211.

(2) "STA-eligible operator" means a public transportation operator eligible to claim local transportation funds under either Article 4 (commencing with Section 99260) or Article 8 (commencing with Section 99400), or under both articles, and ~~also~~ *also, for purposes of funds allocated pursuant to Section 99314,* means the Anaheim Transportation Network for public transportation purposes if the Anaheim Transportation Network's bylaws are revised to increase transparency and accountability, including to provide for the appointment of the Anaheim Transportation Network's board of directors by the Anaheim City Council.

(c) The only entities eligible to receive direct allocations from the Controller under Sections 99313 and 99314 shall be transportation planning agencies, county transportation commissions, and the San Diego Metropolitan Transit Development Board. The Controller shall distribute funds attributable to

transportation planning agencies, county transportation commissions, and the San Diego Metropolitan Transit Development Board to the applicable county treasurer's office. Upon the request of a transportation planning agency, county transportation commission, or the San Diego Metropolitan Transit Development Board, the Controller shall instead distribute the applicable funds directly to the requesting agency.

(d) Only STA-eligible operators shall be eligible to receive STA program funds allocated by transportation planning agencies, county transportation commissions, and the San Diego Metropolitan Transit Development Board pursuant to Section 99314. An STA-eligible operator, at its discretion, may further suballocate funds it receives pursuant to Section 99314 to an entity operating local community transit services that is eligible to claim local transportation funds pursuant to Article 4.5 (commencing with Section 99275) but that is otherwise ineligible to directly receive funds allocated pursuant to Section 99314.

(e) An entity operating community transit services pursuant to Article 4.5 (commencing with Section 99275) may be allocated funds pursuant to Section 99313 as a subrecipient at the discretion of the transportation planning agency, the county transportation commission, or the San Diego Metropolitan Transit Development Board.

(f) The Los Angeles County Metropolitan Transportation Authority, which is both a county transportation commission for purposes of Sections 99313 and 99314, and an STA-eligible operator for purposes of Section 99314, may incorporate into its report pursuant to Section 99243 any operating costs for local community transit service under contract with the authority, including service provided by a consolidated transportation service agency pursuant to Section 99204.5 or by operators eligible to expend local transportation funds only under Article 4.5 (commencing with Section 99275).

O

SENATE RULES COMMITTEE
Office of Senate Floor Analyses
(916) 651-1520 Fax: (916) 327-4478

SB 1196

THIRD READING

Bill No: SB 1196
Author: Umberg (D)
Amended: 4/18/22
Vote: 21

SENATE TRANSPORTATION COMMITTEE: 12-1, 4/26/22
AYES: Gonzalez, Allen, Archuleta, Becker, Cortese, Dodd, Limón, McGuire, Min, Newman, Rubio, Skinner
NOES: Melendez
NO VOTE RECORDED: Bates, Dahle, Wieckowski, Wilk

SENATE APPROPRIATIONS COMMITTEE: 6-0, 5/19/22
AYES: Portantino, Bradford, Jones, Kamlager, Laird, Wieckowski
NO VOTE RECORDED: Bates

SUBJECT: State Transit Assistance Program: eligibility: Anaheim Transportation Network

SOURCE: Anaheim Transportation Network

DIGEST: This bill expands the definition "State Transit Assistance (STA)-eligible operator" to include the Anaheim Transportation Network (ATN), for the purposes of receiving STA funds for public transportation purposes if ATN's bylaws are revised to increase transparency and accountability, including to provide for the appointment of the ATN's Board of Directors by the Anaheim City Council. This bill also declares that ATN is an STA-eligible operator for the purposes of STA funding allocated according to transit operator revenues from the prior fiscal year.

ANALYSIS:

Existing law:

1) Provides, pursuant to the Transportation Development Act (TDA) of 1971, funding for transit and non-transit related purposes that comply with regional transportation plans. It serves to improve existing public transportation services and encourage regional transportation coordination. TDA provides funding for public transit from two funding sources: 1) the Local Transportation Fund (LTF), which is derived from a 1/4 cent of the general sales tax collected statewide; and 2) the State Transit Assistance fund (STA), which is derived from the statewide sales tax on diesel fuel.

2) Defines 1) public transit "operator" as any transit district, included transit district, municipal operator, included municipal operator, or transit development board; 2) "public transportation system" as any system of an operator which provides transportation services to the general public by any vehicle which operates on land or water, regardless of whether operated separated from or in conjunction with other vehicles; and 3) "municipal operator" as a city or county, including any nonprofit corporation or other legal entity wholly owned or controlled by the city or county, which operates a public transportation system, or which on July 1, 1972, financially supported, in whole or in part, a privately owned public transportation system, and which is not included, in whole or in part, within an existing transit district.

3) Defines "STA-eligible operator" as a public transportation operator eligible to claim LTF under either Article 4 or Article 8 of TDA law, or under both articles.

4) Defines "qualifying revenues" to mean fare revenues, including fares generated for community transit services under contract with the STA-eligible operator, and any other funds used by the operator in the delivery of transit service, except federal and state funds.

5) Requires the State Controller's Office (SCO) to allocate funds to specified regional transportation planning agencies (RTPA)s for public transportation purposes. Requires STA funds be allocated by the SCO by formula with 50% being allocated according to population and 50% being allocated according to transit operator revenues from the prior fiscal year.

6) Requires that only STA-eligible operators are eligible to receive an allocation from the portion of program funds based on transit operator revenues, which includes an amount corresponding to the STA-eligible operators within the jurisdiction of each RTPA. Requires amount allocated to a RTPA be based on the ratio that the total qualifying revenue of all STA-eligible operators in the jurisdiction bears to the total qualifying revenue of all STA-eligible operators in the state.

7) Requires the RTPA with jurisdiction over a transit operator to verify the operator is eligible for funding under the STA program prior to the operator submitting its report to the SCO, and requires the SCO to reflect the verification on the operator's report.

8) Requires the SCO to design and adopt a uniform system of accounts and records under which operators, as defined, prepare and submit annual reports of their operation.

9) Requires operators to prepare and submit annual reports of their operation to RTPAs having jurisdiction over them and to the SCO. Requires the report to contain underlying data from audited financial statements prepared in accordance with generally accepted accounting principles, if this data is available. Requires the report to specify (1) the amount of revenue generated from each source and its application for the prior fiscal year, and (2) the data necessary to determine which section, as specified, the operator is required to be in compliance in order to be eligible for funds.

10) Imposes certain financial requirements on transit operators making claims for transit funds, including requirements that fares collected by the operator cover a specified percentage of operating costs, and that an operator's total operating cost per revenue vehicle hour not exceed operating revenues and the percentage change in the Consumer Price Index (CPI). Establishes different farebox recovery requirements depending upon population.

This bill:

1) Expands the definition of "STA-eligible operator" to include ATN for public transportation purposes if ATN's bylaws are revised to increase transparency and accountability, including to provide for the appointment of ATN's Board of Directors by the Anaheim City Council.

2) Declares that ATN is an STA-eligible operator for the purposes of STA funding allocated according to transit operator revenues from the prior fiscal year.

Background

1) *Who is ATN?* ATN is a local non-profit 501 (c) (4) transportation management association and a service provider of the Anaheim Resort Transportation (ART) system. ATN provides transportation services to the cities of Anaheim, Garden Grove, Santa Ana, Buena Park, Costa Mesa and Orange by operating a fleet of transit buses along fixed routes to provide transportation to local and regional event destinations, rail stations, retail establishments, etc. They operate along a system of 22 fixed routes and with an active fleet of 74 alternative fuel buses. Prior to March 2020, ATN was expecting to have an annual ridership of over 9.5 million passengers.

2) *How did ATN get started?* As described in the 2017 report, *Integrated Transportation and Capacity Building Plan (Plan)*, ATN was created in 1995 to provide various public transportation services to the City of Anaheim, including managing a transportation demand management program for large employers. According to recent press reports, roughly 88% of ATN's ridership lives outside of Southern California, with 64% living outside of the state. Nearly 93% of ATN trips were for people on vacations or attending conventions.

   ATN's articles of incorporation states that, "the specific purpose of this corporation is to organize the collective actions of the public and private sectors to address the unique transportation and air quality issues of local employers, major event centers, and visitor-and convention-related businesses located throughout certain portions of the City of Anaheim, California known as the Anaheim Resort Area ("ARA") and Stadium Business Center ("SBC"); to facilitate a forum for the corporation's members and other interested persons to work together to develop workable transportation solutions; and to provide leadership to maximize access, enhance mobility, and assist with regulatory compliance, including environmental mitigation measures, all for the benefit of the corporation's members and the public who are visitors to, or are employed within, the ARA, and the SBC."

   The relationship between ATN and the City of Anaheim was formalized in 2004, when the City awarded ATN a non-exclusive franchise agreement to operate ART service in Anaheim. This agreement was renewed in 2011 and again in 2019.

3) *How is ATN governed?* ATN is currently governed by a 15 member Board of Directors plus one ex-officio non-voting member, and ATN's Executive Director and General Counsel. The members represent resorts and businesses that are part of ATN's service territory, inducing Disneyland and the Anaheim Ducks arena. One board member represents the City of Anaheim. Some of the members of the Board are elected and some appointed, both by business members of the ATN service territory. Although ATN is not a public agency, according to their bylaws, the Board of Directors observe the Ralph M. Brown Act for their meetings. However, it is unclear if ATN also complies with the California Public Records Act and the California Political Reform Act as required for public agencies.

4) *How is ATN funded?* ATN is funded from a variety of sources, including locally generated fees, fare revenue, and some federal apportionments and grants. According to their bylaws, ATN collects membership dues from lodging establishments, retail facilities, event centers, commercial offices, institutional uses, manufacturing facilities, and standalone restaurants. Additionally, ATN receives funding from local assessments, with revenue generated by a 2% fee levied on hotel/motel room rentals and 25% of the funds are required to be allocated to support transportation activities, including ATN.

   As mentioned, ATN also receives funding from the Federal Transit Administration (FTA). Specifically, ATN is authorized to contribute their ridership data to the National Transit Database, which makes them eligible to receive some federal funding. Specifically, according to the Orange County Transportation Authority (OCTA), ATN receives annual allocations based on this ridership data from FTA's Urbanized Area Formula Grants (5307) program at roughly $750,000 annually, which is allocated to ATN through OCTA. The funds can be used for capital projects and operations.

   According to ATN, they have also received federal funding from FTA's Bus and Bus Facilities (5339) program, which provides one-time grants to replace, rehabilitate and purchase buses and related equipment. Additionally, in 2018, ATN received a grant from the state's Transit Intercity Rail Capital Program, (TIRCP) for $28 million to start a micro transit service; electrify its fleet, including the purchase and deployment of 40 ZEB electric buses; and build new operations and maintenance facilities.

5) *What is STA and how does it work?* In 1971, the Legislature enacted the Mills-Alquist-Deddeh Act, otherwise known as TDA, which dedicated a statewide 1/4 cent sales tax to local transportation. That 1/4 cent sales tax, now known as the LTF, generates over $1.6 billion annually primarily for public transit. Later, the Legislature created a second state funding source for public transit under the TDA called the STA. The STA, which generates more than $700 million annually, is derived from the sales tax on diesel fuel and can be used by transit operators for both capital projects and transit operations. STA is distributed throughout the state to RTPAs, half based on population and half based on annual revenues generated by each eligible entity. The RTPA then allocates the funding share to each eligible entity in their jurisdiction. To receive STA funds, a transit operator must be deemed eligible by the relevant RTPA for the area in which they operate. The RTPA is required to certify and report the eligible transit operators to SCO.

6) *What is an STA-eligible operator?* Specifically, TDA law defines a public transit operator as, "any transit district, included transit district, municipal operator, included municipal operator, or transit development board." Additionally, the passage of AB 1113 (Bloom, Chapter 86, Statutes of 2017), which revised and recast provisions of the STA program, defined an STA-eligible operator for the purposes of receiving STA funding. Specifically, an STA-eligible operator is a public transit operator, as defined above, that operates a public transportation system, and is eligible to claim LTF funding under TDA. In addition to defining STA-eligible operator, AB 1113 set up a process requiring each RTPA to certify that each transit provider in their jurisdiction meet the definitions and requirements to be an STA-eligible operator.

   STA-eligible operators also must meet numerous reporting requirements to continue to receive state funds. For example, they are required to prepare and submit annual reports of their operations to RTPAs and to the SCO. The report, called Financial Transactions Report (FTR), details the operator's revenue and expenditures for the fiscal year. The data in the FTR is used to calculate STA payments to transit operators based on "qualifying revenue" of each of the state's transit agencies. Additionally, STA-eligible operators are required to meet state performance measures including requirements that fares collected by the operator cover a specified percentage of operating costs, and that an operator's total operating cost per revenue vehicle hour not exceed operating revenues and the percentage change in the Consumer Price Index (CPI), and

certain farebox recovery ratios. The SCO and the California Department of Transportation (Caltrans), oversee operators' compliance with these measures.

Comments

1) *Purpose.* According to the author, "public transportation is an important service to the citizens and economy in Orange County who rely on these resources. Over 9.5 million resident, employees, and visitors use the Anaheim Transportation Network each year to connect with job centers, theme parks, and other venues. The Anaheim Transportation Network is a nonprofit, federally recognized transportation agency that receives federal funds to support its services. However, Anaheim Transportation Network is currently ineligible for state funds that would allow their transportation network to expand and improve to better serve their community. Therefore, SB 1196 will put the Anaheim Transportation Network on a level playing field with other public transportation services in California by making the network eligible to receive State Transit Assistance funds."

2) *SB 1196 declares ATN is an STA-eligible operator.* SB 1196 was introduced to define ATN as a STA-eligible public transit operator under state law for the purposes of receiving STA funding. Currently, although ATN does receive federal funding, it is not eligible for state transit operating funds as established by TDA law. Recent author's amendments attempt to narrow the impact of the bill by specifying that ATN is an STA-eligible operator for the "purposes of fund allocated pursuant to section 99314 of the Public Utilities Code." This is the portion of STA funds that are calculated based on the qualifying revenues generated by each transit agency in a specific RTPA area. According to ATN, they are attempting to not negatively impact OCTA's funding that they receive from the portion of STA based on the population of Orange County.

   Although ATN may have the intent of "walling off" only the revenue portion of STA funds, declaring ATN a STA-eligible operator may have wider reaching impacts. First, it is unclear whether ATN would become eligible to also be a claimant for LTF funds in the future. TDA law is quite intertwined and one of the requirements for being a STA-eligible operator is the ability to claim LTF funds. Additionally, being a STA-eligible operator automatically makes the agency eligible for programs that use STA eligibility and formulas. These include the Low Carbon Transit Operations Program (LCTOP), funded by the state's cap-and-trade revenues; and the SB 1 program, State of Good Repair program. According to an analysis by OCTA, ATN could have the potential to

be eligible for over $25 million annually in funding. However, if the bill is able to be implemented as intended by ATN, ATN estimates they would receive roughly $930,000 annually. The actual number is unknown as the SCO would verify the qualifying revenue for ATN to calculate STA funding to be allocated.

Finally, ATN would have to comply with state operational costs ratios, and likely TDA requirements for farebox recovery.

3) *SB 1196 requires ATN to change.* SB 1196 would require ATN's bylaws to be revised to increase transparency and accountability, including providing for the appointment of the Board of Directors by the Anaheim City Council. It is unclear what the impact of this requirement would be. Specifically, there are no definitions for what increasing transparency and accountability would mean. As mentioned, currently ATN voluntarily complies with the Brown Act for the purposes of public meetings. However, is unclear whether their Board members and staff have been designated by the agency to comply with the Political Reform Act and file a Statement of Economic Interest (Form 700) with the Fair Political Practices Commission. Would this be considered a way to increase transparency and accountability? Also, the bill requires these changes to happen before ATN would receive any STA funding, but it is unclear what entity would oversee and determine whether ATN has complied.

   The bill also requires the Anaheim City Council to appoint the Board of Directors. Would the make-up of the Board change? Would more public members be added? Also, it is unclear if there are any legal implications, (e.g. public agency requirements), that might apply if the city appoints all of the members of the Board. Finally, if as part of this process, ATN and City of Anaheim decide they want to update the incorporation status of ATN from a non-profit to be a public agency, what impact would that have for OCTA and what funding would ATN then be eligible for?

4) *OCTA and ATN could work together.* As detailed above, there is an existing AB 1113 process for transit providers to become STA-eligible operators. As ATN evolves, they could work with OCTA to determine what requirements would need to be met and try to develop a path to become a public transit operator under TDA law. However, SB 1196 legislates ATN's eligibility and attempts to define and limit the funding they could receive. TDA law still requires OCTA to certify STA-eligible operators with in their jurisdiction to the SCO before any STA or other funds would be allocated. This would include OCTA confirming that ATN meets the legal requirements and ATN

would submit FTR's and other required financial documents to SCO to determine eligibility and funding amount.

5) *SB 1196 has statewide impacts.* AB 1113 was developed through a consensus process by the California Transit Association to clear up any confusion by operators and the SCO about who is eligible for STA funding. Adding a new operator through legislation and bypassing this process sets a concerning precedent, and could create a path for other agencies and organizations to become STA-eligible operators. STA represents a major source of funding for transit operations. Any additional STA-eligible operators added to the program, or to LCTOP or State of Good Repair, dilutes funds from every other agency in the state. At a time when transit operators continue to struggle back from COVID-19, adding new operators will impact their resources, even if it is a small amount per agency.

FISCAL EFFECT: Appropriation: No Fiscal Com.: Yes Local: No

According to the Senate Appropriations Committee:

- Unknown significant redirection of Public Transportation Account funds from other STA-eligible transit operators to ATN. Staff notes that the bill would not result in additional expenditures of state funding. Rather, funds allocated to ATN would be deducted from the amounts that would otherwise be allocated to other STA-eligible operators on a formula basis. Specifically, the actual amount redirected to ATN would be based upon the ratio of its qualifying revenues, as reported to the State Controller's Office (SCO), in relation to the total qualifying revenue of all STA-eligible operators in the state. (Public Transportation Account)

- The SCO indicates that costs to add ATN to the STA program would be minor, including reviews of annual financial transactions reports of qualifying revenues used to determine allocation amounts. (General Fund)

SUPPORT: (Verified 5/19/22)

Anaheim Transportation Network (source)
Anaheim Chamber of Commerce
Antelope Valley Transit Authority
Build
BYD North America
California Teamsters Public Affairs Council
Chrysalis

Knott's Berry Farm
Orange County Conservation Corps
Rotary Club of Anaheim
Sunline Transit Agency
Teamsters Local 952
Visit Anaheim

OPPOSITION: (Verified 5/19/22)

None received

ARGUMENTS IN SUPPORT: According to the Rotary Club of Anaheim, "public transportation service, like those provided by ATN, play a critical role in getting our clients to and from job sites. The area serviced by ATN is the core of the job market in Orange County. By strengthening our local transit system, we will be better positioned to service the needs of our community."

Prepared by: Melissa White / TRANS. / (916) 651-4121
5/21/22 15:56:46

****** END ******

SENATE COMMITTEE ON APPROPRIATIONS
Senator Anthony Portantino, Chair
2021 - 2022 Regular Session

SB 1196 (Umberg) - State Transit Assistance Program: eligibility: Anaheim Transportation Network

Version: April 18, 2022
Urgency: No
Hearing Date: May 9, 2022

Policy Vote: TRANS. 12 - 1
Mandate: No
Consultant: Mark McKenzie

Bill Summary: SB 1196 would designate the Anaheim Transportation Network (ATN) as a "State Transit Assistance (STA)-eligible operator" for purposes of receiving allocations of specified STA funds for public transportation purposes, if certain conditions are met.

Fiscal Impact:

- Unknown significant redirection of Public Transportation Account funds from other STA-eligible transit operators to ATN. Staff notes that the bill would not result in additional expenditures of state funding. Rather, funds allocated to ATN would be deducted from the amounts that would otherwise be allocated to other STA-eligible operators on a formula basis. Specifically, the actual amount redirected to ATN would be based upon the ratio of its qualifying revenues, as reported to the State Controller's Office (SCO), in relation to the total qualifying revenue of all STA-eligible operators in the state. (Public Transportation Account)

- The SCO indicates that costs to add ATN to the STA program would be minor, including reviews of annual financial transactions reports of qualifying revenues used to determine allocation amounts. (General Fund)

Background: Existing law, under the Transportation Development Act (TDA or Mills-Alquist-Deddeh Act), establishes the State Transit Assistance Program to provide state funding to eligible public transportation operators and other transportation agencies to support local and regional transit operating and capital needs. STA funds are derived from the state sales tax on diesel fuel revenues, which are continuously appropriated to the SCO and allocated to transportation planning agencies pursuant to statutory formulas, and subsequently distributed to eligible public transit operators. Half of the STA funds are allocated on the basis of each region's proportionate share of the state's population (Public Utilities Code Sec. 99313), and half of the funds are allocated on the basis of the proportionate share of the total qualifying revenue of all STA-eligible operators in the state (PUC Sec 99314), as specified. According to SCO reports, the diesel fuel sales tax generated approximately $670 million in STA funding in 2019-20, but revenues have dropped dramatically as a result of the COVID-19 pandemic, falling to $319 million in 2021-22.

Existing law defines an "STA-eligible operator" as a public transportation operator (transit district, municipal operator, or transit development board) that operates a public transportation system providing transportation services to the general public, as

specified, and that is eligible to claim TDA funding derived from a ¼ cent of the state general sales tax dedicated to public transit (the Local Transportation Fund). Each regional transportation agency (RTPA) certifies eligibility of transit operators that receive STA funds and reports eligible operators to the SCO. Each STA-eligible operator must submit a financial transactions report (FTR) to the SCO each year that specifies the amount of revenue generated from specified sources each year and the data necessary to confirm compliance for eligibility purposes. The SCO uses these FTRs to determine each eligible operators "qualifying revenue," which is then used to calculate each operator's share of STA revenues under PUC Sec. 99314. Existing law defines "qualifying revenue" as fare revenues, including fares generated for community transit under contract, and any other funds used by the operator in the delivery of transit service, except federal and state funds.

ATN was created in 1995 to provide various public transportation services to the City of Anaheim, including managing a transportation demand program for large employers. ATN was formed as a public-private partnership and incorporated by the City of Anaheim and local businesses as a non-profit 501(c)(4) corporation. In 2002, ATN became a service provider for the Anaheim Resort Transportation (ART) system. The relationship between ATN and the City of Anaheim was formalized in 2004, when the City awarded ATN a non-exclusive franchise agreement to operate ART service in Anaheim. This agreement was renewed in 2011 and again in 2019. As part of the 2019 agreement, the City of Anaheim stated that ATN "operates a public transportation system and provides public transit and mobility services for and within the City of Anaheim," that is "responding to a transportation need not otherwise being met with the community and jurisdiction of the City of Anaheim." ATN currently operates a system of 22 fixed routes and owns an active fleet of 82 buses, many of which are zero-emission vehicles, providing transportation services to the cities of Anaheim, Garden Grove, Santa Ana, Buena Park, Costa Mesa and Orange. Prior to the Covid-19 pandemic, over 9.7 million passengers used ATN's public transit services each year.

ATN's articles of incorporation, as re-certified in 2012, state that, "the specific purpose of this corporation is to organize the collective actions of the public and private sectors to address the unique transportation and air quality issues of local employers, major event centers, and visitor-and convention-related businesses located throughout certain portions of the City of Anaheim, California known as the Anaheim Resort Area ("ARA") and Stadium Business Center ("SBC"); to facilitate a forum for the corporation's members and other interested persons to work together to develop workable transportation solutions; and to provide leadership to maximize access, enhance mobility, and assist with regulatory compliance, including environmental mitigation measures, all for the benefit of the corporation's members and the public who are visitors to, or are employed within, the ARA, and the SBC."

ATN is currently governed by a 15 member Board of Directors plus one ex-officio non-voting member, and ATN's Executive Director and General Counsel. The members represent resorts and businesses that are part of ATN's service territory. Some board members are elected and others are appointed, both by business members of the ATN service territory. Although ATN is not a public agency, according to their bylaws, the Board of Directors observe the Ralph M. Brown Act for their meetings.

ATN is funded from a variety of sources, including locally generated assessment fees, fare revenues, and some federal apportionments and grants. According to their bylaws, ATN collects membership dues from lodging establishments, retail facilities, event centers, commercial offices, institutional uses, manufacturing facilities, and standalone restaurants. In 2006, the Federal Transit Administration (FTA) issued a National Transit Database Identification Number to ATN, making the organization eligible to receive federal funding. According to ATN's 2021-22 Budget Transmittal report, it anticipated revenues of $16.5 million in 2021-22, including $2.9 million in fare revenues, $8.7 million in local revenues, $930,000 in federal apportionments, as well as $3 million from federal COVID-19 relief funds.

Proposed Law: SB 1196 would expand the definition of "STA-eligible operator," for purposes of STA program funds that are allocated on the basis of transit operator revenues, to include ATN, if its bylaws are revised to increase transparency and accountability, including to provide for the appointment of ATN's board of directors by the Anaheim City Council.

Related Legislation: AB 1113 (Bloom), Chap. 86/2017, revised and recast provisions governing the STA program and the allocation of funding to public transportation operators, including definitions that determine which public transportation operators are eligible to receive funds, as specified.

Staff Comments: While ATN provides transit services to the general public, it is not a public transportation operator (transit district, municipal operator, or transit development board) that operates a public transportation system, as specified in STA law. Rather than restructuring as a fully public transit district, this bill would establish a precedent by statutorily designating ATN as an "STA-eligible operator" for purposes of receiving STA funds that are based on an operator's qualifying revenue, if specified conditions are met. As noted above, each eligible operator's allocation is based on the ratio of its qualifying revenue in relation to the total qualifying revenue of all STA-eligible operators in the state. The revenue allocated to ATN under this bill would be derived from the fixed amount of diesel fuel sales tax revenues dedicated for this purpose at the expense of other eligible operators. As such, the fiscal impacts represent a shift of state funding, rather than an additional expenditure of Public Transportation Account funds.

It is unclear whether the designation of ATN as an STA-eligible operator under PUC Sec. 99314 would make it eligible for other state programs that use the STA formulas as the basis of eligibility. Examples of such programs include the Low-Carbon Transit Operations Program (LCTOP), which provides Greenhouse Gas Reduction Fund revenues for transit operating and capital assistance, and the State of Good Repair Program, an SB 1 program which provides annual funding to transit operators for eligible transit maintenance, rehabilitation, and capital projects. To the extent ATN would become eligible for other transit programs, this bill could create additional cost pressures.

-- END --

99312.2.

(a) The State Transit Assistance Program, also known as the STA program, which provides for allocations of funds made available from the Public Transportation Account pursuant to Sections 99313 and 99314, and which is governed by Sections 99312 to 99314.9, inclusive, is hereby continued in existence. The purpose of the STA program is to provide a source of state funding to eligible public transportation operators and other transportation agencies in order to support their local and regional transit operating and capital needs.

(b) For purposes of the STA program, the following terms shall have the following meanings:

(1) "Public transportation operator" has the same meaning as "operator," as defined in Section 99210, as long as that operator operates a "public transportation system," as defined in Section 99211.

(2) "STA-eligible operator" means a public transportation operator eligible to claim local transportation funds under either Article 4 (commencing with Section 99260) or Article 8 (commencing with Section 99400), or under both articles~~, and also, for purposes of funds allocated pursuant to Section 99314, means the Anaheim Transportation Network for public transportation purposes if the Anaheim Transportation Network's bylaws are revised to increase transparency and accountability, including to provide for the appointment of the Anaheim Transportation Network's board of directors by the Anaheim City Council~~.

(c) The only entities eligible to receive direct allocations from the Controller under Sections 99313 and 99314 shall be transportation planning agencies, county transportation commissions, and the San Diego Metropolitan Transit Development Board. The Controller shall distribute funds attributable to transportation planning agencies, county transportation commissions, and the San Diego Metropolitan Transit Development Board to the applicable county treasurer's office. Upon the request of a transportation planning agency, county transportation commission, or the San Diego Metropolitan Transit Development Board, the Controller shall instead distribute the applicable funds directly to the requesting agency.

(d) Only STA-eligible operators shall be eligible to receive STA program funds allocated by transportation planning agencies, county transportation commissions, and the San Diego Metropolitan Transit Development Board pursuant to Section 99314. An STA-eligible operator, at its discretion, may further suballocate funds it receives pursuant to Section 99314 to an entity operating local community transit services that is eligible to claim local transportation funds pursuant to Article 4.5 (commencing with Section 99275) but that is otherwise ineligible to directly receive funds allocated pursuant to Section 99314.

(e) An entity operating community transit services pursuant to Article 4.5 (commencing with Section 99275) may be allocated funds pursuant to Section 99313 as a subrecipient at the discretion of the transportation planning agency, the county transportation commission, or the San Diego Metropolitan Transit Development Board.

(f) The Los Angeles County Metropolitan Transportation Authority, which is both a county transportation commission for purposes of Sections 99313 and 99314, and an STA-eligible operator for purposes of Section 99314, may incorporate into its report pursuant to Section 99243 any operating costs for local community transit service under contract with the authority, including service provided by a consolidated transportation service agency pursuant to Section 99204.5 or by operators eligible to expend local transportation funds only under Article 4.5 (commencing with Section 99275).

99312.6

(a) Notwithstanding any other provision of law, the Anaheim Transportation Network shall be eligible for funding pursuant to Section 99314, and deemed an STA-eligible operator for that purpose, if the Orange County Transportation Authority, as the transportation planning agency for Orange County, makes the following findings:

(1) The Anaheim Transportation Network's Board of Directors are appointed by the Anaheim City Council, and the appointed Board of Directors are subject to and shall comply with the requirements of Political Reform Act of 1974 (Government Code Sections 81000, et seq. and all meetings of the Anaheim Transportation Network's Board of Directors are subject to the and shall comply with the Ralph M. Brown Act (Government Code Sections 54950 et seq.) In addition, the Anaheim Transportation Network is subject to and shall comply with the California Public Records Act (Government Code Section 6250 et seq.).

(2) The services provided by the Anaheim Transportation Network supplement fixed route transit services provided by the Orange County Transportation Authority and do not duplicate routes, unless otherwise approved by the Orange County Transportation Authority.

(3) The Anaheim Transportation Network agrees to reimburse OCTA for the full cost of providing complementary paratransit services and associated planning requirements, necessary for Anaheim Transportation Network's fixed route service, and which is in compliance with Section 99155 and 99155.5.

(4) The services offered by the Anaheim Transportation Network are provided in an area not receiving adequate public transportation services, that the Orange County Transportation Authority cannot otherwise meet. As part of this analysis, the Orange County Transportation Authority may develop criteria to ensure cost-effectiveness, community support, and equity considerations are taken into account.

(5) Anaheim Transportation Network provides the Orange County Transportation Authority documentation related to the revenues, operating costs, patronage of its system and any and all other documentation required by the Orange County Transportation Authority necessary for it to make the findings required in this subsection (a).

(b) If it is determined by the Orange County Transportation Authority that the Anaheim Transportation Network is eligible for funding pursuant to 99314, the Anaheim Transportation Network must comply with all related requirements including those in Sections 99245, 99245.5, 99248, 99251, 99314, and 99314.6.

(c) The Anaheim Transportation Network shall not be eligible for and shall not make any claims for any other state transit funding provided pursuant to Section 99312.1, Section 99313, Article 4 (commencing with Section 99260), Article 4.5 (commencing with Section 99275), Article 8 (commencing with Section 99400), Section 75320 of the Public Resources Code, or future sources of funding provided for transit operations purposes.

(d) The Anaheim Transportation Network shall reimburse the Orange County Transportation Authority for any revenues that the Orange County Transportation Authority would be eligible for pursuant to Section 99314 if Anaheim Transportation Network was not otherwise eligible.

(e) Any public mass transit service or capital construction project undertaken by the Anaheim Transportation Network, shall be subject to the provisions of Section 130303, and authorities granted to the Orange County Transportation Authority related to the coordination and approval of mass transit services and determination and approval of capital development projects, including exclusive public mass transit guideway systems.

COMMITTEE TRANSMITTAL

June 13, 2022

To: Members of the Board of Directors

From: Andrea West, Interim Clerk of the Board

Subject: Amendment to Agreement for Medical Clinic Services

Finance and Administration Committee Meeting of June 8, 2022

Present: Directors Goodell, Harper, Hennessey, Jones, and Muller
Absent: Directors Hernandez and Sarmiento

Committee Vote

This item was passed by the Members present.

Committee Recommendation

Authorize the Chief Executive Officer to negotiate and execute Amendment No. 2 to Agreement No. C-9-1165 between the Orange County Transportation Authority and Akeso Occupational Health, to exercise the two-year option term, in the amount of $282,000, to continue providing medical clinic services, effective August 1, 2022 through July 31, 2024. This will increase the maximum obligation of the agreement to a total contract value of $855,000.

OCTA

June 8, 2022

To: Finance and Administration Committee

From: Darrell E. Johnson, Chief Executive Officer

Subject: Amendment to Agreement for Medical Clinic Services

Overview

On September 9, 2019, the Orange County Transportation Authority Board of Directors approved an agreement with Akeso Occupational Health (formerly doing business as Cheshire Medical Corporation, doing business as ProCare Work Injury Center & Urgent Care), to provide medical clinic services for a three-year initial term with one, two-year option term. Board of Directors' approval is requested to exercise the option term effective August 1, 2022 through July 31, 2024.

Recommendation

Authorize the Chief Executive Officer to negotiate and execute Amendment No. 2 to Agreement No. C-9-1165 between the Orange County Transportation Authority and Akeso Occupational Health, to exercise the two-year option term, in the amount of $282,000, to continue providing medical clinic services, effective August 1, 2022 through July 31, 2024. This will increase the maximum obligation of the agreement to a total contract value of $855,000.

Discussion

The People and Community Engagement Division oversees the medical evaluations for new and existing employees requiring the State of California Department of Motor Vehicles (DMV) medical examinations (exams) and driver certifications, the Drug and Alcohol compliance program in accordance with the Federal Transit Administration (FTA), and medical evaluations required for safety-sensitive employees that are in the Orange County Transportation Authority's (OCTA) Hearing Conservation Program, Respiratory Protection Program, and/or the Bloodborne Pathogens Program as required under the California Occupational Safety and Health Administration (Cal/OSHA) regulations.

Medical evaluations performed by a certified medical professional include physical exams and functional capacity tests to ensure employees are medically fit to operate a bus as required by the DMV for a commercial driver's license. Cal/OSHA requires audiometric evaluations, medical clearances for respirator use, and Hepatitis B vaccination services for safety-sensitive employees.

Under the Department of Transportation and the FTA rules, OCTA is required to conduct drug and alcohol tests for its safety-sensitive employees throughout the employment process, including pre-employment testing, random testing, post-accident testing, and testing in the case of reasonable suspicion. With the largest concentration of OCTA's employees being safety-sensitive, it is critical that OCTA maintain compliance with the FTA rules and have capabilities to perform evidential breath testing, specimen collection, and test analysis as required, 24 hours a day, seven days a week.

These services are currently provided by Akeso Occupational Health (formerly doing business as [dba] Cheshire Medical Corporation, dba ProCare Work Injury Center & Urgent Care) (Akeso) through an agreement which expires July 31, 2022. Akeso has provided services to OCTA that have met expectations throughout the term of the agreement. In order to continue these services, and based on the clinic's performance, staff recommends the Board of Directors (Board) approve an amendment to exercise the option term.

Procurement Approach

The procurement was handled in accordance with OCTA's Board-approved procedures for professional services that conform to both federal and state laws. The original agreement was awarded on a competitive basis and includes a three-year initial term for $573,000 and one, two-year option term. This agreement has been previously amended as shown in Attachment A.

The proposed Amendment No. 2 is to exercise the option term of the agreement through July 31, 2024. The budget for the amendment is $282,000, which is based on current and anticipated usage for medical clinic services. A per unit cost escalation was negotiated in the original contract. However, staff from the Contracts Administration and Materials Management Department was able to negotiate with Akeso to hold its initial term rates for the option term resulting in an approximate cost savings of $22,000. Exercising the option term will allow Akeso to continue providing medical clinic services through July 31, 2024.

Fiscal Impact

Funds will be included in OCTA's Proposed Fiscal Year 2022-23 Budget, pending budget approval, People and Community Engagement, Account No. 1141-7519-A2312-DWA, and is funded with local funds.

Summary

Staff recommends the Board of Directors authorize the Chief Executive Officer to negotiate and execute Amendment No. 2 to Agreement No. C-9-1165 between the Orange County Transportation Authority and Akeso Occupational Health, to exercise the two-year option term, in the amount of $282,000, to continue providing medical clinic services.

Attachment

A. Akeso Occupational Health, Agreement No. C-9-1165 Fact Sheet

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Approved by:

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ATTACHMENT A

Akeso Occupational Health
Agreement No. C-9-1165 Fact Sheet

1. September 9, 2019, Agreement No. C-9-1165, $573,000, for a three-year initial term with one, two-year option term approved by the Board of Directors (Board).

   - Agreement for medical clinic services.

   - Initial term effective September 12, 2019 through July 31, 2022, with one, two-year option term.

2. April 29, 2021, Amendment No. 1 to Agreement No. C-9-1165, $0.00, approved by the Contracts Administration and Materials Management Department.

   - Amendment to reflect name change, revise key personnel, and remove subcontractors.

3. June 13, 2022, Amendment No. 2 to Agreement No. C-9-1165, $282,000, pending approval by the Board.

   - Exercise the option term of the agreement effective August 1, 2022 through July 31, 2024.

Total committed to Akeso Occupational Health, under Agreement No. C-9-1165: $855,000.

COMMITTEE TRANSMITTAL

June 13, 2022

To: Members of the Board of Directors

From: Andrea West, Interim Clerk of the Board

Subject: Agreement for Insurance Brokerage Services

Finance and Administration Committee Meeting of June 8, 2022

Present: Directors Goodell, Harper, Hennessey, Jones, and Muller
Absent: Directors Hernandez and Sarmiento

Committee Vote

This item was passed by the Members present.

Committee Recommendations

A. Approve the selection of Marsh USA, Inc., as the firm to provide insurance brokerage services.

B. Authorize the Chief Executive Officer to negotiate and execute Agreement No. C-2-2257 between the Orange County Transportation Authority and Marsh USA, Inc., in the amount of $670,000, to provide insurance brokerage and insurance document tracking services for a five-year term effective July 1, 2022 through June 30, 2027.

OCTA

June 8, 2022

To: Finance and Administration Committee

From: Darrell E. Johnson, Chief Executive Officer

Subject: Agreement for Insurance Brokerage Services

Overview

On February 24, 2022, the Orange County Transportation Authority issued a request for proposals for insurance brokerage services. Offers were received in accordance with the Orange County Transportation Authority's procurement procedures for professional and technical services. Approval is requested to execute an agreement for these services.

Recommendations

A. Approve the selection of Marsh USA, Inc., as the firm to provide insurance brokerage services.

B. Authorize the Chief Executive Officer to negotiate and execute Agreement No. C-2-2257 between the Orange County Transportation Authority and Marsh USA, Inc., in the amount of $670,000, to provide insurance brokerage and insurance document tracking services for a five-year term effective July 1, 2022 through June 30, 2027.

Discussion

The Orange County Transportation Authority (OCTA) is self-insured for excess liability and excess workers' compensation losses. In addition, OCTA purchases additional insurance through an insurance broker of record to protect OCTA's real and business personal property from accidental loss.

Currently, Marsh USA, Inc. (Marsh) is the broker of record for OCTA. Marsh markets and procures excess workers' compensation, business travel accident, property, flood, earthquake, crime, security and privacy, as well as business interruption insurance. The contract with Marsh also includes insurance document tracking services that certify proof of contractor insurance coverage,

and provide a record of contractor compliance/non-compliance, as well as follow up with contractors to rectify non-compliance.

The current agreement with Marsh expires on June 30, 2022.

Procurement Approach

This procurement was handled in accordance with OCTA's Board of Directors (Board)-approved procedures for professional and technical services. In addition to cost, many other factors are considered in an award for professional and technical services. The award is recommended to the firm offering the most comprehensive overall proposal considering such factors as prior experience with similar projects, staffing, project organization, and work plan, as well as cost and price.

On February 24, 2022, Request for Proposals (RFP) 2-2257 was issued electronically on CAMM NET. The RFP included a separate scope of work and requested firms to provide the same service to the Los Angeles – San Diego – San Luis Obispo (LOSSAN) Rail Corridor Agency as part of a separate agreement. The project was advertised in a newspaper of general circulation on February 25 and March 4, 2022. A pre-proposal conference was held on March 2, 2022, with four attendees representing two firms. Three addendums were issued to provide a copy of the pre-proposal presentation and registration sheets, and to revise the scope of work and provide responses to questions received.

On March 21, 2022, two proposals were received. An evaluation committee consisting of OCTA staff from Contracts Administration and Materials Management and Risk Management departments, as well as external representatives from the County of Orange, City of Orange, and LOSSAN Agency met to review all proposals received. The proposals were evaluated based on the following evaluation criteria and weights:

- Qualifications of the Firm 30 percent
- Staffing and Project Organization 25 percent
- Work Plan 20 percent
- Cost and Price 25 percent

Several factors were considered in developing the evaluation criteria weights. Qualifications of the firm was considered of highest importance as the firm must demonstrate experience in recommending insurance coverage, successfully sourcing qualified insurance firms, and providing timely responses to inquiries to maintain adequate coverage and mitigate risk. Staffing and project organization

was assigned a 25 percent weighting as the project team needed to demonstrate experience in servicing similar-sized public transit agencies and have the availability to respond to inquiries from Risk Management staff and OCTA's Board with minimal notice. The work plan was assigned a 20 percent weighting as marketing, evaluating, and placing insurance is a standard scope of services provided by insurance brokerage firms. Cost and price was also assigned a 25 percent weighting to ensure that OCTA receives value for the services provided.

On March 29, 2022, the evaluation committee reviewed the proposals received from both firms based on the evaluation criteria. The firms are listed below in alphabetical order:

Firm and Location

Alliant Insurance Services, Inc. (Alliant)
Irvine, California

Marsh USA, Inc. (Marsh)
Irvine, California

On April 6, 2022, the evaluation committee interviewed both firms. The interviews consisted of a presentation allowing the teams to demonstrate the firms' understanding of OCTA's requirements for this project. The firms' project managers and key team members had an opportunity to present each team's qualifications and respond to the evaluation committee's questions. Questions were asked relative to the firm's ability to deliver cost-effective solutions given the current competitive market, insurance document tracking services, as well as quality assurance and control measures. Finally, each team was asked specific clarification questions related to their proposal.

At the conclusion of the interviews, a request for a best and final offer (BAFO) was sent to the firms to seek clarifications related to the insurance document tracking services and final pricing.

After considering the responses to the questions asked during the interviews and the information provided in the BAFOs, the evaluation committee reviewed the preliminary ranking for both firms. The ranking of the firms remained unchanged.

Based on the evaluation of the written proposals, the information obtained from the interviews and the BAFOs, the evaluation committee recommends Marsh for consideration of the award. The following is a summary of the proposal evaluation results.

Qualifications of the Firm

Both firms demonstrated experience recommending insurance coverage, successfully sourcing qualified insurance firms, and providing timely responses to inquiries in order to maintain adequate coverage and mitigate risk.

Marsh has been in business since 1871 and has 41,000 employees. The firm provides insurance brokerage services to agencies such as Denver Transit Operators, National Railroad Passenger Corporation, doing business as Amtrak, New Jersey Transit Authority, and Southern California Regional Rail Authority (Metrolink), as well as LOSSAN and OCTA. Marsh demonstrated a thorough understanding of OCTA and its various services and projects, such as the OC Streetcar and Interstate 405 Improvement Project. Marsh's proposal and interview demonstrated comprehensive knowledge of OCTA's existing and future anticipated liability exposures. References provided positive responses regarding Marsh's past performance.

Founded in 1925 and currently with over 8,700 employees, Alliant represents several large transit agencies including North County Transit District, Omnitrans, Riverside Transit Agency, and San Diego Metropolitan Transit System. Alliant is a full-service insurance brokerage and risk consulting firm with experience in commercial coverage and risk management consulting service for public transit agencies. Alliant received positive feedback and ratings from their project references.

Staffing and Project Organization

Both firms proposed project teams with varied experience providing similar insurance brokerage services to public agencies.

Marsh proposed to keep the majority of the current project team in place for the new contract. This project team will be assigned to continue to market, evaluate, negotiate, and place OCTA's insurance program. Marsh also included specialized team members to address emerging environmental, cyber, construction, and rail-related risks. Most of the proposed key personnel have 20 years of industry experience. The project manager has 34 years of experience and manages Southern California clients, such as County of Orange, LOSSAN, and Metrolink. During the interview, the firm provided clear responses to the evaluation committee questions that demonstrated a comprehensive understanding of OCTA's requirements. In addition, Marsh exhibited a strong understanding of potential challenges OCTA faces as a public transit agency, such as current insurance market trends and OCTA's current excess liability placement.

Alliant proposed co-project managers with transit-related risk experience of 16 and 17 years, respectively, working with Alliant. The rest of the project team are specialized in various areas of insurance brokerage services with transit-related experience. Additionally, the proposed service team to handle the majority of day-to-day operations for OCTA are based in California. The firm also proposed a group of customer service representatives available to OCTA upon request. However, during their interview, it was unclear as to who would assist OCTA with insurance document tracking services. In addition, the RFP called for the same firm to provide similar services to the LOSSAN Agency as part of a separate agreement; however, Alliant did not provide an allocation of responsibilities among the proposed staff to address how the project team would manage both OCTA and the LOSSAN Agency contracts.

Work Plan

Marsh presented an approach that demonstrated its anticipation of OCTA's future liabilities related to cyber exposures, OC Streetcar, and on-demand public transportation as required by the scope of work. Beyond marketing and placement of insurance, Marsh also proposed utilizing their national resources to provide source benchmarking data for analysis to assist OCTA's risk control program. In addition, their proposed insurance document tracking services would be provided at the highest service level tier, which includes a one-day turnaround for certified compliance review as well as procedural protocols for quality control purposes. Furthermore, Marsh will perform risk assessment evaluations and submit findings to OCTA management, as well as update OCTA and the Board on regulations and market changes in accordance with the requirements of the scope of work.

Alliant provided a work plan that focused on their unique insurance solutions, which consisted of four key elements: marketing, account support services, training, and annual reports. Their interview presentation largely focused on various alternative programs exclusive to Alliant, without clearly demonstrating how these programs would specifically remedy exposures unique to OCTA and its projects. In response to the BAFO, Alliant had the opportunity to expand on the firm's proposed document tracking services; however, the firm did not explain how it would assist OCTA in utilizing its proposed software solution. In addition, Alliant's work plan did not address their specific approach to the required services for the LOSSAN Agency.

Cost and Price

Pricing scores were based on a formula that assigned the higher score to the lower proposed firm-fixed total price and scored the other firm's price based on

its relation to the lower proposed price. Marsh proposed the higher firm-fixed price, which is higher than the current contract total firm-fixed price due to their increased level of service for the insurance document tracking services and the marketing challenges of the current insurance market's risk avoidance trend. Marsh's proposed fixed-firm price is less than the independent cost estimate and therefore deemed fair and reasonable.

Procurement Summary

Based on the evaluation of the written proposals, the firms' qualifications, the information obtained from the interviews and the BAFO, the evaluation committee recommends the selection of Marsh as the top-ranked firm to provide insurance brokerage and insurance document tracking services. Marsh demonstrated strong relevant experience and submitted a thorough and comprehensive proposal that was responsive to all requirements of the RFP.

Fiscal Impact

The Risk Management Department has requested sufficient funds in OCTA's proposed Fiscal Year 2022-23 Budget to adequately cover the encumbered five-year contract.

Summary

Staff is recommending the Board of Directors authorize the Chief Executive Officer to negotiate and execute Agreement No. C-2-2257 between the Orange County Transportation Authority and Marsh USA, Inc., in the amount of $670,000, to provide insurance brokerage and insurance document tracking services for a five-year term.

Attachments

A. Review of Proposals, RFP 2-2257 Insurance Brokerage Services
B. Proposal Evaluation Criteria Matrix, RFP 2-2257 Insurance Brokerage Services
C. Contract History for the Past Two Years, RFP 2-2257 Insurance Brokerage Services

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ATTACHMENT A

Review of Proposals
RFP 2-2257 Insurance Brokerage Services
Presented to the Finance and Administration Committee - June 8, 2022
Two proposals were received, two firms were interviewed, one firm is being recommended.

Overall Ranking	Proposal Score	Firm & Location	Sub-Contractors	Evaluation Committee Comments	Firm-Fixed Price for Five-Year Term
1	85	Marsh USA, Inc. Irvine, California	Insurance Tracking Services, Inc.	Comprehensive qualifications and experience with insurance brokerage services. Firm has experience providing insurance brokerage services in Orange County. Firm has been in business since 1871 and has 41,000 employees. Project manager has 34 years of industry experience in Southern California. Many key personnel have over 20 years experience with insurance brokerage services. Anticipating Orange County Transportation Authority's new and changing liability risk (cyber, property, rail, OC Streetcar, etc.) during current economic setting. References provided positive comments and feedback. Comprehensive interview.	$670,000
2	79	Alliant Insurance Services, Inc. Irvine, California	N/A	Well-qualified firm with extensive experience related to insurance brokerage services. Firm has experience providing insurance brokerage services in Orange County. Proposed multiple project leads who specialize in different types of liability coverages. All proposed project leads work for only public entities in Orange County. Both proposed project managers have over 15 years of experience in the insurance industry. Work plan focused on unique insurance solutions which includes large pools for public entities. References provided positive comments and feedback. Did not identify insurance document tracking services. Did not address Los Angeles – San Diego – San Luis Obispo (LOSSAN) Rail Corridor Agency required services.	$502,000

Evaluation Panel:

Internal:
Contracts Administration and Materials Management (1)
Risk Management (1)

External:
Los Angeles – San Diego – San Luis Obispo Rail Corridor (1)
County of Orange (1)
City of Orange (1)

Proposal Criteria	Weight Factors
Qualifications of the Firm	30%
Staffing and Project Organization	25%
Work Plan	20%
Cost and Price	25%

ATTACHMENT B

PROPOSAL EVALUATION CRITERIA MATRIX
RFP 2-2257 Insurance Brokerage Services

Marsh USA, Inc.						Weights	Overall Score
Evaluator Number	1	2	3	4	5		
Qualifications of Firm	4.5	4.5	4.5	4.5	4.5	6	27.0
Staffing/Project Organization	4.0	4.0	4.5	4.5	4.0	5	21.0
Work Plan	4.5	4.5	4.0	4.5	4.5	4	17.6
Cost and Price	3.9	3.8	3.8	3.8	3.8	5	19.1
Overall Score	84.5	84.0	84.5	86.5	84.0		85

Alliant Insurance Services, Inc.						Weights	Overall Score
Evaluator Number	1	2	3	4	5		
Qualifications of Firm	4.0	4.0	4.0	4.0	4.0	6	24.0
Staffing/Project Organization	3.5	3.5	4.0	3.5	3.5	5	18.0
Work Plan	3.5	3.0	3.0	3.0	3.0	4	12.4
Cost and Price	5.0	5.0	5.0	5.0	5.0	5	25.0
Overall Score	80.5	78.5	81.0	78.5	78.5		79

ATTACHMENT C

CONTRACT HISTORY FOR THE PAST TWO YEARS
RFP 2-2257 INSURANCE BROKERAGE SERVICES

Prime and Subconsultants	Contract No.	Description	Contract Start Date	Contract End Date	Subconsultant Amount	Total Contract Amount
Marsh USA, Inc.						
Contract Type: Firm-Fixed	**C-7-1585**	Insurance Brokerage Services	July 26, 2017	June 30, 2022	N/A	$ 520,000
Subconsultants:						
Insurance Tracking Services, Inc.						
			Sub Total			**$ 520,000**
Alliant Insurance Services, Inc.						
Contract Type: Firm-Fixed	**C-0-2078**	Health Insurance Brokerage Services	June 30, 2020	March 31, 2023	N/A	$ 342,000
Subconsultants: N/A						
			Sub Total			**$ 342,000**

COMMITTEE TRANSMITTAL

June 13, 2022

To: Members of the Board of Directors

From: Andrea West, Interim Clerk of the Board

Subject: Regional Planning Update

Regional Planning and Highways Committee Meeting of June 6, 2022

Present: Directors Chaffee, Delgleize, Foley, Harper, Muller, and Murphy
Absent: Director Bartlett

Committee Vote

No action was taken by the Committee on this item.

Staff Recommendation

Receive and file as an information item.

OCTA

June 6, 2022

To: Regional Planning and Highways Committee

From: Darrell E. Johnson, Chief Executive Officer

Subject: Regional Planning Update

Overview

Updates on regional planning matters are provided regularly to highlight current transportation planning issues impacting the Orange County Transportation Authority and the Southern California region. This update focuses on the substitutions of Transportation Control Measure projects, the California Transportation Assessment, and a California Department of Transportation study to evaluate the conversion of carpool lanes to tolled express lanes on Interstate 5.

Recommendation

Receive and file as an information item.

Background

The Orange County Transportation Authority (OCTA) regularly coordinates with other planning and regulatory agencies within the Southern California region. This coordination is conducted at many levels, involving the OCTA Board of Directors (Board), executives, and technical staff. Some examples of the regional planning forums in which OCTA participates include:

- Southern California Association of Governments (SCAG) Regional Council, policy committees, and technical working groups,
- State Route 91 (SR-91) Advisory Committee,
- Regional Chief Executive Officers meetings,
- South Coast Air Quality Management District working groups, and
- Interregional planning coordination meetings (OCTA, SCAG, the San Diego Association of Governments, and the California Department of Transportation [Caltrans] districts 7, 8, 11, and 12).

Staff provided regional planning updates to the Board in May and November 2021. The status of items previously presented and other ongoing regional planning activities is summarized in Attachment A. This includes a matrix that identifies lead agencies, a summary of each activity, key dates, as well as OCTA's interests and current involvement.

Since the November update, the following new activities have emerged:

- Proposed substitutions of Transportation Control Measure (TCM) projects in the Federal Transportation Improvement Program (FTIP),
- Release of the California Transportation Assessment report, and
- Initiation of the environmental phase for potential conversion of carpool lanes to express lanes on Interstate 5 (I-5), from just south of State Route 55 to the Los Angeles County Line.

A discussion of each of these new activities is provided below.

Discussion

TCM Substitution

Project schedules are regularly updated and amended in the FTIP. The FTIP is a federally mandated four-year program of transportation projects that will receive federal funding or are subject to a federally required action. Within the SCAG region, the FTIP is a comprehensive listing of such transportation projects proposed over a six-year period and is developed in partnership between the six county transportation commissions of Imperial, Los Angeles, Orange, Riverside, San Bernardino, and Ventura counties, as well as Caltrans Districts 7, 8, 11, 12 and Headquarters. Within the FTIP, near-term projects that reduce vehicle use and benefit air quality are referred to as TCMs. Near term TCMs are closely monitored. If a TCM project is delayed, a replacement project with equivalent air quality benefits that can be implemented within the same timeframe must be amended into the FTIP.

TCMs are also included in the Air Quality Management Plan and State Implementation Plan to help demonstrate how National Ambient Air Quality Standards (NAAQS) will be met for specific years. Calendar year 2023 is one of the key attainment years for the NAAQS. Therefore, committed TCMs that are scheduled to be open to public use by December 31, 2022, cannot be delayed without first demonstrating that a substitute project (or projects) can be implemented by December 31, 2022, and that it provides at least equivalent air quality benefits. This ensures the region stays on track to meet the 2023 NAAQS attainment requirement and remains eligible to access federal transportation funds.

As noted in the May 2021 Regional Planning Update, the Transportation Corridor Agencies (TCA) decided to delay the planned widening of the existing toll roads. These projects were identified as committed TCMs. TCA determined that toll road widenings were not needed in the near-term. These projects are located on the San Joaquin Hills Transportation Corridor (between I-5 in the City of San Juan Capistrano and approximately MacArthur Boulevard in the City of Irvine); Eastern Transportation Corridor (between I-5 and State Route 91); and Foothill Transportation Corridor-North (between Oso Parkway and the Eastern Transportation Corridor). Because the implementation of these toll road projects would have eased congestion on parallel routes (e.g., I-5) and help traffic move more freely in south Orange County, less air pollution would have been produced. Accordingly, it is necessary to identify projects that produce equivalent air quality benefit in the Orange County portion of the South Coast Air Basin.

As also noted in the May 2021 Regional Planning Update, the County of Orange cancelled the Hazard Avenue Bikeway Project, which was also a committed TCM. Additionally, schedule updates to two OCTA projects (Placentia Commuter Rail Station and Paratransit Expansion Vehicle Purchase) also require TCM substitutions as the new completion dates are beyond December 31, 2022.

In working with SCAG on the above substitution request, OCTA was instructed to separate the substitution request into at least two distinct substitutions. Accordingly, the first substitution involves transferring the TCM designation from the TCA projects to three new traffic signal synchronization projects along Portola Parkway (between Paloma Parkway and Plano Trabuco Road), 1st Street/Bolsa Avenue (between Bolsa Chica Street and Newport Avenue), and Alton Parkway (between Red Hill Avenue and Portola Parkway). This substitution was approved by the SCAG Regional Council (RC) on May 5, 2022. The substitution is currently with the United States Environmental Protection Agency (EPA) and the California Air Resources Board (CARB) for concurrence.

OCTA is continuing to work with SCAG on next steps for the County of Orange and OCTA projects. The two OCTA projects will likely involve a formal substitution with the introduction of Bravo! Rapid bus service primarily on Main Street in Anaheim, Orange, and Santa Ana. This substitution is anticipated to be considered by the SCAG RC in July 2022. The County of Orange bikeway project will likely follow a less formal administrative substitution process and is anticipated to be resolved in the next few months. OCTA will continue to participate in interagency consultation on TCM substitutions through SCAG's Transportation Conformity Working Group, leading to SCAG RC adoption, and EPA and CARB concurrence prior to December 31, 2022.

California Transportation Assessment Report

In accordance with AB 285 (Chapter 605, Statutes of 2019), the California Strategic Growth Council (SGC) published the California Transportation Assessment (AB 285 Report) in February 2022. The AB 285 Report evaluates how transportation funding in California supports long-term planning goals, including building and maintaining a transportation system that advances California's climate goals and meets the transportation needs of Californians. The AB 285 Report, written by researchers from the University of California Institute of Transportation Studies, analyzes state and regional transportation plans and institutions, funding allocations to various state, regional, and local transportation programs and funding sources, and the legal frameworks that govern how transportation funds are spent in California.

In considering the findings contained in the AB 285 Report, the SGC solicited input from stakeholders to develop recommendations on five issue areas:

- Aligning existing state funding programs with State goals. For example, the statute that governs State Highway Operation and Protection Program and State Transportation Improvement Program funding has goals based on rehabilitation and maintenance, safety, operations, and expansion, but no reference to climate or equity, which are key state goals.
- Updating and better aligning state funding programs with existing state and regional plans. This could include modifications to the California Transportation Plan and exploring options to improve alignment with other statewide modal plans and Regional Transportation Plans / Sustainable Community Strategies.
- Re-evaluating project and program funding and reviewing the current transportation project pipeline. This could include revisiting projects currently in the planning and development pipeline to evaluate consistency with state goals. It is unclear at this time how this might impact projects funded by local option sales tax measures, such as the Measure M2 (M2) freeway program.
- Assessing the roles of state transportation institutions. This could involve exploring the roles and responsibilities for planning and delivering transportation projects across state agencies such as the California State Transportation Agency, Caltrans, and the California Transportation Commission. Additionally, this could include re-evaluating the roles of related state agencies (e.g., CARB and SGC) to ensure decisions align with state goals.
- Assessing metropolitan planning organization (MPO) and local government roles and responsibilities. This could involve a review of the specific authorities and institutional structure of MPOs to enhance their role in reviewing local land use and transportation actions.

OCTA staff has participated in several input venues to discuss the findings in the AB 285 Report and the SGC proposed recommendations. The key concern raised by OCTA is that the AB 285 Report and subsequent recommendations assume a project-level approach rather than a regional, comprehensive approach for meeting the State's climate goals. The implications of this approach include treating highway capacity projects, regardless of multimodal or systemwide benefits, as uniformly counter to the State's climate goals. This potentially impedes delivery of M2 commitments. Therefore, OCTA has partnered with SCAG and the county transportation commissions in the SCAG region in a joint letter (Attachment B) addressing the region's concerns.

I-5 Express Lanes

Express lanes have emerged as a primary approach for addressing federal high-occupancy (HOV) lane degradation standards (i.e., the HOV or carpool lane fails to maintain at least 45 miles per hour for 90 percent of the time over a consecutive 180-day period during morning or evening weekday peak-hour periods). The State and SCAG region are increasingly looking to express lanes to address HOV lane degradation and to provide mobility options. Express lanes are typically considered to be consistent with state climate and equity goals as the lanes are unlikely to induce new vehicle travel, especially when degraded HOV lanes are converted to express lanes. These types of lane conversions allow qualified carpools to continue to travel for free while other drivers can access the lane by paying a toll when additional lane capacity is available. This ensures reliable travel and increases average vehicle occupancy by encouraging carpooling and vanpooling while meeting federal performance standards.

Caltrans District 12 is initiating the environmental phase to study the potential conversion of carpool lanes to express lanes on I-5, between Red Hill Avenue to the Los Angeles County line (Attachment C). This phase of work is anticipated to continue through fall 2023. In an earlier project phase, OCTA requested (in January 2020) that Caltrans consider options for modifying the minimum occupancy requirements from two-plus to three-plus (without a tolling element) and/or moving the southern limit of the project to State Route 57 (SR-57) and maintain current carpool requirements between State Route 55 and SR-57, where a second HOV lane was recently added per M2 (Attachment D). Caltrans provided a response in January 2021 to OCTA's letter stating a commitment to include an HOV occupancy change alternative and an intention to work closely with OCTA to consider various other options (Attachment E). OCTA staff will participate in the environmental phase project development team and provide periodic updates to the OCTA Board.

Summary

Staff continues to coordinate ongoing activities regarding transportation planning in Orange County and Southern California. As drafts of these planning documents are released, staff will review and provide comments as needed to protect OCTA's interests. Staff will continue to keep the Board informed on the status of these ongoing activities.

Attachments

A. Regional Planning Activities, June 2022
B. Letter from Southern California Association of Governments and Southern California's six county transportation commissions to Lynn von Koch-Liebert, Executive Director, California Strategic Growth Council, dated May 6, 2022, re: AB 285 Report
C. Notice of Preparation of a Draft Environmental Impact report for the Interstate 5 Managed Lanes Project
D. Letter from Darrell E, Johnson, Chief Executive Officer, Orange County Transportation Authority to Ryan Chamberlain, District 12 Director, California Department of Transportation, dated January 31, 2020, re: Interstate 5 Proposed High-Occupancy Toll Lanes in North Orange County
E. Letter from Ryan Chamberlain, District 12 Director, California Department of Transportation, to Darrell E, Johnson, Chief Executive Officer, Orange County Transportation Authority, dated January 22, 2021, re: Interstate 5 Managed Lanes from Red Hill to Los Angeles County line

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Approved by:

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Regional Planning Activities
June 2022

California Department of Transportation (Caltrans)

	Summary	Key Dates	OCTA Interest	OCTA Role
Interstate 5 (I-5) High-Occupancy Toll (HOT) Lanes	Caltrans District 12 is studying implementation of HOT lanes on I-5 between the Los Angeles County Line and State Route 55. District 12 finalized a project study report (PSR) and a concept of operations (ConOps) in November 2019 and presented a summary to OCTA in December 2019. The OCTA Board requested that Caltrans include a high-occupancy vehicle (3+ occupancy) alternative as part of the subsequent environmental studies.	November 2019 – Caltrans finalized ConOps and PSR May 2022 – Caltrans initiated environmental studies for I-5 managed lanes Summer 2023 – Draft environmental document Winter 2023 – final environmental document 2023 – Caltrans anticipated to initiate design 2026 – Caltrans anticipated to initiate constructions	Prioritize corridor-wide (general purpose and carpool lanes) operational benefits and reliability.	Coordinate with Caltrans and other partner agencies throughout development of the ConOps, PSR, and subsequent studies.

Board – Board of Directors
OCTA – Orange County Transportation Authority

Regional Planning Activities
June 2022

California Air Resources Board (CARB)

	Summary	Key Dates	OCTA Interest	OCTA Role
2020 Mobile Source Strategy	CARB developed the 2020 Mobile Source Strategy as an integrated planning approach to identify the level of transition to cleaner mobile source technologies needed to achieve all of California's air quality, climate, and community risk reduction goals to achieve over the next thirty years. The programs and concepts in the 2020 Mobile Source Strategy will be incorporated into other planning efforts, including State Implementation Plans, the 2022 Scoping Plan.	October 2020 – Release of Workshop Discussion Draft 2020 Mobile Source Strategy for public review November 2020 – Draft 2020 Mobile Source Strategy released May 2021 – Draft 2020 Mobile Source Strategy revised to incorporate public feedback October 2021 - CARB Board approved 2020 Mobile Source Strategy	Ensure that strategies do not conflict with OCTA plans or projects.	Review and comment on technical documents.
2022 Scoping Plan for Achieving California's 2030 Greenhouse Gas (GHG) Target	The Scoping Plan identifies how the State can reach 2030 climate targets to reduce GHG emissions by 40 percent from 1990 levels and lay out a path to achieve carbon neutrality by mid-century.	June 2021 – Initiation of workshops and meetings on Scoping Plan development Spring 2022 – Completion of workshops and meetings on Scoping Plan development May 2022 – Release of Draft Scoping Plan Fall 2022 – Release of Final Scoping Plan Winter 2022 – CARB adopts Scoping Plan	Ensure that strategies do not conflict with OCTA plans or projects.	Review and comment on technical documents.

Regional Planning Activities
June 2022

South Coast Air Quality Management District (AQMD)

	Summary	Key Dates	OCTA Interest	OCTA Role
2022 Air Quality Management Plan (AQMP)	The AQMP identifies strategies for achieving attainment with the National Ambient Air Quality Standards in the South Coast Air Basin. The AQMP provides input into the California State Implementation Plan (federally required air quality plan).	March 2022 – Release draft AQMP March/April 2022 – Regional workshops and environmental scoping meeting May 2022 – Release draft final AQMP July 2022 – Regional hearings August 2022 – AQMD and CARB consideration of AQMP and submittal to Environmental Protection Agency (EPA)	Support development of attainment strategies that are within AQMD's regulatory authority. Ensure economic impacts are considered. Minimize impacts to mobility. Ensure 2020 Regional Transportation Plan/ Sustainable Communities Strategy (RTP/SCS) input is accurately incorporated.	Participate in advisory committee meetings. Review and comment on technical documents.

Regional Planning Activities
June 2022

Southern California Association of Governments (SCAG)

	Summary	Key Dates	OCTA Interest	OCTA Role
2024 RTP/SCS	Federally required transportation planning document. Addresses needs over a 20-plus year planning horizon and constrained by a reasonably foreseeable revenue forecast. Must also demonstrate air quality conformity and GHG emission reductions with budgeted levels set by the United States EPA and CARB. Update to 2020 RTP/SCS. Commonly known as Connect SoCal.	2021-2022 – Initiate plan development process and establish foundation and frameworks Spring 2022 – Fall 2022 – Data collection and policy development; OCTA to submit projects consistent with 2022 LRTP (due Fall 2022) Winter 2023 – Outreach and analysis Spring 2023 – Draft plan policy discussions Fall 2023 – Draft plan, transportation conformity determination, and environmental document Spring 2024 – OCTA to submit comments on the draft 2024 RTP/SCS; comment response report and plan changes review; final plan, transportation conformity determination, and environmental document	Ensure inclusion of projects identified in the 2022 Long Range Transportation Plan (LRTP). Support policies that are consistent with OCTA positions.	Coordinate with SCAG and other partner agencies. Participate in working groups. Monitor SCAG policy committees. Review and comment on related materials.

Regional Planning Activities
June 2022

San Diego Association of Governments (SANDAG)

	Summary	Key Dates	OCTA Interest	OCTA Role
2021 Regional Plan	Federally required transportation planning document. Addresses needs over a 20-plus year planning horizon and constrained by a reasonably foreseeable revenue forecast. Must also demonstrate air quality conformity and GHG emission reductions with budgeted levels set by EPA and CARB.	May 2021 – Release of Draft 2021 Regional Plan for public review August 2021 – Close of public comment period for Draft 2021 Regional Plan September 2021 – Release of Draft Environmental Impact Report (EIR) for Draft 2021 Regional Plan for public review October 2021 – Close of public comment period for Draft EIR December 2021 – SANDAG Board adopted 2021 Regional Plan and final EIR	Monitor development of plans and projects that approach the Orange County border.	Monitoring.

Regional Planning Activities
June 2022

Los Angeles County Metropolitan Transportation Authority (Metro)

	Summary	Key Dates	OCTA Interest	OCTA Role
2028 Olympics	The Greater Los Angeles Area must begin preparing for the 2028 Olympics. This will include greater coordination between OCTA, Metro, and other planning agencies in the area. Metro's draft initial project list is comprised of the following: • Congestion reduction (34 projects) • First-last mile and active transportation (32 projects) • Bus (32 projects) • Rail (56 projects) • Systemwide (25 projects) • Regional rail (17 projects) • Goods movement (14 projects)	December 2020 – Metro Board approved Mobility Concept Plan April 2022 – Mobility Concept Plan presented to stakeholders TBD – Submittal of project list for consideration by the Games Mobility Executives TBD – Metro Board approval of project list	Coordinate with Metro and the City of Los Angeles as preparations begin for the 2028 Olympics. Monitor development of financing/ funding strategy and potential implementation of program of projects.	Coordinate with Metro and other partner agencies.
Metro L (Gold) Line Eastside Transit Corridor Phase 2	Environmental process and advanced conceptual engineering for extending the Metro L (Gold) further east from its current terminus at Pomona Boulevard and Atlantic Boulevard in East Los Angeles potentially through the cities of Commerce, Montebello, Pico Rivera, Santa Fe Springs, Whittier, and the unincorporated communities of East Los Angeles and West Whittier-Los Nietos.	February 2020 – Metro Board approved proceeding with the California Environmental Quality Act only for the project's environmental process and withdrawing the State Route 60 and combined alternatives from further consideration in the environmental study 2023 – Anticipated completion of environmental process 2028 – Completion of final design 2029 – Start of construction 2035 – Phase 2 in service	Support alternatives that create potential for future connections into Orange County.	Monitoring.

Regional Planning Activities
June 2022

Metro (continued)

	Summary	Key Dates	OCTA Interest	OCTA Role
West Santa Ana Branch Transit Corridor Project	In January 2022, the Metro Board of Directors approved Los Angeles Union Station as the northern terminus and the 14.8-mile route from Slauson/A (Blue) Line to Pioneer Boulevard in Artesia as the locally preferred alternative for the initial segment between Artesia and downtown Los Angeles. The new light rail transit line that would connect downtown Los Angeles to southeastern Los Angeles County, which could provide potential for a future extension into Orange County along the Pacific Electric right-of-way.	July 2021 – Draft environmental document for public comment January 2022 – Selection of a locally preferred alternative and project terminus 2033-35 – Anticipate opening service of initial segment	Support alternatives that create potential for future connections into Orange County.	Monitoring.

Regional Planning Activities
June 2022

Transportation Corridor Agencies (TCA)

	Summary	Key Dates	OCTA Interest	OCTA Role
Transportation Control Measure (TCM) substitution	TCA is seeking to remove the TCM designation from three portions of TCA facilities: 1) the San Joaquin Hills Transportation Corridor (ORA10254), 2) the Eastern Transportation Corridor (ORA050), and 3) the Foothill Transportation Corridor-North (ORA051). TCA is working with OCTA and SCAG on the formal substitution and participated in interagency consultation through SCAG's Transportation Conformity Working Group (TCWG).	Summer 2020 – Initiated substitution process with SCAG June 2020 – Presentation to SCAG TCWG June 2021 – Presentation to SCAG TCWG August 2021 – Presentation to the SCAG TCWG February 2022 – Presentation to the SCAG TCWG April 2022 – Present to the SCAG Energy and Environment Committee (EEC) for approval May 2022 – Present to the SCAG Regional Council (RC) for approval Summer 2022 – Anticipate CARB and EPA concurrence	Avoid potential impacts to regional transportation funding.	Coordinating with SCAG and TCA.

Regional Planning Activities
June 2022

OCTA

	Summary	Key Dates	OCTA Interest	OCTA Role
Express Lanes Network Study	The OCTA 2018 LRTP's Short-Term Action Plan recommended an Express Lanes Network Study to identify planning and policy positions in response to an initiative by Caltrans to implement express lanes in Orange County. The study will establish OCTA's priorities for tolled express lanes implementation by evaluating quantitative and qualitative factors against stated goals and objectives to determine a preferred approach.	May 2019 – Study initiated December 2019 – Study update presented to OCTA Board Summer 2022 – Draft recommendations on a preferred approach for next steps to be presented to OCTA Board	Establish OCTA's priorities for tolled express lanes.	Study effort lead by OCTA.
South Orange County Multimodal Transportation Study (SOCMTS)	SOCMTS is a strategic transportation study that will consider transportation needs of residents, commuters, and visitors to the area. Through collaboration with local stakeholders, the study will identify a broad range of improvement recommendations for all modes of transportation, including streets, transit, freeways and bikeways. The study will address south Orange County's mobility needs through the year 2045 and beyond. Study objectives • Work collaboratively with stakeholders • Leverage all modes of transportation • Address long-term mobility needs • Develop consensus on a set of transportation improvements across all modes	Summer/Fall 2020 – Phase 1: Identify issues and opportunities; develop purpose and need; and develop initial alternative strategies August 2020 – Study update presented to OCTA Board Winter 2020 - Spring 2021 – Phase 2: Analysis of alternative strategies February 2021 – Study update presented to OCTA Board Summer 2021 - Summer 2022 – Phase 3: Further analysis of reduced set of alternative strategies; Recommend a locally preferred strategy June 2022 – Study update to be presented to OCTA Board Summer 2022 – OCTA Board to consider study recommendations	Establish a locally preferred strategy for south Orange County.	Study effort lead by OCTA.

Regional Planning Activities
June 2022

OCTA (continued)

	Summary	Key Dates	OCTA Interest	OCTA Role
State Route 91 (SR-91) Comprehensive Multimodal Corridor Plan	This study will explore opportunities to improve mobility options and provide transportation choices on and around the corridor while preserving the character of the local communities.	January 2022 – Study initiated February-April 2022 – Public engagement May 2022 – Draft plan Summer 2022 – Final plan	Improving the SR-91 corridor in a manner, which is consistent with sales tax measures of Orange and Riverside counties, as well as previously completed studies.	Study effort lead by OCTA, in partnership with the Riverside County Transportation Commission and in coordination with Caltrans, TCA, and corridor cities.
TCM Substitution	The County of Orange has cancelled the Hazard Avenue Bikeway Project (ORA170205), which is a committed TCM. Additionally, schedule updates to two OCTA projects (Placentia Commuter Rail Transit Station [ORA030612] and Paratransit Expansion Vehicle Purchase [ORA130099]) also require TCM substitutions. OCTA is working with SCAG on next steps, including a formal substitution for the two OCTA projects. The bikeway project will follow an administrative substitution process. OCTA will participate in interagency consultation on TCM substitutions through the SCAG TCWG.	June 2021 – Presentation to SCAG TCWG February 2022 – Presentation to SCAG TCWG April 2022 – Presentation to SCAG TCWG June 2022 – Present to SCAG EEC for approval July 2022 – Present to SCAG RC for approval Fall 2022 – Anticipate CARB and EPA concurrence	Avoid potential impacts to regional transportation funding.	Coordinating with SCAG.

May 6, 2022

Ms. Lynn von Koch-Liebert
Executive Director
California Strategic Growth Council
1400 Tenth Street
Sacramento, CA 95814

RE: SCAG Region Comments on California Transportation Assessment (AB 285 Report)

Dear Ms. Koch-Liebert:

On behalf of the Southern California Association of Governments (SCAG) and Southern California's six county transportation commissions, we want to thank you for the opportunity to comment on the findings of the California Transportation Assessment Report, authorized under Assembly Bill (AB) 285 (Friedman, Chapter 605, Statutes of 2019). This report provides an important starting point for conversations among the legislature, state agencies, metropolitan planning organizations (MPOs), transportation commissions, local governments, and the public to develop a shared understanding of the challenges and solutions needed to accelerate progress on the state's climate goals.

We agree with the objectives of the report and several of its findings, including that the transportation funding and policy landscape is complex, and reducing vehicle miles traveled (VMT) is extremely challenging in a growing economy. This strongly implies that additional data and a comprehensive understanding of transportation planning and funding will be critical to developing effective solutions. Therefore, we appreciate the Strategic Growth Council's efforts to engage stakeholders through working sessions after the release of the report and their encouragement of a thoughtful discussion of the problematic issues in the report before we proceed with identifying specific actions.

The following three fundamental concerns underscore the challenges we see in relying on the limited analysis in the AB 285 report to inform transportation policy and climate solutions.

First, Senate Bill (SB) 375 (Steinberg, Chapter 728, Statutes of 2008) was established with the goal of reducing per capita greenhouse gas (GHG) emissions at a *regional* scale, which is quite different from the alternative threshold presented through the AB 285 analysis. This analysis suggests any investment that could increase VMT at the project level is inconsistent with Sustainable Communities Strategies and climate goals. For more than a decade, the agencies within the SCAG region have worked together to forward successive regional plans that meet the state's prescribed GHG emission reduction targets while also addressing the unique opportunities and challenges in our region to meet broader environmental, economic and equity goals. We have done so through a balanced approach that recognizes mobility needs and options vary vastly across Southern California. This is important given that our economy and GHG footprint are not solely impacted by the movement of people but also goods, with an industry that generates more than a third of all jobs regionally. Further, freight is a critical component of the state's economy as millions of jobs statewide are tied to the supply chain, and all Californians depend on an efficient, reliable, and safe multimodal goods movement system to provide communities with their most vital necessities. It is imperative that the state reconcile climate goals with equally important economic and safety goals.

The report's conclusion about project level inconsistency is incongruent with our regional planning process which is focused on aligning the entirety of the system investments in our plan with transportation policies and a regional land-use vision to meet a broad range of objectives, including GHG reduction. The methodology and findings from the AB 285 report present highway projects, regardless of the multi-modal or systemwide benefits, as uniformly counter to the state's climate goals. For example, the report treats investment in priced express lanes that generate funding for transit in the same manner as it treats an investment in general purpose lanes. Similarly, by solely relying on Federal Transportation Improvement Program investments to assess plan implementation, the research methodology overlooks the significant regional investment in transit operations and complete streets projects which are frequently funded through local dollars or integrated into larger corridor improvement projects that may be classified generally as highway or local roadway improvements in the program listing. Most concerning, however, is the false dichotomy presented throughout the report between roadway investments and climate action, while our planning and modeling suggests both are critical to meeting state and local goals.

Maintaining the ability to plan regionally for GHG reductions in the SCAG region is central to achieving the state's climate vision. Progress cannot be assessed or achieved through a one-size fits all analysis or approach given the differences in the regions and the importance of integrated planning strategies.

Since SCAG's first joint Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS) in 2012, our plans have encouraged and resulted in a greater share of overall investments in transit and active transportation largely due to revenues generated from Local

Sales Tax Measures. Since 2012, the region has added more than 760 miles of bike lanes and removed major capacity expansion projects from the RTP/SCS like the SR-710 extension and the High Desert Corridor. However, while infrastructure planning and investment decisions will continue to be a significant element of the RTP/SCS, SCAG sees almost double the GHG emission reduction benefits from the plan's policies and programs as it does from infrastructure investments. This highlights the importance of wraparound programs to support our investments and leads to our second fundamental concern with the report and its findings.

Second, by focusing the AB 285 analysis on infrastructure investment, the report misses an opportunity to account for progress on the most critical strategies for meeting the state's climate goals. Like SCAG's RTP/SCS, the state's climate vision, as reflected in the California Transportation Plan (CTP) 2050, relies on pricing strategies and mobility incentives to shift travel behavior over time. The CTP 2050 is built on the aggressive assumption that vehicle operating costs will increase by 50 percent, in part due to pricing mechanisms. However, the AB 285 report fails to address progress and alignment at the state and regional levels on this critical transportation planning and policy issue. The state lacks a comprehensive vision for how it sees working with the regions to transition to a user fee-based system, and, at the same time, it is slow to support interim steps that are moving us in the right direction, like the build-out of a regionwide express lane network.

Finally, the AB 285 report suggests that MPOs have little control and no effective oversight over whether local funds or land use actions help accomplish regional and state goals. In Southern California, the Regional Housing Needs Allocation plan tied a regulatory requirement for cities and counties to the RTP/SCS by allocating units based on the region's growth vision. While the ultimate oversight for this land-use law is the purview of the State Housing and Community Development Department, the allocation methodology was developed and adopted by SCAG's Regional Council with a clear intent to align regional housing and the climate vision embedded in SCAG's RTP/SCS. Cities and counties with the greatest job and transit access, as determined by SCAG's RTP/SCS, are now required to plan for 836,857 units in addition to those units required to address projected growth. This is nearly as much housing as the whole region produced in the last twenty years.

Achieving this sustainable and equitable land-use vision ultimately depends on the private sector to produce housing where the cities are planning for it, which demands a significant public investment in the infrastructure needed to accommodate growth. SCAG needs more tools to help cities with housing element updates, and for tools beyond planning to fund affordable housing and supportive infrastructure, rather than more policing powers. Most urgently, our cities and counties need more time to effectively implement the regional housing policy vision and engage with communities to ensure context sensitive and implementable solutions.

While we believe there are fundamental gaps in the AB 285 analysis that limit its usefulness in policy discussions, we do recognize that more needs to be done to align state and regional plans and actions to meet state climate goals. Despite each of our RTP/SCSs meeting our prescribed GHG emission reduction targets, we acknowledge the findings of the Senate Bill 150 (SB 150)

report showing that MPOs across the state are falling short in meeting planned VMT and GHG reductions. However, real solutions to this challenge require a greater understanding of the combination of strategies approved in regional plans and the specific barriers to their implementation.

The regional planning process is designed to confront this very challenge by requiring MPOs to revisit the plan with each four-year update cycle. This requires us to refine existing strategies and assess the chronic or emergent challenges facing the region. In the SCAG region, there are a series of challenges that we know we must address moving forward. Below we have listed examples.

- More housing and growth has occurred close to jobs and transit than we projected in 2012, but we have seen limited progress in shifting the regional growth pattern. It is noteworthy that about 95 percent of the region's housing stock was built before the passage of SB 375 and overall household growth has been 40 percent less than projected. Therefore, slow growth has limited the impact of our land use strategies and the pace of change from this strategy.

- Transit ridership has plummeted. This is a trend that started before the pandemic despite billions of dollars in investment. Most people do not use transit to commute, even those in low-income households and in households with no vehicle. Our research suggests the solution to better serving our low-income communities requires rethinking and restructuring funding for transit operations as well as looking more broadly at the mobility ecosystem to improve access through a variety of modes.

- The SCAG region has experienced 20 percent growth in warehousing facilities since 2014. This far exceeds our regional projections. The overall growth in goods movement has caused significant challenges across the supply chain and transportation networks. Challenges that must be addressed at least in part through capacity improvements to the roadway network as more than 90 percent of daily truck trips in the region serve local distribution and market needs that cannot be addressed by rail.

- A recent SCAG-led study concluded that increasing access to and adoption of high-speed internet service (broadband) has the potential to reduce VMT and GHGs by up to 15 percent when people use it to telework and access remote services. However, despite lower-income households having far less access to broadband itself, greater VMT and GHG reductions are seen from increased access to higher-income households. This is because a much higher proportion of low-income households work in "essential" fields that cannot be converted to teleworking. So, while achieving universal broadband is necessary to meeting equity goals, using it to reduce VMT is a much more complicated endeavor than just providing access.

These challenges reflect the complexity of reducing VMT while advancing equity and economic opportunity and are specific to SCAG but familiar to the challenges faced by other regions across the state. As we kick-off the Connect SoCal 2024 update, we look forward to the participation

and partnership of the legislature, state agencies, regional partners, and the public to chart a path that aligns our climate vision with broader environmental, economic and equity goals. We are benefitting greatly from the original Regional Early Action Plan (REAP) resources, and the REAP 2.0 investments will provide support for meeting the sixth cycle RHNA goals and to test new mobility solutions that could reduce VMT. Additional recommendations are attached. These recommendations are organized around themes in the AB 285 report related to achieving actionable solutions.

Again, we appreciate this opportunity to share our perspective. Ultimately, we agree with our MPO and transportation planning partners across the state that reforming SB 375 is not the most urgent need in accelerating progress toward the state's climate vision. We can certainly do better and urge consideration of how we partner more effectively to achieve state goals through implementation of the strategies in our plans rather than pursuing a uniform, statewide solution.

Sincerely,

Kome Ajise
Executive Director
Southern California Association of Governments

David Aguirre
Interim Executive Director
Imperial County Transportation Commission

Martin Erickson
Executive Director
Ventura County Transportation Commission

Darrell E. Johnson
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Executive Director
Riverside County Transportation Commission

Stephanie Wiggins
Chief Executive Officer
Los Angeles County Metropolitan Transportation Authority

Ray Wolfe
Executive Director
San Bernardino County Transportation Authority

Additional Recommendations:
We look forward to working with the State to develop actionable solutions around the topics raised in the AB 285 report. We offer the following perspectives:

Assessing MPO and local government roles and responsibilities:

Agencies within the SCAG region have an established practice of working collaboratively to develop our RTP/SCS. SCAG also offers local planning assistance through grants or direct assistance to support RTP/SCS implementation. However, these programs are chronically oversubscribed. In addition, while the region is big, most cities are small with nearly 60 percent of local jurisdictions having populations under 60,000 residents. More authority to MPOs would not solve either the resource or capacity constraint barriers to RTP/SCS implementation.

Where regions and local jurisdictions could use more authority is in the ability to generate steady, predictable revenue streams for community reinvestment. This could be accomplished through congestion pricing, express lanes and CEQA reform.

Updating and better alignment among existing state and regional plans.

To better align state and regional plans, state plans should be held to similar requirements and standards as regional plans. For example, the California Transportation Plan should be revisited to add a financial analysis, and bold assumptions should be rigorously vetted to clearly illustrate what is necessary to achieve these climate goals. Further, it is imperative that the state reconcile climate goals with equally important economic and safety goals. A balanced approach to all these goals is critical to meeting the needs of varying communities throughout the region and state.

Aligning existing funding programs with state goals.

As stated above, the SCAG region sees twice as much GHG emission reductions from policies and programs as it does from infrastructure investment. Therefore, the state needs to focus on programs and operations as much as, or more so, than infrastructure. The state should prioritize rail and bus transit capital, operations, and maintenance by funding programs to facilitate capital and operational improvements that modernize the system. Additionally, the state should recognize and elevate the role of incentives and pricing for both reducing VMT and better managing the system. For example, proceeds from pricing strategies can be funneled into greater investments into strategies that increase housing near jobs and transit, as well as the transit system itself. Pricing itself can simultaneously discourage discretionary trips and shift trip modes by moving travelers away from the use of single occupancy vehicles to walking, cycling, transit, transit carpooling, or some combination leading to a more sustainable transportation system that reduces both VMT and GHG.

Implementing the Sustainable Communities Strategies is the best way to achieve the GHG reductions from the transportation sector. SCAG advocates for state and federal funding for those strategies which yield the greatest reductions in GHG. In January of this year, SCAG's

Regional Council took formal action to support a major expansion and augmentation of the Infill Infrastructure Grant (IIG) Program as its top legislative priority this year. Specifically, SCAG supports:

- Increased funding for the IIG program in the amount of $5 billion;
- Establishing a state-administered Technical Assistance program to assist small and medium-sized jurisdictions to apply and compete for these funds.

The IIG program provides funding for infrastructure that supports higher-density affordable and mixed-income housing in locations designated as infill. Developers and local governments partner to apply for grant funding for sidewalk and streetscape improvements, water, sewer, or other utility service improvements, transit linkages, transit shelters, or other infrastructure needs that facilitate infill housing in climate friendly, infill locations. These projects' proximity to transit reduces commute distances and times, thereby serving as a key strategy to help our region achieve its GHG reduction targets.

The AB 285 report background included an apt projection from the FHWA, "VMT will continue to increase as the result of population increase, rising disposable income, increased GDP, growth in the goods component of GDP and relatively steady fuel prices." Our collective responsibility as state and regional agencies is to counteract per capita VMT growth with an economic strategy that gives local governments the resources or tools to stimulate growth in sustainable communities.

<u>Reevaluating project and program funding and reviewing the current transportation project pipeline.</u>

As stated above, SCAG balances several goals in preparing each RTP/SCS including improving mobility and supporting a vibrant economy alongside our air quality and GHG emission reduction goals. When we analyze the performance of the plan, we analyze the whole system. Reevaluating projects on an individual basis and on narrow performance metrics could miss the bigger picture of how that project may be contributing to the whole system performance.

Additionally, agencies within the SCAG region have been successful in passing local sales tax measures to fund transportation system improvements. These funds can be used to support GHG reduction strategies, but current commitments to the voters need to be delivered to maintain public trust and support for future local funding options.

Notice of Preparation of a Draft Environmental Impact Report for the Interstate 5 Managed Lanes Project

The California Department of Transportation (Caltrans) is issuing this Notice of Preparation (NOP) for a project-level Environmental Impact Report (EIR) for the Interstate (I) 5 Managed Lanes Project (Proposed Project) to initiate scoping and solicit input. Caltrans is the lead agency under the California Environmental Quality Act (CEQA) and is preparing an EIR in accordance with CEQA and an Environmental Assessment (EA) in accordance with the National Environmental Policy Act (NEPA) for the Proposed Project. The environmental document will be prepared as a joint document pursuant to CEQA and NEPA. This is the Caltrans Project Approval and Environment Document (PA&ED) phase for this project.

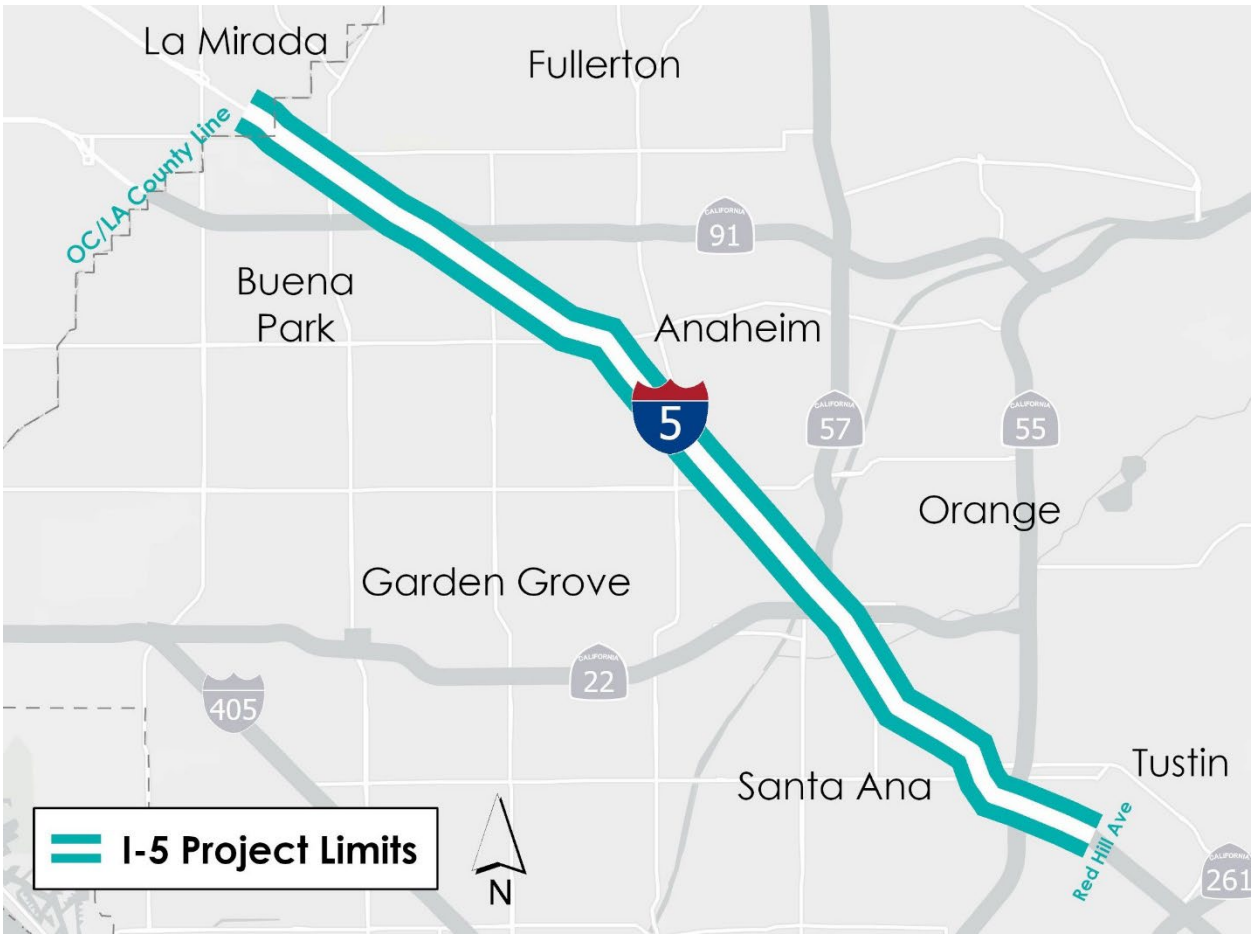
Pursuant to CEQA, Caltrans is distributing this NOP and initiating this early consultation/scoping to notify the responsible agencies, trustee agencies, the Office of Planning and Research, county clerk and involved federal agencies that an EIR/EA is being prepared. The purpose is to solicit guidance from those agencies on the scope and content regarding potential significant environmental issues, reasonable alternatives, and reasonable mitigation measures that should be discussed in the EIR/EA. Your agency will need to use the environmental document prepared by our agency when considering your permit or other approval for the project. An Initial Study has not been prepared for the proposed project and therefore is not attached to this NOP.

Caltrans proposes to address I-5 High Occupancy Vehicle (HOV) lane degradation and improve mobility in Orange County. The environmental document will address impacts associated with the Proposed Project.

Project Location

The proposed Project is located on I-5 from Red Hill Avenue to 0.5 mile north of the Orange/Los Angeles County (OC/LA) line (refer to Project Location Map, Figure 1). The postmiles (PM) within Orange County are PM 29.1 to 44.4 up to the OC/LA County line and PM 0.0 to 0.5 within Los Angeles County. The project limits are within the following cities within Orange County: Tustin, Santa Ana, Orange, Anaheim, Fullerton, Buena Park, and La Mirada.

Figure 1
Project Location Map



Project History

I-5 is the main Interstate Highway on the West Coast of the United States (US), running south to north from the US/Mexico border to the US/Canada border.

The southern project limit is the section of I-5 that intersects with Red Hill Avenue, south of State Route (SR) 55 in the City of Tustin. The I-5 continues north through the cities of Santa Ana, Orange, Anaheim, Fullerton, Buena Park, and La Mirada and includes three major freeway-to-freeway interchanges at SR-55, -22/57, and -91[1]. The northern project limit is 0.5 miles north of the OC/LA County Line in the City of La Mirada. The existing HOV Direct Connectors (DC) link the I-5 HOV facility with the SR-55, SR-57, and SR-91 HOV facilities. The first HOV lanes on I-5 opened in 1992 with HOV 2+ requirements and have been highly utilized. There are several HOV Direct Access Ramps (DARs) within the project limits at Grand Avenue, Gene Autry Way, Disney Way, and Disneyland Drive.

I-5 currently has at least one HOV lane in each direction within the project limits that is separated with limited ingress/egress buffer openings. In mid-2021, the construction of an additional HOV lane in each direction and removal of the existing northbound and southbound DARs at Main Street was completed within the section of I-5 south of SR-55 at Red Hill Ave and SR-57.

Description of the Project

The Proposed Project would address operational deficiencies related to HOV degradation on I-5 between Red Hill Avenue and the OC/LA County line in both northbound and southbound directions.

The purpose of this project is to improve the overall movement of people and goods along this section of I-5 by:

- Improving the managed lanes network operations
- Improving mobility and trip reliability
- Maximizing person throughput by facilitating efficient movement of bus and rideshare users
- Applying technology to help manage traffic demand

The need, or deficiency, of the project is the existing I-5 HOV lanes between Red Hill Ave and the OC/LA County line experience:

[1] In this document, various adopted state routes are referred to as “SR- “and will include the relevant route identifier.

- HOV Degradation
- Demand that exceeds existing capacity
- Operational deficiencies

Project Alternatives

Based on conceptual analysis, four (4) alternatives were discussed in the Project Initiation Document (PID). This NOP and other project information documents are available on the Caltrans website at https://dot.ca.gov/caltrans-near-me/district-12/district-12-programs/district-12-environmental/i-5-managed-lanes-project. The preliminary alternatives under consideration include one (1) No Build and three (3) Build Alternatives. Refer to Figure 2 in this NOP for a conceptual representation of the Proposed Project alternatives.

Alternative No. 1 (No Build):

The No-Build Alternative does not include improvements to the existing lane configuration for the I-5. Under the No Build Alternative, no new general purpose (GP) lanes or managed lanes (MLs) on I-5 or new connections would occur. Current MLs within the corridor consist of HOV lanes. This alternative assumes the independent implementation of the other projects on the fiscally constrained project list in the Southern California Association of Governments (SCAG) 2016 Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS) and the Preferred Plan in the Orange County Transportation Agency's (OCTA) 2014 Long Range Transportation Plan (LRTP) within the project limits.

Alternative No. 2 (High Occupancy Vehicles 3+):

Alternative 2 would modify existing HOV minimum occupancy requirement from the existing two plus (2+) to three plus (3+) passengers between Red Hill Avenue and the OC/LA County line. Under this alternative, all existing roadway features will remain. However, sign panels and pavement delineation modifications will reflect the latest California Manual on Uniform Traffic Control Devices (CA MUTCD) and Caltrans' Standard Plans. No right-of-way impacts are anticipated under this alternative.

Alternative No. 3 (Converted Express Lane):

Alternative 3 would convert existing HOV lanes to Express Lanes (ELs) between Red Hill Avenue and the OC/LA County line. This alternative proposes:

- Convert existing HOV to an EL in each direction between Red Hill Avenue and SR-55

- Convert two existing HOV to ELs in each direction between SR-55 and SR-57
- Convert existing HOV to an EL in each direction from SR-57 to 0.2 miles south of the OC/LA County Line

Alternative No. 4 (Converted and Expanded Express Lanes):

4A: Alternative 4A would convert the existing HOV lanes to Express Lanes (ELs) and construct an additional EL between SR-57 and SR-91. This alternative proposes:

- *Convert existing HOV to an EL in each direction between Red Hill Avenue and SR-55
- *Convert two existing HOV to ELs in each direction between SR-55 and SR-57
- *Convert existing HOV to an EL in each direction from SR-57 to 0.2 miles south of the OC/LA County Line
- Construct one new EL from SR-57 to SR-91

  *These improvements are the same as Alternative 3

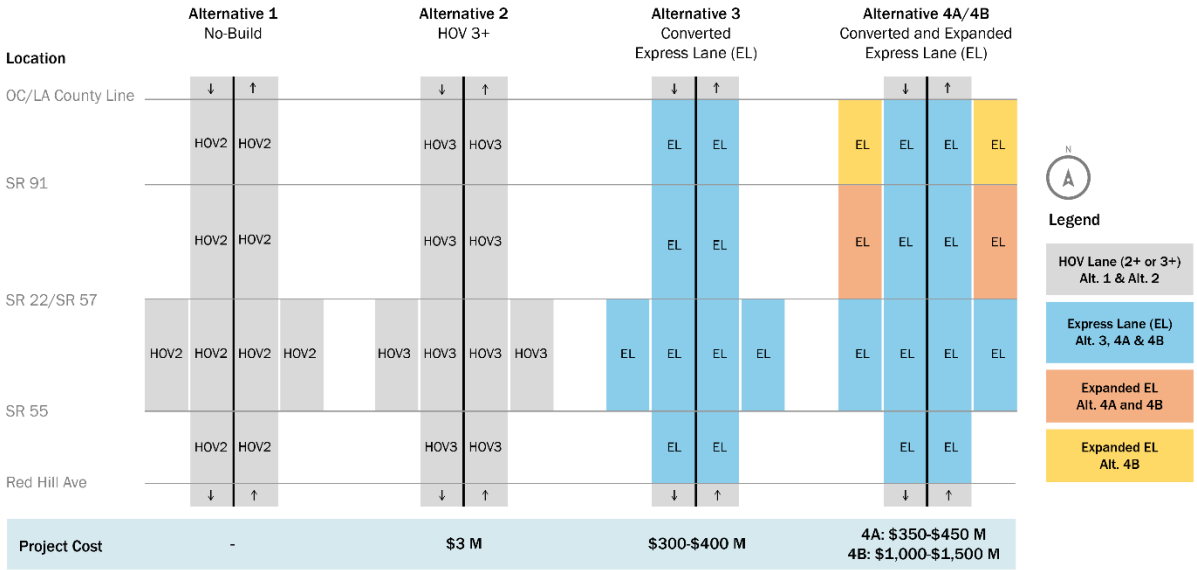
4B: Alternative 4B would convert the existing HOV lanes to Express Lanes (Els) and construct an additional EL between SR-57 and the OC/LA County line. This alternative proposes:

- *Convert existing HOV to an EL in each direction between Red Hill Avenue and SR-55
- *Convert two existing HOV to ELs in each direction between SR-55 and SR-57
- *Convert existing HOV to an EL in each direction from SR-57 to 0.2 miles south of the OC/LA County line
- **Construct one new EL from SR-57 to SR-91
- Construct one new EL from SR-91 to 0.2 miles south of the OC/LA County Line

  *These improvements are the same as Alternative 3

  **This improvement is the same as Alternative 4A

Figure 2
Alternatives



Environmental Factors

The purpose of the PA&ED phase is to explore the effects of the Proposed Project on the physical, human, and natural environment. Caltrans will evaluate all environmental, social, and economic impacts of the construction and operation of the Proposed Project. Impact areas to be addressed in the EIR/EA include, but may not be limited to traffic, land use, regional growth, land acquisition, displacements and relocations, cultural resources, recreational resources, air quality, biological resources, noise and vibration, and environmental justice. Measures to avoid, minimize, and mitigate all adverse impacts will be identified and evaluated.

Public Scoping Meetings

In addition to on-going public engagement and outreach that will occur during the PA&ED phase, Caltrans will hold one (1) in-person scoping meeting and one (1) virtual scoping meeting. The purpose of the scoping meetings is to provide information to agencies and the public regarding the Proposed Project and to obtain feedback on the scope and content that should be addressed in the EIR/EA. Comments and suggestions on additional EIR/EA scope elements described in this NOP are invited from all interested agencies and the public to ensure the full range of issues related to the Proposed Project and all reasonable alternatives are addressed and all issues are identified.

Caltrans is interested in whether there are areas of environmental concern that should be identified as having the potential for impacts. In response to this NOP, public agencies with jurisdiction are requested to advise Caltrans of the applicable permit and environmental review requirements of each agency, and the scope and content of the environmental information that is germane to the agency's statutory responsibilities in connection with the Proposed Project.

The in-person scoping meeting will be held at the following location, date, and time:

Location: Downtown Anaheim Community Center
250 E. Center Street, Anaheim, CA 92805
Date: Tuesday, May 24, 2022
Time: 5:30 to 7:30 p.m.

The virtual scoping meeting will be held on Thursday, May 26, 2022 from 5:30 to 7:30 p.m. via Zoom. To access the virtual meeting, please visit the Caltrans website at https://dot.ca.gov/caltrans-near-me/district-12/district-12-programs/district-12-environmental/i-5-managed-lanes-project.

Information regarding the project scope, alternatives under consideration, and technical analysis that will be conducted for the EIR/EA will be available at the scoping meetings.

Comments

Comments can be submitted during the public scoping period (May 9, 2022 – June 8, 2022) in any of the following formats:

- Online comment form at the Caltrans website: https://dot.ca.gov/caltrans-near-me/district-12/district-12-programs/district-12-environmental/i-5-managed-lanes-project
- Project email to **I-5ManagedLanesProject@dot.ca.gov** with the subject line "**I-5 Managed Lanes Project**"
- Regular mail to Jayna Harris, Associate/Senior Environmental Planner, 20 Executive Park, Suite 200, Irvine, CA 92614.
- Court reporter during our scoping meetings.

Please submit your comments no later than **5 p.m. on Wednesday, June 8, 2022**.

Additional Information

To obtain more information on the Proposed Project, scoping process, and scoping meetings please visit the Caltrans website above. To request alternative accommodations for accessing project information or for attending public scoping meetings please contact: District 12 Public Information Office at (657) 328-6000. TDD users may contact the California Relay Service line at 1 (800) 735-2929 or Voice Line at 1(800) 735-2922. Requests for alternative accommodations to attend scoping meetings must be made 15 days prior to the scoping meeting.

Reference: California Code of Regulations, Title 14, (CEQA Guidelines) Sections 15082(a), 15103, and 15375

ATTACHMENT D

OCTA

AFFILIATED AGENCIES

Orange County Transit District

Local Transportation Authority

Service Authority for Freeway Emergencies

Consolidated Transportation Service Agency

Congestion Management Agency

January 31, 2020

Mr. Ryan Chamberlain
District Director
California Department of Transportation, District 12
1750 East Fourth Street, Suite 100
Santa Ana, CA 92705

Subject: **Proposed High-Occupancy Toll Lanes in North Orange County**

Dear Mr. Chamberlain:

At the December 9, 2019, Orange County Transportation Authority (OCTA) Board of Directors (Board) meeting, the California Department of Transportation (Caltrans) provided a presentation on proposed high-occupancy toll (HOT) lanes in north Orange County. Following the presentation, the Board requested Caltrans include a non-tolled high occupancy vehicle (HOV) 3+ alternative in future studies for Interstate 5 (I-5) managed lanes between State Route 55 (SR-55) and the Los Angeles County line. In addition, prior staff comments requested Caltrans explore alternatives north of State Route 57 (SR-57) to the Los Angeles County line to avoid conflicts with the Measure M HOV lanes currently under construction between SR-55 and SR-57. This project, known as Project A in the voter pamphlet, is adding a second carpool lane in each direction in this I-5 section and was environmentally cleared as an HOV project in 2015.

OCTA is very concerned that various Caltrans HOT lane proposals directly conflict with the Measure M freeway program and would result in a breach of trust and broken promises between OCTA and the Orange County voters. Therefore, we urge Caltrans to reconsider the timing of future HOT lane studies until such time the OCTA Board provides specific direction on a tolled express lane network in Orange County. OCTA staff expects to bring forward potential express lane phasing options and related policies for Board consideration by June 2020.

OCTA appreciates the time and effort you and your staff invested in the December 9, 2019 presentation. However, we believe a policy discussion and Board decision must precede HOT lane project development efforts. OCTA welcomes Caltrans participation in these discussions over the next few months.

Please direct any follow-up to Kia Mortazavi, Executive Director, Planning, at (714) 560-5741 or kmortazavi@octa.net.

Sincerely,

Darrell E. Johnson
Chief Executive Officer

DEJ:sc

c: Lan Zhou, Caltrans
OCTA Board of Directors
Kia Mortazavi, OCTA

STATE OF CALIFORNIA—CALIFORNIA STATE TRANSPORTATION AGENCY Gavin Newsom., Governor

DEPARTMENT OF TRANSPORTATION
DISTRICT 12
1750 EAST 4TH STREET, SUITE 100
SANTA ANA, CA 92705
PHONE (657) 328-6000
FAX (657) 328-6522
TTY 711
www.dot.ca.gov/d12

Making Conservation
A California Way of Life.

January 22, 2021

Darrell E. Johnson
Chief Executive Officer
Orange County Transportation Authority
550 South Main Street
P.O. Box 14184
Orange, CA 92863-1584

Dear Mr. Johnson:

This is in response to your letter dated January 31, 2020 regarding proposed High-Occupancy Toll Lanes in North Orange County. We appreciate the opportunity to present to the Orange County Transportation Authority (OCTA) Board of Directors (Board) at its December 9, 2019 meeting. The presentation highlighted the need to address High Occupancy Vehicle (HOV) Lanes degradation on various Orange County freeways and presented the outcome of a Project Study Report (PSR) for proposed Managed Lane (ML) improvements on Interstate 5 (I-5) from Red Hill Avenue to the Los Angeles County line that was completed by Caltrans in November 2019.

At the end of the presentation on December 9, 2019, the Board requested adding an alternative to evaluate conversion of HOV lanes occupancy requirement from 2+ to 3+. In 2020, Caltrans completed a supplemental PSR to include this alternative and carry it forward for further study in the Project Approval and Environmental (PA&ED) phase. Your letter further requests that the project evaluate an option of changing the limits of the project to start from SR-57 rather than from SR-55. You also requested us to consider the timing of future HOT lane studies until such time the OCTA Board provides specific direction on a tolled express lane network in Orange County.

Caltrans recognizes several priorities shifted in 2020 due primarily to the COVID pandemic that has tested both our agencies resiliency as we continue to provide essential services to residents and visitors to Orange County. We look forward to overcoming challenges COVID has created and continuing engagement with OCTA on tolled express lanes in the County.

We understand and acknowledge concerns raised by OCTA and the role it, and Caltrans, have in the planning and decision-making process for High Occupancy Toll lanes in Orange County. Therefore, to accommodate your request we have delayed the start of the PA&ED phase of studies for the proposed I-5 ML project until March/April 2021. The PA/ED phase will be approximately 2 years and should allow enough time to gain additional input from the OCTA Board and staff. Further, during the early stages of the PA&ED phase, the project development process allows for the ability to study new alternatives or variations of current alternatives. Caltrans will work closely with OCTA to consider various options for pricing strategies to continue to allow carpools to utilize the HOV lanes as intended under M2 in addition to begin and end project limits of the improvements.

Caltrans appreciates the collaboration with the OCTA and looks forward to continued partnership in moving critical projects forward that address HOV degradation, provides opportunities for multi-modal transportation solutions, and helps the state in achieving its goals of reducing greenhouse gas emissions to meet statutory requirements.

Sincerely,

RYAN CHAMBERLAIN
District 12 Director

c: Kia Mortazavi, OCTA
Lan Zhou, Caltrans
Adnan Maiah, Caltrans

COMMITTEE TRANSMITTAL

June 13, 2022

To: Members of the Board of Directors

From: Andrea West, Interim Clerk of the Board

Subject: Grant Acceptance for the Countywide Transportation Demand Management Strategic Plan

Regional Planning and Highways Committee Meeting of June 6, 2022

Present: Directors Chaffee, Delgleize, Foley, Harper, Muller, and Murphy
Absent: Director Bartlett

Committee Vote

This item was passed by the Members present.

Committee Recommendations

A. Adopt Orange County Transportation Authority Resolution No. 2022-034 and authorize the Chief Executive Officer to accept the Sustainable Transportation Planning Grant award and execute required grant-related agreements and documents with the California Department of Transportation.

B. Authorize the Chief Executive Officer to amend the Federal Transportation Improvement Program and process all necessary amendments to facilitate the recommendation above.

OCTA

June 6, 2022

To: Regional Planning and Highways Committee

From: Darrell E. Johnson, Chief Executive Officer

Subject: Grant Acceptance for the Countywide Transportation Demand Management Strategic Plan

Overview

The Orange County Transportation Authority was recently awarded $150,000 for the Countywide Transportation Demand Management Strategic Plan through the statewide Sustainable Transportation Planning Grant Program. To utilize these grant funds, Board of Directors' approval is requested to accept the award and enter into agreements with the granting agencies.

Recommendations

A. Adopt Orange County Transportation Authority Resolution No. 2022-034 and authorize the Chief Executive Officer to accept the Sustainable Transportation Planning Grant award and execute required grant-related agreements and documents with the California Department of Transportation.

B. Authorize the Chief Executive Officer to amend the Federal Transportation Improvement Program and process all necessary amendments to facilitate the recommendation above.

Background

The Sustainable Transportation Planning Grant Program was created to support the California Department of Transportation's (Caltrans) mission to provide a safe, sustainable, integrated, and efficient transportation system to enhance California's economy and livability. On September 2, 2021, Caltrans issued a fiscal year 2022-23 Sustainable Transportation Planning Grant statewide call for projects, which made available approximately $34 million to regional and local agencies for transportation planning grants. In response to this opportunity, the Orange County Transportation Authority (OCTA) submitted a request for

$150,000 for the Countywide Transportation Demand Management Strategic Plan (Plan).

Discussion

On April 4, 2022, OCTA was notified that Caltrans selected the Plan for funding. This Plan builds on previously completed plans including the Southern California Association of Governments 2019 Transportation Demand Management Strategic Plan, OC Transit Vision, Orange County Mobility Hub Strategy, OC Active, the Human Services Coordinated Plan, The Plan will also incorporate the Making Better Connections Study currently under development.

The Plan will provide recommendations for effective investments that shift travel trips away from single occupancy vehicles, increase transit and non-motorized travel, reduce travel costs, and improve transportation system efficiency. In developing the Plan, OCTA will collaborate with Caltrans, Orange County local agencies, and other stakeholders.

The award of $150,000 will be matched with $50,000 State Transportation Improvement Program Planning, Programming, and Monitoring funds, for a total cost of $200,000. OCTA is seeking Board of Directors' approval of Resolution No. 2022-034 (Attachment A), which authorizes the acceptance of the awarded grant funds, confirms the required matching funds, and authorizes the Chief Executive Officer, or designee, to file and execute grant applications and agreements, certifications and assurances, and other documents. The resolution also confirms the match commitment to the project as noted above.

Next Steps

Following execution of the Caltrans Sustainable Transportation Planning grants, staff will follow OCTA's procurement process to award professional services contract(s) in the in early 2023.

Summary

OCTA was awarded $150,000 through a competitive grant from Caltrans. A resolution to accept the grant award and authorization to enter into grant-related agreements and documents is presented for adoption as required by the grant program.

Attachment

A. Resolution No. 2022-034 of the Orange County Transportation Authority, 2022-2023 Sustainable Transportation Planning Grant Program Authorization

Prepared by:

Roslyn Lau
Senior Transportation Funding Analyst
(714) 560-5341

Approved by:

Kia Mortazavi
Executive Director, Planning
(714) 560-5741

ATTACHMENT A

RESOLUTION NO. 2022-034
OF THE
ORANGE COUNTY TRANSPORTATION AUTHORITY

2022-2023 SUSTAINABLE TRANSPORTATION PLANNING GRANT AWARD AUTHORIZATION

WHEREAS, the California Department of Transportation administers the Sustainable Transportation Planning Grant Program to support its mission, which is to provide a safe, sustainable, integrated and efficient transportation system to enhance California's economy and livability; and

WHEREAS, the Orange County Transportation Authority, as an eligible grantee of the California Department of Transportation's Sustainable Transportation Planning Grant Program, applied for and was awarded $150,000 in grant funds for the Countywide Transportation Demand Management Strategic Plan; and

WHEREAS, the California Department of Transportation requires the grantee to certify, by resolution, the acceptance of awarded grant funds and authority to execute grant-related agreements; and

WHEREAS, the Orange County Transportation Authority will provide a cash match of $50,000 in State Transportation Improvement Program Planning, Programming, and Monitoring funds to complete the Countywide Transportation Demand Management Strategic Plan; and

NOW, THEREFORE, BE IT RESOLVED that the Orange County Transportation Authority Board of Directors accepts the awarded grant funds, confirms that it will provide the required match and authorizes the Chief Executive Officer, or designee, to file and execute grant applications and agreements, certifications and assurances, and other documents for and on behalf of Orange County Transportation Authority with the California Department of Transportation.

ADOPTED, SIGNED, AND APPROVED this 13th day of June 2022.

AYES:

NOES:

ABSENT:

ATTEST:

Andrea West Interim Clerk of the Board	Mark A. Murphy, Chairman Orange County Transportation Authority

OCTA Resolution No. 2022-034

COMMITTEE TRANSMITTAL

June 13, 2022

To: Members of the Board of Directors

From: Andrea West, Interim Clerk of the Board

Subject: Capital Programming Update

Regional Planning and Highways Committee Meeting of June 6, 2022

Present: Directors Chaffee, Delgleize, Foley, Harper, Muller, and Murphy
Absent: Director Bartlett

Committee Vote

This item was passed by the Members present.

Committee Recommendations

A. Authorize the use of $17.8 million in Surface Transportation Block Grant Program funds and $7 million in Measure M2 for the construction of the Interstate 605/Katella Interchange Improvement Project.

B. Consistent with approved Amendment 1 to Agreement No. C-0-2073, authorize the use of up to $1.97 million in 91 Express Lane excess revenue funds for State Route 91 Improvement Project from Acacia Street to La Palma Avenue (Segment 3) for additional design support.

C. Consistent with pending Amendment 3 to Agreement No. C-8-1426, authorize the use of up to $1 million in additional Surface Transportation Block Grant Program funds for the Interstate 5 widening, from Oso Parkway to Alicia Parkway, (Segment 2) for additional construction support.

D. Authorize the use of up to $1.8 million in Measure M2 funds for a regional traffic signal synchronization project in place of SB 1 (Chapter 5, Statues of 2017) Solutions for Congested Corridor Program funding.

E. Authorize staff to process all necessary amendments to the Federal Transportation Improvement Program and execute or amend all necessary agreements to facilitate the above actions.

OCTA

June 6, 2022

To: Regional Planning and Highways Committee

From: Darrell E. Johnson, Chief Executive Officer

Subject: Capital Programming Update

Overview

The Orange County Transportation Authority uses various funding sources to implement planning efforts, capital projects, and transit operations. Project costs can vary from the programmed amount in response to changing circumstances, which may require funding revisions. Board of Directors' authorization is required to provide funding for current or planned freeway and signal synchronization projects.

Recommendations

A. Authorize the use of $17.8 million in Surface Transportation Block Grant Program funds and $7 million in Measure M2 for the construction of the Interstate 605/Katella Interchange Improvement Project.

B. Consistent with approved Amendment 1 to Agreement No. C-0-2073, authorize the use of up to $1.97 million in 91 Express Lane excess revenue funds for the State Route 91 Improvement Project from Acacia Street to La Palma Avenue (Segment 3) for additional design support.

C. Consistent with pending Amendment 3 to Agreement No. C-8-1426, authorize the use of up to $1 million in additional Surface Transportation Block Grant Program funds for the Interstate 5 Widening Project from Oso Parkway to Alicia Parkway (Segment 2) for additional construction support.

D. Authorize the use of up to $1.8 million in Measure M2 funds for a regional traffic signal synchronization project in place of SB 1 (Chapter 5, Statues of 2017) Solutions for Congested Corridor Program funding.

E. Authorize staff to process all necessary amendments to the Federal Transportation Improvement Program and execute or amend all necessary agreements to facilitate the above actions.

Background

The Orange County Transportation Authority (OCTA) directs the use of federal, state, and local funds based on the Board of Directors' (Board)-approved Capital Programming Policies (CPP) (Attachment A). This Capital Programming Update item seeks approval to fund cost amendments and an upcoming phase of a project. Additionally, staff will continue to seek cost savings and minimize the use of funding where applicable.

As projects progress through development, costs can change, funding agency requirements may limit the anticipated use of funds, opportunities to maximize external funding may arise, savings may be identified, or additional or different funding may be required. OCTA regularly reports on specific project costs through the quarterly Capital Action Plan (CAP), which highlights project costs, schedules, and status. Board action to update funding for projects is requested periodically to support costs consistent with the revised funding need for projects. Project descriptions and additional information for each of the projects listed in this staff report are included in Attachment B. The Capital Funding Program includes a summary of how OCTA's capital projects are currently funded along with the proposed changes in this item and is provided as Attachment C. A list of Board actions, which directed capital funds towards OCTA capital projects over the last six months, is provided in Attachment D.

Discussion

The CAP lists freeway, grade separation, rail, and station projects, and includes the cost estimate at completion, as well as the schedule for key milestones for Board-approved projects. In coordination with project managers, programming staff refers to the CAP from the Capital Programs Division to recommend or make funding adjustments to initiate projects, ongoing projects, and projects that have met key milestones or other adjustments. Other projects that may be managed outside of the CAP are also reviewed and may be recommended for funding adjustments as appropriate.

Freeway Program Funding Changes

The following recommendations to increase funding for various freeway projects are primarily based on estimates included in the CAP presented to the Board on February 14, 2022. For project phases already underway, changes are based on a forecast of actual costs. The projects are recommended by staff to receive funds from the Surface Transportation Block Grant Program (STBG), 91 Express Lane (91 EL) excess revenue funding, and Measure M2 (M2) freeway program funds.

Interstate 605 (I-605)/Katella Avenue Interchange Improvement Project

The I-605/Katella Avenue Interchange Improvement Project plans, specifications, and estimates phase is nearing completion and will be entering construction in 2023. This project will improve freeway access, traffic operations, enhance safety, and improve pedestrian and bicycle facilities. Based on the 95 percent design estimates, staff recommends using up to $17.8 million in STBG funds and $7 million in M2 funds for the construction phase. This includes $21.6 million for construction capital as well as $3.2 million for construction support. The total project cost is $32.14 million, which includes $7.34 million for pre-construction phases. This is Project M in the Next 10 Delivery Plan (Next 10 Plan) and the use of STBG and M2 funds for the I-605/Katella Avenue Interchange is consistent with the CPP regarding using STBG and M2 funds for the Next 10 Plan projects.

State Route 91 (SR-91) Improvement Project from Acacia Street to La Palma Avenue (Segment 3)

Segment 3 of the SR-91 Improvement Project from State Route 57 (SR-57) to State Route 55 will provide westbound operational improvements between Acacia Street and La Palma Avenue and reconstruction of the La Palma Avenue overcrossing bridge. The project is currently funded with $0.03 million in M2, $14.40 million in 91 EL, and $1.77 million in STBG funding through right-of-way.

During development of the project design, while working with California Department of Transportation (Caltrans), it was determined that a new bypass ramp is needed to reduce weaving on SR-57. The new bypass ramp allows northbound (NB) SR-57 traffic to exit at Orangethorpe Avenue in advance of the SR-91/NB SR-57 connector merge, eliminating the need for those vehicles to cross multiple lanes merging from connectors. As a result of the Orangethorpe Avenue bypass ramp, additional design services are required, as well as electrical design, and additional environmental services in the amount of $1.97 million. The Board approved the additional work in February of 2022. Staff is requesting Board approval to use an additional $1.97 million in 91 EL funds for the related additional design work. This will increase the design costs from $8.89 million to $10.86 million and will provide the funding required for the previously Board-authorized Amendment 1 to Agreement No. C-0-2073. This project is listed as Project I in the Next 10 Plan and the use of 91 EL excess revenue is consistent with the CPP regarding utilizing the 91 EL funds for SR-91 improvement-related projects.

Interstate 5 (I-5) Widening Project from Oso Parkway to Alicia Parkway (Segment 2)

The I-5 Improvement Project will widen I-5 in each direction between State Route 73 and El Toro Road, reconstruct several interchanges, add auxiliary lanes, extend the second high-occupancy vehicle lane, and add/replace landscaping where necessary. Segment 2 of the project will widen I-5 in each direction between Oso Creek/Parkway to Alicia Parkway to increase freeway capacity and reduce congestion in the cities of Laguna Hills, Lake Forest, and Mission Viejo. The project will add one general purpose lane in each direction, reconstruct the La Paz Road interchange, and add auxiliary lanes where needed. The project is currently funded with $55.6 million in STBG and $132.02 million in M2 funding through construction.

During construction, the project has experienced unplanned expenditures requiring redesigns due to contaminated soil mitigation, railroad crash barriers, and an additional slab replacement. As a result, it required additional oversight and review by Caltrans. Due to this additional work, Caltrans has exhausted the construction support funds that were provided through the cooperative agreement and is requesting $1 million for additional construction support. Staff is recommending an increase of $1 million in STBG funding, which will increase the construction phase from $171.8 million to $172.8 million. Staff is concurrently requesting Board approval for an amendment to the existing cooperative agreement with Caltrans, Agreement No. C-8-1426, under a separate Board item. Additional details regarding the project and amendment are included as part of the separate item. This is project C in the Next 10 Plan and the use of STBG is consistent with the CPP regarding using federal funds for Next 10 Plan projects.

Regional Traffic Signal Synchronization Project

On May 16, 2018, the California Transportation Commission approved an award of $12 million in SB 1 Solutions for Congested Corridor Program (SCCP) funding to OCTA for regional traffic signal synchronization along Edinger Avenue, MacArthur Boulevard/Talbert Avenue, and Warner Avenue. These SCCP funds are matched with M2 Project P funds ($2.40 million) and local city funds ($0.60 million) for a total project cost of $15 million. These corridors are within the Master Plan of Arterial Highways and are traffic signal synchronization projects that would otherwise have been delivered using primarily M2 Project P funds and local agency match. The SCCP grant is helping to support the M2 Project P program.

The use of SCCP funding requires a Caltrans Financial Document Review. This review is conducted following the selection of each qualified consultant team. The Caltrans review identified that the indirect construction-related costs on all three projects were ineligible for reimbursement, as the construction

subconsultants on the projects have not developed indirect cost rates approved by Caltrans. To meet the SCCP project award deadline of June 30, 2021, the estimated costs were separated into non-reimbursable and reimbursable totals.

Staff has reviewed the project costs and found all costs to be reasonable and consistent with similar past projects; thus, staff is requesting a change in fund source from SCCP funds to M2 funds to support the non-reimbursable costs identified by the Caltrans audit estimated to be $1.80 million. To maintain the scope of work, deadlines, and ability to leverage approximately $10.21 million of SCCP funding to advance M2 projects, staff is recommending using an additional $1.80 million in M2 funds, meaning the total M2 for the project will be $4.2 million. This is Project P in the Next 10 Plan and the use of M2 funds is consistent with the CPP regarding the use of M2 funds for the Next 10 Plan projects.

Summary

To ensure that OCTA projects are fully funded, external funds are maximized, and funding levels are consistent with the estimate at completion listed in the quarterly CAP, staff is seeking Board approval to use federal and local funds for freeway and traffic signal synchronization projects.

Attachments

A. Capital Programming Policies by Fund Source December 2021
B. Capital Programming Update Project Descriptions
C. Capital Funding Program Report
D. List of Board of Directors Reports with Programming Actions, January 2022 – June 2022

Prepared by:

Ben Ku
Section Manager,
Formula Funding Programs
(714) 560-5473

Approved by:

Kia Mortazavi
Executive Director, Planning
(714) 560-5741

ATTACHMENT A

Capital Programming Policies by Fund Source
December 2021

Equity Consideration for All Funding Programs: In addressing the mobility needs of the County, the Orange County Transportation Authority (OCTA) will consider both benefits and impacts of improvements to low-income and disadvantaged communities, with the goal of improving transportation and mobility options.	
Funding Source	Updated Measure M2 (M2) Programming Policies
M2 Programs	
Projects A-M (Freeway projects on Interstate 5, State Route 22, State Route 55, State Route 57, State Route 91, Interstate 405, and Interstate 605)	Use projects A-M M2 funding consistent with the M2 Transportation Investment Plan (TIP), the M2020 Plan, and subsequent Board of Directors (Board)-approved plans and updates to the M2 Program. Program funds to projects through formal programming actions.
Freeway Environmental Mitigation Program (Tied to projects A-M)	Utilize five percent net revenues derived from M2 funding for projects A-M consistent with the M2 TIP, the M2020 Plan, and subsequent Board-approved plans and updates to the M2 Program. Program funds to projects through Board Approved actions for needed environmental mitigation projects.
Project N (Freeway Service Patrol)	Use Project N funds for the Freeway Service Patrol Program. Funds are programmed through the annual budget process.
Project O (Regional Capacity Program) and Project P (Regional Traffic Signal Synchronization Program)	Use Project O and Project P M2 funding consistent with the Measure M Ordinance No. 3, and consistent with the Comprehensive Transportation Funding Programs (CTFP) guidelines. Program funds to projects through the cyclical CTFP call for projects (call) programming recommendations
Project R (High-Frequency Metrolink Service)	Use Project R M2 funding consistent with the M2 TIP, with the latest Next 10 Delivery Plan (Next 10 Plan), the Comprehensive Business Plan, and subsequent Board-approved plans and updates to the M2 Program. Program funds to projects through formal programming actions.
Project S (Transit Extensions to Metrolink) and Project T (Metrolink Gateways)	Use Project S and Project T M2 funding consistent with the M2 TIP, and consistent with CTFP guidelines. Program funds to projects through formal call awards. Supplemental funds for approved competitive projects may be changed through Board action.
Project U (Expand Mobility Choices for Seniors and Persons with Disabilities)	Use Project U M2 funds, consistent with the Measure M Ordinance No. 3, the Comprehensive Business Plan, and subsequent Board-approved plans and updates to the M2 Program. Funds are programmed through the annual budget process.

Capital Programming Policies by Fund Source
December 2021

Funding Source	Updated Measure M2 (M2) Programming Policies
Project V (Community-Based Transit Circulators) and Project W (Safe Transit Stops)	Use Project V and Project W M2 funding consistent with the M2 TIP, and consistent with CTFP guidelines. Program funds to projects through formal call awards and/or Board action. Funds for the OCTA-approved projects may be programmed through Board action.
Project X (Environmental Cleanup)	Use Project X M2 funding consistent with the M2 TIP and consistent with CTFP guidelines. Program funds to projects through the CTFP call. The Environmental Cleanup Program consists of two programs. The Tier 1 Grant Program is designed to mitigate the more visible forms of pollution. Tier 1 consists of funding for equipment purchases and upgrades to existing catch basins and related devices such as screens, filters, and inserts. The Tier 2 Grant Program consists of funding regional, multi-jurisdictional, and capital-intensive projects, such as constructed wetlands, detention/infiltration basins, and bioswales.
Funding Source/Agency	Other Local Funding Programming Policies
91 Express Lanes Excess Revenues/OCTA	Please see the Policy for the Use of Excess 91 Express Lanes Toll Revenue finalized through Board action on June 9, 2014.
County Transportation Commission/Mobile Source Air Pollution Reduction Review Committee (MSRC)	Prioritize activities that encourage transit ridership and support zero- emission bus initiatives. Depending on work program criteria, submit OCTA priority projects that meet program criteria, and work to support a return to source program for Orange County through all MSRC programs, including but not limited to freight focused programs. Funds are programmed through formal programming action.
Funding Source/Agency	State and Federal Programming Policies
All State and Federal Fund Sources and New Funding Programs	OCTA's goal for external funding is to be successful in increasing the use of external funds and decrease the use of local funds, when possible. First priority of all funding sources, when consistent with the funding agency priority and policies, is to fulfill commitments to the latest Next 10 Plan, specifically M2 projects, and to maintain existing OCTA assets in a state of good repair and support OCTA priorities. Consideration will be given to use state and federal funds for projects that are complementary to M2 projects and that share the M2 Program goals to reduce congestion, strengthen the economy, and improve the quality of life. All fund sources must be programmed through formal programming actions.

Capital Programming Policies by Fund Source
December 2021

State	
Funding Source/Agency	State Programming Policies
Active Transportation Program (ATP) – Southern California Association of Governments (SCAG) Regional Selection (Formula)/California Transportation Commission (CTC)/SCAG	OCTA, through Board action, will establish prioritization criteria, based on regional planning for SCAG regional call through Board action with every cycle.
Cap-and-Trade (Formula) – Low Carbon Transit Operations Program (LCTOP)/California Department of Transportation (Caltrans)	Use LCTOP for transit operations or capital for expansion of bus transit service, fare reduction programs, and other bus and commuter rail transit efforts that increase ridership and reduce greenhouse gas (GHG) emissions, where 50 percent of the funds provide benefit for passengers in disadvantaged communities, as appropriate. Funds generated from commuter rail service in Orange County may be used in Orange County for the expansion of commuter rail service, fare reduction programs for commuter rail, and other eligible commuter rail efforts that increase ridership and reduce GHG emissions.
SB 1 (Chapter 5, Statutes of 2017)- Local Partnership Program (LPP) – Formula/CTC	Use LPP for ready-to-deliver committed and prioritized projects which are compatible with state goals and seek to balance funds between freeways, streets and roads, transit capital, and eligible environmental clean-up and based on the timing for the request for project nominations.
SB 1 - State of Good Repair (SGR) /Caltrans	Use funds for bus transit capital projects and for maintenance, rehabilitation, and replacement of existing OCTA transit assets. Funds may be used for transit operations, if allowed by the State.
SB 1 - Trade Corridors Enhancement Program (TCEP)/CTC	Use TCEP for eligible trade corridor projects that meet the requirements and goals of the program.
State Transportation Improvement Program (STIP)/CTC	Use STIP for eligible transit capital, freeway, traffic system management, complete streets, commuter rail, fixed-guideway projects, planning/programming, and complementary activities, which seek an equitable balance among all modes and are consistent with state goals.

Capital Programming Policies by Fund Source
December 2021

Funding Source/Agency	State and Federal Programming Policies
Federal	
Congestion Mitigation and Air Quality (CMAQ)/Caltrans for Federal Highways Administration (FHWA)	Use CMAQ funding for: • Fixed-guideway and/or high-occupancy vehicle or high-occupancy toll operational improvements, • vanpool program and rideshare services, • rail and bus transit capital projects, • traffic light synchronization projects, • new or expanded transit operations (three years of CMAQ funding may be used for the first five years), and • eligible bicycle and pedestrian projects. All projects that use CMAQ funds must demonstrate a quantifiable air quality benefit. Projects must be recommended based on performance.
Federal Transit Administration (FTA) Section 5307 Formula/FTA	Use funds to support ongoing transit operations and SGR through (not in priority order): • Preventive maintenance, • capital cost of contracting, and • bus replacement. Lower priority but eligible if funding available: • Other priority capital projects that are consistent with the comprehensive business plan. Set-Asides: Up to 20 percent for paratransit operating assistance, one percent for transit security (unless funded using local, state, or other federal funds), and percent of funds generated by rail operations to be used for rail operations and capital projects.
FTA Section 5310 Formula/FTA	Use funds for eligible enhancements to paratransit capital and operations.

Capital Programming Policies by Fund Source
December 2021

Funding Source/Agency	Federal Programming Policies
FTA Section 5337 Formula/FTA	Use funds for commuter rail rehabilitation and/or renovation projects, for capital projects that maintain and/or replace equipment and facilities to keep the commuter rail system in a state of good repair and for preventive maintenance. Use funds generated by express bus transit for bus transit capital maintenance. Use of funding must also benefit OCTA express bus services.
FTA Section 5339 Formula/FTA	Use funds for: • Capital maintenance, • capital cost of contracting, • bus replacement, and • other bus capital projects as identified in the Transit Asset Management Plan.
Highway Infrastructure Program/Caltrans for FHWA	Use funds for M2 Freeway Program (consistent with the latest Next 10 Plan).
National Highway Freight Program/CTC for FHWA	These funds are administered by the state through the TCEP (see TCEP above).
Surface Transportation Block Grant Program - Formerly the Regional Surface Transportation Program/Caltrans for FHWA	Use funds for M2 Freeway Program (consistent with the latest Next 10 Plan) and for other non-M2 freeway projects that are complementary with the M2 freeway program, local streets and roads, and bicycle, pedestrian, and/or complete streets projects. Funds may also be used for countywide planning activities up to five percent annually Projects will be recommended based on performance.
Transportation Alternatives Program – CTC/SCAG through ATP	These funds are administered by the state through the ATP. See ATP above.

Capital Programming Update Project Descriptions

Interstate 605 (I-605)/Katella Avenue Interchange Improvement Project

The I-605 Katella Avenue Interchange Project will improve freeway access, traffic operations, enhance safety, and improve pedestrian and bicycle facilities. This is Project M in the Next 10 Delivery Plan (Next 10 Plan).

The project is currently funded through the right-of-way (ROW) phase with $7.344 million in Measure M2 (M2) funds. Staff is recommending funding the construction phase with $17.80 million in Surface Transportation Block Grant (STBG) funds and $7 million in M2 funds, resulting in a total of $24.80 million of programmed funding for the construction phase. Utilizing federal funds for portions of the project will allow the Orange County Transportation Authority (OCTA) to benefit from the lower indirect cost-rate proposal for oversight work carried out by the California Department of Transportation (Caltrans).

Current and proposed funding actions are depicted below:

Existing Funding (in 000s)	STBG	M2	Total
Environmental		$ 1,824	$ 1,824
Design		$ 3,000	$ 3,000
ROW		$ 2,520	$ 2,520
CON	TBD	TBD	TBD
TOTAL		$ 7,344	$7,344

CON - Construction

Proposed Funding (in 000s)	STBG	M2	Total
Environmental		$ 1,824	$ 1,824
Design		$ 3,000	$ 3,000
ROW		$ 2,520	$ 2,520
CON	$ 17,800	$ 7,000	$ 24,800
TOTAL	$ 17,800	$ 14,344	$ 32,144
CHANGE	$ 17,800	$ 7,000	$ 24,800

State Route 91 (SR-91) Improvement Project from Acacia Street to La Palma Avenue (Segment 3)

Segment 3 of the SR-91 Improvement Project from State Route 57 (SR-57) to State Route 55 (SR-55) will provide westbound operational improvements between Acacia Street and La Palma Avenue and reconstruction of the La Palma Avenue overcrossing bridge. Per Amendment 1 to the cooperative agreement with Caltrans, additional scope was identified which required further effort to complete the design on schedule. An amendment to the project design contract was recommended for a bypass ramp on Orangethorpe Avenue, electrical design modifications to increase safety, and additional environmental evaluations to ensure compliance.

Capital Programming Update Project Descriptions

Staff is recommending an increase of $1.97 million in 91 Express Lanes revenue funding in order to fund additional design support for the project.

Current and proposed funding actions are depicted below:

Existing Funding (in 000s)	STBG	91 EL	M2	Total
Environmental	$1,770		$30	$1,800
Design		$8,891		$8,891
ROW		$5,510		$5,510
TOTAL	$1,770	$14,401	$30	$16,201

Proposed Funding (in 000s)	STBG	91 EL	M2	Total
Environmental	$1,770		$30	$1,800
Design		$10,861		$10,861
ROW		$5,510		$5,510
TOTAL	$1,770	$16,371	$30	$18,171
CHANGE		$1,970		$1,970

Interstate 5 (I-5) widening, from Oso Parkway to Alicia Parkway, Segment 2

The I-5 Improvement Project from Oso Parkway to Alicia Parkway is Segment 2 of the I-5 Improvement Project from State Route 73 to El Toro Road. Segment 2 proposes to widen I-5 in each direction between Oso Creek/Parkway to Alicia Parkway to increase freeway capacity and reduce congestion in the cities of Laguna Hills, Lake Forest, and Mission Viejo. The project will add one general purpose lane in each direction, reconstruct the La Paz Road interchange, and add auxiliary lanes where needed. This is Project C in the Next 10 Plan.

The project is currently in the construction phase and there is a cooperative agreement in place with Caltrans. During construction, the contractor has run into site conditions that were not disclosed in the construction documents. These include contaminated soil at La Paz Road, existing crash barriers at the railroad, additional post grout soil for nails along Retaining Wall 110, additional slab replacement work for Stage 1B traffic configuration, additional rip rap removal at Oso Creek, and a temporary railroad crossing. This has resulted in additional construction management support above contingency which was not anticipated when drawing up the OCTA/Caltrans construction cooperative agreement.

Staff is recommending an increase of $1 million in STBG funding in order to fund additional construction support for the project.

Current and proposed funding levels are depicted below:

Existing Funding (in 000s)	STBG/HIP	M2	Total
Design	$ 11,667	$ 9,247	$ 20,914
ROW	$ 4,144	$ 8,841	$ 12,985
CON	$ 39,786	$ 132,010	$ 171,796
TOTAL	$ 55,597	$ 150,098	$ 205,695

HIP – Highway Infrastructure Program

Capital Programming Update Project Descriptions

Proposed Funding (in 000s)	STBG/HIP	M2	Total
Design	$ 11,667	$ 9,247	$ 20,914
ROW	$ 4,144	$ 8,841	$ 12,985
CON	$ 40,786	$ 132,010	$ 172,796
TOTAL	$ 56,597	$ 150,098	$ 206,695
CHANGE	$ 1,000		$ 1,000

Regional Traffic Synchronization Project

In May 2018, the Orange County Transportation Authority was awarded SB 1 (Chapter 5, Statutes of 2017) Solutions for Congested Corridors Program (SCCP) funds by the California Transportation Commission (CTC) for the Edinger Avenue, MacArthur Boulevard/Talbert Avenue, and Warner Avenue regional traffic signal synchronization projects. OCTA is leading these projects and has advanced the design and engineering efforts. The Regional Traffic Synchronization Project is letter M in the Next 10 Plan.

The Regional Traffic Synchronization Projects administered by OCTA were molded to have an initial one-year primary implementation phase for the turn-key design and installation of infrastructure as well as development and implementation of new optimized signal timing. This includes performing an operations and timing analysis in order to develop an optimal implementation of timing plans at all signalized intersections. The next phase is a two-year ongoing operations and maintenance phase, which keeps the project in optimal condition. The final year that was programmed was for project closeout. Some key benefits of the new signal infrastructure along the project corridor includes reduced stops and travel times, provide signal synchronization for prevailing traffic patterns and common zones of operation, and ultimately reduced emissions and greenhouse gasses.

The use of SCCP funding requires a Caltrans Financial Document Review. This review is conducted following the selection of each qualified consultant team. The Caltrans review identified that the indirect construction-related costs on all three projects were deemed ineligible for reimbursement, as the construction subconsultants on the projects have not developed indirect cost rates approved by Caltrans. To meet the SCCP project award deadline of June 30, 2021, the estimated costs were separated into non-reimbursable and reimbursable totals.

Staff has reviewed the project costs and found all costs to be reasonable and consistent with similar past projects; thus, staff is requesting a funding source change from SB 1 funds to Measure M2 funds to offset the non-reimbursable costs identified by the Caltrans audit estimated to be $1.80 million. In order to maintain the scope of work, deadlines, and ability to leverage approximately $10.20 million of SCCP funding to advance M2 projects, staff is requesting $1.80 million in M2 funds, as summarized in the table below:

Capital Programming Update Project Descriptions

Existing Funding (in 000s)	SCCP	M2	Local City	Total
CON	$12,000	$2,400	$600	$15,000
TOTAL	$12,000	$2,400	$600	$15,000

Proposed Funding (in 000s)	SCCP	M2	Local City	Total
CON	$10,200	$4,200	$600	$15,000
TOTAL	$10,200	$4,200	$600	$15,000
CHANGE	($1,800)	$1,800		

OCTA is currently working with Caltrans and the CTC to determine if the SCCP funds that cannot be used for these projects may be available to move to another project within the original SCCP application.

ATTACHMENT C

Capital Funding Program Report

Pending Approval by OCTA Board of Directors (Board) - June 13, 2022

State Highway Project

			Federal Funds			State Funds			Local Funds		
Project Title	M Code	Total Funding	STBG/CMAQ	FTA	Other Fed.	STIP	SB1	Other State	M1	M2	Other Local
I-5 from SR-55 to SR-57, add one HOV lane each direction	A	$41,500	$36,191							$5,309	
I-5 widening, I-405 to Yale Avenue (Segment 1)	B	$230,482	$52,357			$95,338	$33,395			$49,392	
I-5 widening, Yale Avenue to SR-55 (Segment 2)	B	$41,351	$32,527		$851					$7,973	
I-5 widening, Alicia Parkway to El Toro Road (Segment 3)	C	$181,327	$49,897		$4,728		$9,388			$117,314	
I-5 widening, Oso Parkway to Alicia Parkway (Segment 2) [3]	C	$206,695	$48,676		$7,921					$150,098	
I-5 widening, SR-73 to Oso Parkway (Segment 1)	C	$213,267	$28,167		$6,433	$91,977		$29,832		$56,858	
I-5, SR-73 to El Toro Road landscaping/replacement planting	C	$12,365				$6,000				$6,365	
I-5/El Toro Interchange	D	$4,400	$4,400								
SR-55 (I-5 to SR-91)	F	$16,000	$8,359		$2,641					$5,000	
SR-55 widening between I-405 and I-5	F	$505,720	$160,500		$41,900	$80,000	$140,000			$83,320	
SR-57 Orangewood Avenue to Katella Avenue	G	$9,327	$2,500		$3,240					$3,587	
SR-57 truck climbing lane phase II: Lambert Road to LA County Line	G	$6,500				$6,500					
SR-91, Acacia Avenue to La Palma Avenue (Segment 3) [2]	I	$18,171	$1,770							$30	$16,371
SR-91, La Palma Avenue to SR-55 (Segment 2)	I	$46,314	$3,460							$40	$42,814
SR-91, SR-55 to Lakeview Avenue (Segment 1)	I	$15,779	$1,770							$30	$13,979
SR-91, SR-241 to I-15	J	$41,800									$41,800
I-405 improvements, SR-73 to I-605	K	$2,080,234	$35,000		$10,648			$89,771		$1,315,885	$628,930
I-405 (I-5 to SR-55)	L	$8,000	$8,000								
I-405 s/b aux lane - University to Sand Canyon and Sand Canyon to SR-133	L	$2,328				$2,328					
I-605/ Katella Avenue interchange [1]	M	$32,144	$17,800							$14,344	
241/91 Express Lanes (HOT) connector		$182,298	$50								$182,248
I-5 Managed Lane Project from Avenida Pico to San Diego County Line		$6,978	$6,978								
SR-74 - Gap closure for 0.9 mile and multimodal improvements		$53,513			$250	$43,913				$7,200	$2,150
SR-74 widening, City/County line to Antonio Parkway		$40,905	$5,285			$10,000					$25,620
State Highway Project Totals		**$3,997,398**	**$503,687**		**$78,612**	**$336,056**	**$182,783**	**$119,603**		**$1,822,745**	**$953,912**

Federal Funding Total	**$582,299**
State Funding Total	**$638,442**
Local Funding Total	**$2,776,657**
Total Funding (000's)	**$3,997,398**

State Highway Project Completed

			Federal Funds			State Funds			Local Funds		
Project Title	M Code	Total Funding	STBG/CMAQ	FTA	Other Fed.	STIP	SB1	Other State	M1	M2	Other Local
I-5 HOV lane each direction s/o PCH to San Juan Creek Road	C	$74,300	$11,326					$20,789		$42,185	
I-5 HOV lanes from s/o Avenida Vista Hermosa to s/o PCH	C	$75,300	$12,065			$46,779				$16,456	
I-5 HOV lanes: s/o Avenida Pico to s/o Vista Hermosa	C	$83,500	$26,867		$1,600	$43,735				$11,298	

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State Highway Project Completed

			Federal Funds			State Funds			Local Funds		
Project Title	**M Code**	**Total Funding**	**STBG/CMAQ**	**FTA**	**Other Fed.**	**STIP**	**SB1**	**Other State**	**M1**	**M2**	**Other Local**
I-5/SR-74 interchange improvements	D	$80,300				$48,683		$24,109	$2,500		$5,008
I-5/SR-74 interchange landscaping/replacement planting	D	$1,440			$752	$688					
SR- 57 n/b widening, Katella Avenue to Lincoln Avenue - landscaping	G	$2,172								$2,172	
SR- 57 n/b widening, SR-91 to Yorba Linda Boulevard - landscaping	G	$946								$946	
SR-57 n/b widening, Katella Avenue to Lincoln Avenue	G	$35,827						$24,127		$11,700	
SR-57 n/b widening, SR-91 to Yorba Linda Boulevard	G	$51,354						$39,475		$11,879	
SR-57 n/b widening, Yorba Linda to Lambert Road	G	$52,871						$41,250		$11,621	
SR-57 n/b widening, Yorba Linda to Lambert Road - landscaping	G	$1,193								$1,193	
SR-91 w/b connect existing aux lanes, I-5 to SR-57	H	$62,977						$27,227		$35,750	
SR-91 w/b connecting existing aux lanes, I-5 to SR-57 - landscaping	H	$2,290								$2,290	
SR-91 w/b (SR-55 - Tustin interchange) improvements	I	$43,753				$15,753		$14,000		$14,000	
SR-91 e/b widening, SR-241 to SR-71	J	$57,773			$45,911					$6,942	$4,920
SR-91 w/b routes 91/55 - e/o Weir replacement planting	J	$2,898				$2,898					
SR-91 widening, SR-55 to Gypsum Canyon (Weir/SR-241)	J	$76,993				$22,250		$54,045		$698	
I-405/SR-22/I-605 HOV connector - landscaping		$4,600	$4,600								
HOV connectors from I-405 and I-605	M1	$173,091	$14,787					$135,430	$16,200		$6,674
HOV connectors from SR-22 to I-405	M1	$115,878	$64,375		$49,625				$1,878		
State Highway Project Completed Totals		**$999,456**	**$134,020**		**$97,888**	**$180,786**		**$380,452**	**$20,578**	**$169,130**	**$16,602**

Federal Funding Total	**$231,908**
State Funding Total	**$561,238**
Local Funding Total	**$206,310**
Total Funding (000's)	**$999,456**

Capital Funding Program Report

Pending Approval by OCTA Board of Directors (Board) - June 13, 2022

Board Action:
1. Authorize the use of $17.8 million in STBG Program funds and $7 million in M2 for the construction of the I-605/Katella Avenue Interchange Improvement Project.

2. Consistent with approved Amendment 1 to Agreement No. C-0-2073, authorize the use of up to $1.97 million in 91 Express Lane excess revenue funds for the SR-91 Improvement Project from Acacia Street to La Palma Avenue (Segment 3) for additional design support.

3. Consistent with pending Amendment 3 to Agreement No. C-8-1426, authorize the use of up to $1 million in additional STBG Program funds for the I-5 Widening Project from Oso Parkway to Alicia Parkway (Segment 2) for additional construction support.

Acronyms:

Aux - Auxilliary
CMAQ - Congestion Mitigation Air Quality Improvement Program
E/B - Eastbound
E/O - East of
FTA - Federal Transit Administration
HOT - High-Occupancy Toll
HOV - High-Occupancy Vehicle
I-405 - Interstate 405
I-5 - Interstate 5
I-605 - Interstate 605
LA - Los Angeles
M Code - Project Codes in Measure M1 and M2
M1 - Measure M1
M2 - Measure M2
N/B - Northbound
OC - Orange County
OCTA - Orange County Transportation Authority
PCH - Pacific Coast Highway
RSTP - Regional Surface Transportation Program
S/B - Southbound
S/O - South of
SB 1 - Senate Bill 1 (Chapter 5, Statutes of 2017)
SR-133 - State Route 133
SR-22 - State Route 22
SR-241 - State Route 241
SR-55 - State Route 55
SR-57 - State Route 57
SR-71 - State Route 71
SR-73 - State Route 73
SR-74 - State Route 74
SR-91 - State Route 91
STBG - Surface Transportation Block Grant
STIP - State Transportation Improvement Program
W/B - Westbound

Capital Funding Program Report

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Local Road Project

			Federal Funds			State Funds			Local Funds		
Project Title	M Code	Total Funding	STBG/CMAQ	FTA	Other Fed.	STIP	SB1	Other State	M1	M2	Other Local
State-Local Partnership Program (SLPP) formula grant call	M1/Q	$54,445						$24,945	$1,280	$27,249	$971
M2 Project O Regional Capacity Program call [3]	O	$329,811						$24,254		$305,557	
SR-57 truck climbing lane phase I - Lambert Road interchange improvement	O	$121,500			$7,719	$74,705				$19,254	$19,822
M2 Project P Regional Signal Synchronization Program call [3]	P	$133,778	$1,774					$11,762	$4,546	$115,696	
Regional Traffic Signal Synch (Edinger, MacArthur/Talbert, and Warner) [1]	P	$15,000					$10,200			$4,200	$600
M2 Project Q Fair Share Program (FY 2016-17 through FY 2021-22)	Q	$361,621								$361,621	
M2 Project X Environmental Clean Up [2]	X	$58,258								$58,258	
Active Transportation Program - regional call		$83,504	$6,359		$63,361	$92		$199			$13,493
ARRA transportation enhancements		$6,833			$4,049				$500		$2,284
Arterial Pavement Management Program		$50,888	$19,930								$30,958
Atlanta Avenue widening		$4,160	$2,278								$1,882
Bicycle Corridor Improvement Program (BCIP)		$63,128	$43,755								$19,373
Bristol Street widening		$44,750									$44,750
Countywide Signal Synchronization Baseline		$15,000	$15,000								
Local Agency American Reinvestment and Recovery Act of 2009 rehabiliation projects		$32,369			$32,369						
Local Agency led SCCP projects		$3,357					$3,357				
Local Agency Road Rehabilitation and Maintenance Program (CRRSAA)		$14,591			$14,591						
M1 Combined Transportation Funding Program (CTFP)		$34,000							$34,000		
Pavement Management Relief Funding Program		$9,921			$9,921						
SCAG sustainability planning grants		$720			$671						$49
Traffic signal improvements		$15,000				$12,000					$3,000
Transportation enhancement activities		$22,172			$15,628						$6,544
Del Obispo widening	M1	$6,419	$3,740								$2,679
Local Road Project Totals		**$1,481,225**	**$92,836**		**$148,309**	**$86,797**	**$13,557**	**$61,160**	**$40,326**	**$891,835**	**$146,405**

Federal Funding Total	**$241,145**
State Funding Total	**$161,514**
Local Funding Total	**$1,078,566**
Total Funding (000's)	**$1,481,225**

Local Road Project Completed

			Federal Funds			State Funds			Local Funds		
Project Title	M Code	Total Funding	STBG/CMAQ	FTA	Other Fed.	STIP	SB1	Other State	M1	M2	Other Local
Grand Avenue widening, 1st Street to 4th Street	O	$12,537	$6,708								$5,829
Kraemer Boulevard grade separation	O	$63,830	$22,044					$16,973		$22,981	$1,832
Lakeview Avenue grade separation	O	$110,702	$37,102		$9,709			$27,344		$21,792	$14,755
Orangethorpe Avenue grade separation	O	$106,043	$38,240		$18,600			$30,324		$16,182	$2,697

Capital Funding Program Report

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Local Road Project Completed

			Federal Funds			State Funds			Local Funds		
Project Title	M Code	Total Funding	STBG/CMAQ	FTA	Other Fed.	STIP	SB1	Other State	M1	M2	Other Local
Placentia Avenue grade separation	O	$64,539						$33,386		$27,453	$3,700
Raymond Avenue grade separation	O	$125,419						$95,482		$22,373	$7,564
State College Boulevard grade separation	O	$99,380	$27,161		$10,887			$34,785		$15,460	$11,087
Tustin Avenue/Rose Drive grade separation	O	$96,638	$45,957					$22,534		$26,384	$1,763
M2 Fair Share State - Local Partnership Grant Program	Q	$7,032						$3,516		$3,516	
Antonio Parkway widening		$32,553	$15,499								$17,054
Firestone Boulevard widening at Artesia Boulevard		$2,468	$2,059								$409
I-5 at La Paz interchange improvements	M1	$8,942	$2,800						$1,792		$4,350
Imperial Highway Smart Streets	M1	$1,900						$200	$200		$1,500
Traffic Light Synchronization Program (TLSP), countywide - Proposition 1B	M1	$8,000						$4,000	$4,000		
Local Road Project Completed Totals		**$739,983**	**$197,570**		**$39,196**			**$268,544**	**$5,992**	**$156,141**	**$72,540**

Federal Funding Total	**$236,766**
State Funding Total	**$268,544**
Local Funding Total	**$234,673**
Total Funding (000's)	**$739,983**

Board Action:
1. Authorize the use of up to $1.8 million in M2 funds for a regional traffic signal synchronization project in place of SB 1 SCCP funding.

Project Notes:
2. Updated per 3/14/22 Board-approved M2 Environmental Cleanup Program - Tier 1 call.
3. Updated per 5/9/22 Board-approved CTFP -2022 Call Programming Recommendations.

Acronyms:

ARRA - American Recovery and Reinvestment Act of 2009
Call - Call for Projects
CMAQ - Congestion Mitigation Air Quality Improvement Program
CRRSAA - Coronavirus Response and Relief Supplemental Appropriations Act
FTA - Federal Transit Administration
FY - Fiscal Year
I-5 - Interstate 5
M Code - Project Codes in Measure M1 and M2
M1 - Measure M1
M2 - Measure M2
OCTA - Orange County Transportation Authority
SB 1 - Senate Bill 1 (Chapter 5, Statutes of 2017)
SCAG - Southern California Association of Governments
SCCP - Solutions for Congested Corridors Program
SR-57 - State Route 57
STBG - Surface Transportation Block Grant
STIP - State Transportation Improvement Program

ATTACHMENT D

List of Board of Directors Reports with Programming Actions
January 2022 – June 2022

Date	Report Title	Fund Source(s) Affected
2/14/22	Orange County Transportation Authority State and Federal Grant Programs – Update and Recommendations	STBG, CMAQ
2/14/22	2023 Federal Transportation Improvement Program and Financial Plan	FTA 5307, STBG, CMAQ, FTA 5337, FTA 5339, FTA 5310,
3/14/22	M2 Environmental Cleanup Program – Tier 1 Call for Projects	M2
3/28/22	LCTOP Recommendations for OC Bus Transit Projects	LCTOP
5/09/22	2021 Pavement Management Relief Funding Program Update	CRRSAA
5/09/22	Comprehensive Transportation Funding Programs – 2022 Call for Projects Programming Recommendations	M2
5/22/22	2022 STIP Update	STIP
6/13/22	Capital Programming Update	M2, STBG, 91 EL

Acronyms:
CMAQ – Congestion Mitigation and Air Quality Improvement Program
CRRSAA – Coronavirus Response and Relief Supplemental Appropriations Act
FTA 5307 – Federal Transit Administration Section 5307 Urbanized Area Formula
FTA 5310 – Federal Transit Administration Section 5310 Enhanced Mobility of Seniors and Individuals with Disabilities
FTA 5337 – Federal Transit Administration Section 5337 State of Good Repair
FTA 5339 – Federal Transit Administration Section 5339 Bus and Bus Facilities
LCTOP – Low Carbon Transit Operations Program
M2 – Measure M2
STIP – State Transportation Improvement Program
STBG – Surface Transportation Block Grant
91 EL – State Route 91 Express Lane

COMMITTEE TRANSMITTAL

June 13, 2022

To: Members of the Board of Directors

From: Andrea West, Interim Clerk of the Board

Subject: Active Transportation Program Biannual Update

Regional Planning and Highways Committee Meeting of June 6, 2022

Present: Directors Chaffee, Delgleize, Foley, Harper, Muller, and Murphy
Absent: Director Bartlett

Committee Vote

This item was passed by the Members present.

Committee Recommendation

Receive and file as an information item.

OCTA

June 6, 2022

To: Regional Planning and Highways Committee

From: Darrell E. Johnson, Chief Executive Officer

Subject: Active Transportation Program Biannual Update

Overview

The Orange County Transportation Authority coordinates regional active transportation efforts in Orange County. An update on recent and upcoming activities is provided for review.

Recommendation

Receive and file as an information item.

Background

The Orange County Transportation Authority (OCTA) Board of Directors oversees key regional active transportation (bicycling and walking) projects and programs in Orange County. These efforts support OCTA's vision for a balanced multimodal transportation system. To realize this vision, OCTA works with local jurisdictions, stakeholders, and the public to advance the development of safe, comfortable, and connected bicycling and walking networks. Key elements of OCTA's efforts include sharing information and encouraging people to walk and bike (education/encouragement), planning and design of pedestrian and bikeway projects (engineering), and collecting data for measuring projects and programs (evaluation). Details on these activities are further described below.

Discussion

Safe Travels Education Program

OCTA is administering a grant focusing on safe routes to schools. This grant funds the Safe Travels Education Program (STEP) Campaign. This project is a continued collaboration between OCTA and its local partners and stakeholders including the Orange County Health Care Agency, local schools, jurisdictional partners, and the public.

The STEP Campaign is funded through a $500,000 state grant. This project will develop and deliver education and encouragement activities for walking and bicycling to 25 public elementary schools serving disadvantaged communities. In response to the coronavirus pandemic, the project team adapted some activities to be compatible with virtual and hybrid schooling. These resources, including videos focusing on bicycle safety, maintenance, and walking safety, are posted on the project webpage and are available for public use. During the spring 2022 school semester the project team has been providing in-school programming to students and parents at participating schools. These activities include bicycle skills classes, parent teacher association meetings, assemblies, and other safety activities. The "menu" of activities for school is included in Attachment A. There are currently 23 schools enrolled in the program (Attachment B), which is scheduled to continue through November 2022; however, OCTA is in the process of submitting a grant extension request to the California Transportation Commission to extend the project deadline to November 2023.

Electric Bicycles (E-bikes) Education

OCTA is continuing its work related to E-bikes in Orange County. This includes data and information gathering, as well as the development of education and encouragement materials. E-bikes will continue to be included in OCTA's Cyclic Counts Program, and E-bike retailers were invited to a roundtable at the September 2021 OCTA Bicycle/Pedestrian Subcommittee meeting. To supplement the information provided by bicycle retailers, OCTA also surveyed the Technical Advisory Committee members to better understand trends and challenges cities across Orange County are experiencing. Some of the key takeaways were:

- Nearly all cities are experiencing an increase in E-bike use,
- Top issues identified were speeding, E-bike/bicycle/pedestrian crashes, and E-bike user adherence to bicycle and traffic laws,
- The most common responses for E-bike trip types were recreation, school, and commuting/errands, and
- Respondents estimated that approximately 20 percent of all bicycle trips made were using E-bikes.

On May 14, 2022, OCTA staff attended an E-bike safety and education event hosted by Assemblywoman Laurie Davies at Dana Hills High School. The event included remarks about E-bike safety by elected and public safety officials, as well as information booths, a skills course, and educational materials. The event was attended by residents, parents, and students who participated in the skills course and received E-bike safety information. Participants in the event also discussed approaches to improving E-bike safety using incentives and education.

All of these inputs are helping to inform OCTA's approach to the increasing use of E-bikes in Orange County. Staff is developing educational tools including videos and printable materials for local jurisdictions and stakeholders to communicate with the public. This information will focus on the safe operation of E-bike speed, parking, and safety messaging for motorists. The goal is to reach a broader audience with a message of safer operations of vehicles in Orange County.

OCTA is also pursuing several planning and engineering studies to improve bicycling and walking networks. These efforts span from developing better connections to high-volume bus stops to new multi-mile bikeway facilities. Efforts in these areas are further described below.

Bus Stop Safety and Accessibility Study

OCTA received a $300,000 Southern California Association of Governments Sustainable Communities grant to complete the Bus Stop Safety and Accessibility Study. This study will identify first/last mile improvements within 1/4 mile of OCTA's 13 busiest bus stop locations to facilitate better connections with the adjacent communities (Attachment C). This will be done in coordination with the cities of Anaheim, Costa Mesa, Garden Grove, and Santa Ana, as well as the surrounding communities and local stakeholders. The study will begin in fall 2022.

Garden Grove – Santa Ana Gap Closure Study

This study will complete the Project Approval and Environmental Document and preliminary engineering phase for an active transportation facility. The study limits include 3.1 miles of OCTA-owned, former Pacific Electric Right-of-Way, the corridor between Raitt Street and Euclid Avenue, and 0.85 miles of the Wintersburg Channel to Hazard Avenue (Attachment D). Funding is provided through a $3 million state grant. The project is anticipated to begin in fall 2022 and be completed in approximately two years. This study will support the advancement of subsequent project phases.

Bike Gap Closure Feasibility Study

The Bike Gap Closure Feasibility Study is evaluating potential alignments, developing cost estimates and facility concepts for three key regional bikeways: the OC Central loop, the OC South loop and the OC Connect (Attachment E). Study recommendations will be available to local agencies pursuing funding opportunities for implementation. The project team has conducted jurisdictional stakeholder meetings to vet and develop concepts, participated in pop-up events around the County to engage with the public, and delivered a public webinar to introduce the community to the project and solicit feedback. The webinar saw

participation from 32 attendees from around the County. The project team will be continuing work through the summer and will return to the OCTA Technical Advisory Committee and its Bicycle and Pedestrian Active Transportation Subcommittee with a draft of the study report for their feedback. The project is funded by $200,000 in state funds.

Cyclic Counts Program for Evaluation and Planning

Finally, OCTA is collecting bicycle traffic data for use in project evaluation and planning. OCTA is continuing the Cyclic Counts Program in 2022 and 2023 by taking bi-directional counts at locations across Orange County in May 2022 and 2023. Attachment F includes count locations for the 2020/2021 project. Some of these locations will be used for the upcoming counts project; however, final count locations have not yet been determined. This data will be incorporated into the countywide bicycle flow map as well as being made available to partner agencies for their use. This data provides critical information for local agencies for grant applications, evaluation of existing facilities, and assists with future planning efforts.

Summary

OCTA has ongoing and upcoming education, encouragement, engineering, and evaluation activities and continues to support efforts to improve active transportation throughout Orange County. Coordination and collaboration will continue between the state, regional agencies, local jurisdictions, key stakeholders, and the public to encourage and support walking and bicycling within Orange County.

Attachments

A. STEP An Orange County Safe Routes to School Program
B. OC STEP Campaign Participating Schools
C. OCTA Bus Stop Safety and Accessibility Study
D. Garden Grove-Santa Ana Rails-to-Trails Gap Closure Project
E. OC Loops – Bike Gap Closure Study
F. Bicycle Count Locations (2020/2021)

Prepared by:

Peter Sotherland
Active Transportation Coordinator
(714) 560-5386

Approved by:

Kia Mortazavi
Executive Director, Planning
(714) 560-5741

ATTACHMENT A

STEP

An Orange County Safe Routes to School Program

What is STEP?

STEP provides select schools with FREE resources to encourage families to walk/bike to school safely and more often.

Why STEP?

Students who walk/bike to school are healthier and arrive at school ready to learn! STEP helps families choose walking or biking and teaches them how to do so safely.

But our school doesn't have time for one more thing.

We know! That's why STEP keeps it simple with services that don't require a lot of your time.

By participating in STEP, your school will receive:

- Pedestrian and bike distance learning videos aligned with PE and HE standards
- Presentations for your PTA/PTO, school site councils, or other parent/caregiver/stakeholder groups
- Ready-to-forward e-blasts and/or tip sheets, e-newsletters, and educational materials to share with families
- Data about how your students get to and from school (hello Green Ribbon School Award!)
- Banner celebrating your school's efforts
- Suggested routes to school map that shows a preferred route to walk or bike to school

Check out the next page to see what additional services you can receive.

YOU choose up to three activities from the list below that will be provided to your school over next two school years (21/22 + 22/23):

- **Walk/Bike Resource Fair.** In-school education during lunchtime, recess, or other convenient time. featuring activity stations that teach students bike maintenance, helmet use, walking skills, and the benefits of active travel.
- **Assembly.** Fun performances that teach students the basics of bicycle and pedestrian safety.
- **Bike + Ped Rodeos.** Students learn safe bicycling and walking behaviors and practice their skills.
- **Walking School Bus.** STEP will provide staffing and support to launch a Walking School Bus program at your school.
- **Walkin'/Wheelin' Days.** School designates walk/bike to school encouragement days, either on a weekly, monthly, or one-time basis. These might include Walk to School Day (October), Winter Walk to School Day (February), Earth Day (April), Bike to School Day (May), or other similar events.
- **'Pop-Up' Events.** Booth at a school event/back to school night to promote walking and biking, share helpful tips, and offer specific advice to make it easy for families to choose walking and biking.
- **After-school Safety Education.** Safe walking and bicycling instruction for after-school programs.
- **Activity Tracking.** Fun methods for tracking how many students travel to school include the Golden Sneaker program, punch-cards, and calendars. These pit classrooms against one another in friendly competitions that encourage walking and biking.
- **"I Drive 25" Campaign.** Students encourage parents/caregivers to commit to driving 25 MPH or less in school zones.
- **DIY (aka Design-It-Yourself).** Don't see anything you like? Tell us what you have in mind and we tailor something for your school!

Acronyms
HE - Health Education
MPH – Miles Per Hour
PE - Physical Education
PTA – Parent Teacher Association
PTO - Parent Teacher Organization
STEP - Safe Travels Education Program

www.octa.net/Walk/Safe-Routes-to-School/OC-Step/

Peter Sotherland, Orange County Transportation Authority

psotherland@octa.net

714-560-5386

STEP

STEP is a joint program of the Orange County Transportation Authority (OCTA) and the Orange County Health Care Agency (OCHCA).

OCTA

ochealth CARE AGENCY

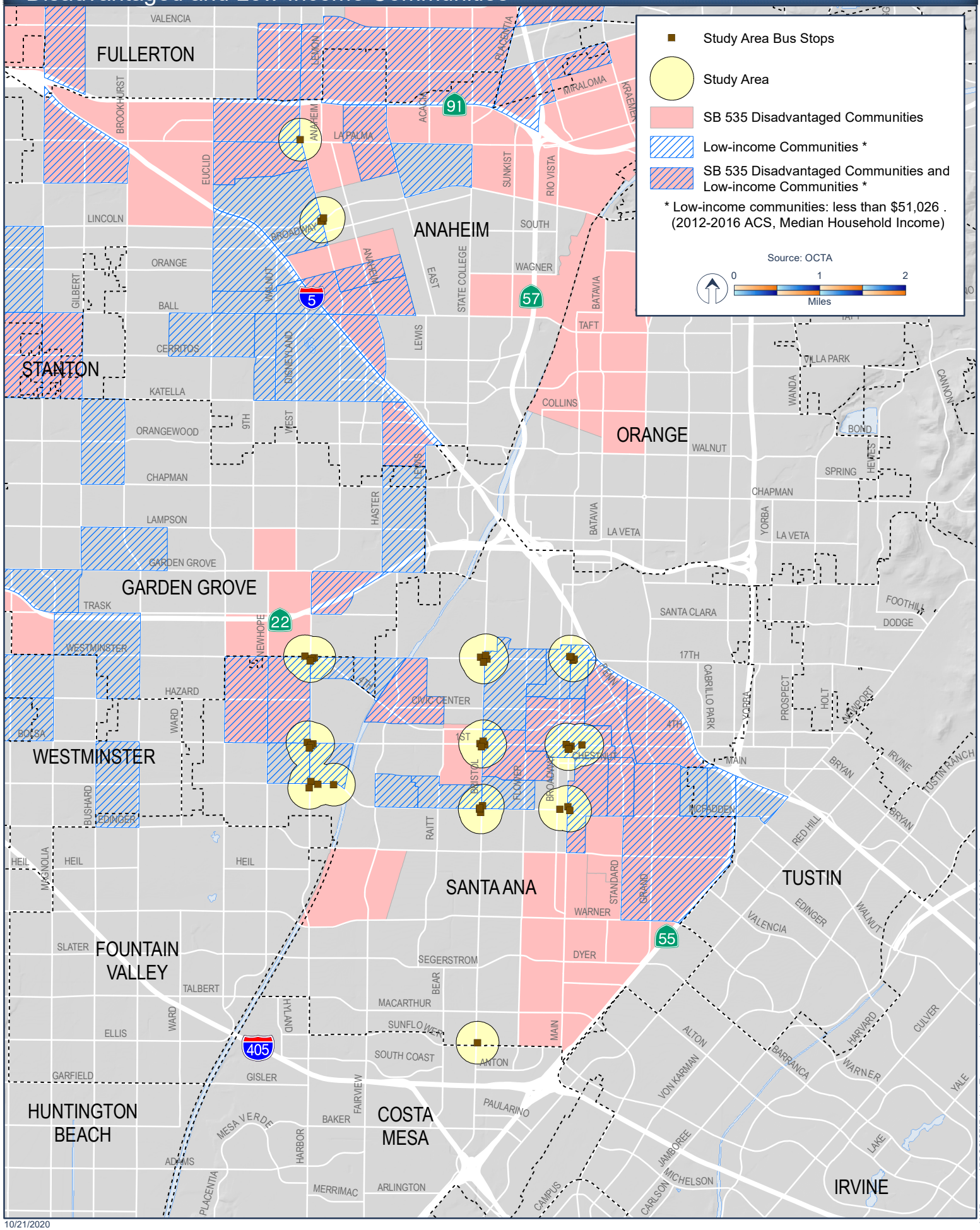
OC STEP Campaign Participating Schools

School Name	School District
Barton (Clara) Elementary	Anaheim Elementary
C. C. Violette Elementary	Garden Grove Unified
Carver Elementary School	Santa Ana Unified
Centralia Elementary	Centralia Elementary
Fryberger Elementary	Westminster
Heroes Elementary	Santa Ana Unified
Lampson Elementary	Orange Unified
Linton T. Simmons Elementary	Garden Grove Unified
Mabel L. Pendleton Elementary	Buena Park Elementary
Martin Luther King Jr. Elementary	Santa Ana Unified
Meairs Elementary	Westminster
Melrose Elementary	Placentia-Yorba Linda Unified
Monte Vista Elementary	Santa Ana Unified
Murdy Elementary	Garden Grove Unified
Newhope Elementary	Garden Grove Unified
Pio Pico Elementary	Santa Ana Unified
Pomona Elementary	Newport-Mesa Unified
Prospect Elementary	Orange Unified
Ruby Drive Elementary	Placentia-Yorba Linda Unified
Schmitt Elementary	Westminster
Sonora Elementary School	Newport-Mesa Unified
Whittier Elementary	Newport-Mesa Unified
Wilson Elementary	Newport-Mesa Unified

ATTACHMENT C

OCTA Bus Stop Safety and Accessibility Study

Disadvantaged and Low-Income Communities



10/21/2020

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GARDEN GROVE – SANTA ANA RAILS-TO-TRAILS GAP CLOSURE STUDY

PARTNER JURISDICTIONS
Garden Grove, Santa Ana, County of Orange

AT A GLANCE

STUDY CORRIDOR LENGTH:	4 miles
TOTAL:	$42 million*
CONSTRUCTION:	$26 million*
PLANS, SPECIFICATIONS AND ESTIMATES:	$4 million*
PROJECT APPROVAL & ENVIRONMENTAL DOCUMENT (FUNDED):	$3 million
CONTACT:	Peter Sotherland, Active Transportation Coordinator, 714-560-5386 psotherland@octa.net

*estimates

Fact Sheet as of 8/16/21

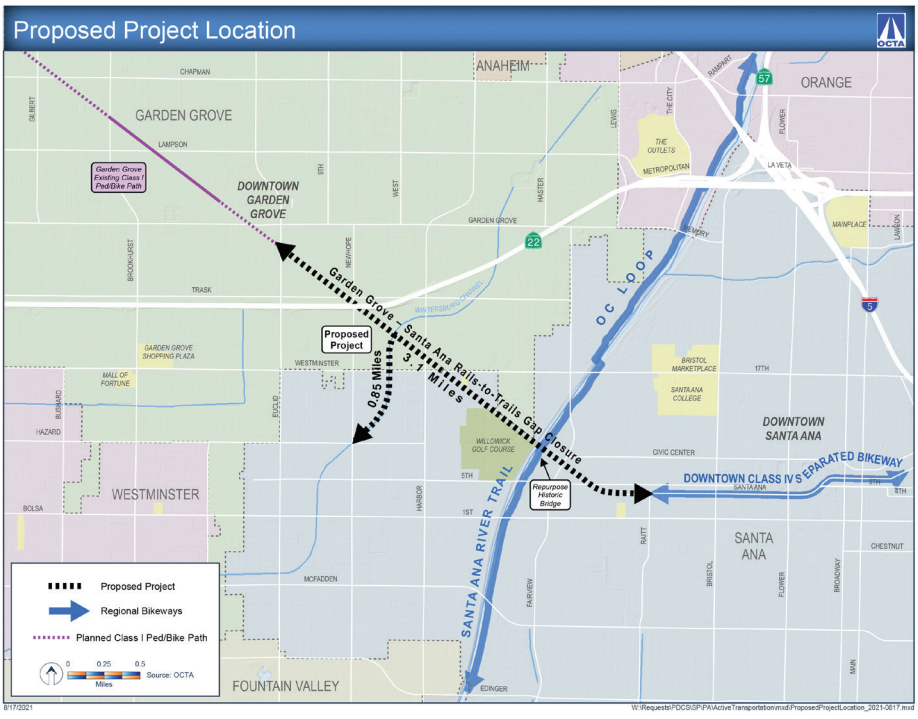
OVERVIEW

The Garden Grove – Santa Ana Rails-to-Trails Gap Closure Study will complete the Project Approval & Environmental Document (PA/ED) phase for a Class I active transportation facility along 3.1 miles of OCTA-owned former Pacific Electric corridor and 0.85 miles of the Wintersburg Channel. The Study is funded by a $3 million Active Transportation Program Cycle 5 grant.

The Study is located between the two cities' downtown areas and is surrounded by high-traffic streets and disadvantaged neighborhoods providing critical connections with public access from 15 different entry points. The Study will begin in the Summer of 2022, will be completed in approximately 3 years, and will support the advancement of subsequent project phases to be led by the cities of Garden Grove and Santa Ana.

BENEFITS

The Garden Grove – Santa Ana Rails-to-Trails Gap Closure will increase the use of active transportation travel modes, provide a no-cost, zero-emission transportation option, enhance safety and mobility for non-motorized users, and facilitate active travel away from high-speed and high-volume traffic. This corridor links two downtowns to one another and to the Santa Ana River Trail, part of the 66-mile Class I OC Loop bikeway (88% complete). The OC Loop connects to beaches, 200 parks, 180 schools, three Metrolink stations and 17 cities.



Orange County Transportation Authority
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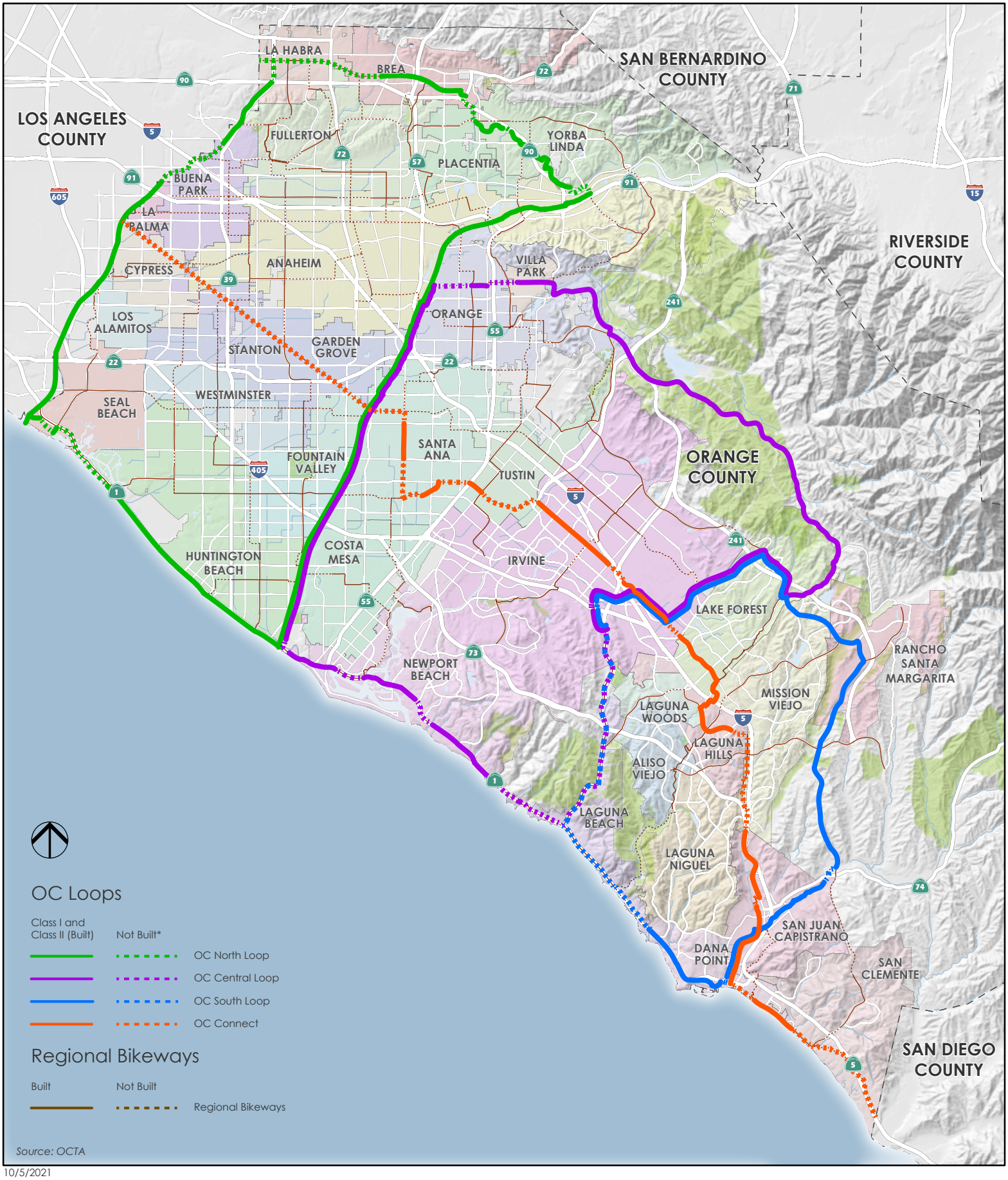
ATTACHMENT E

OC Loops - Bike Gap Closure Study



10/5/2021

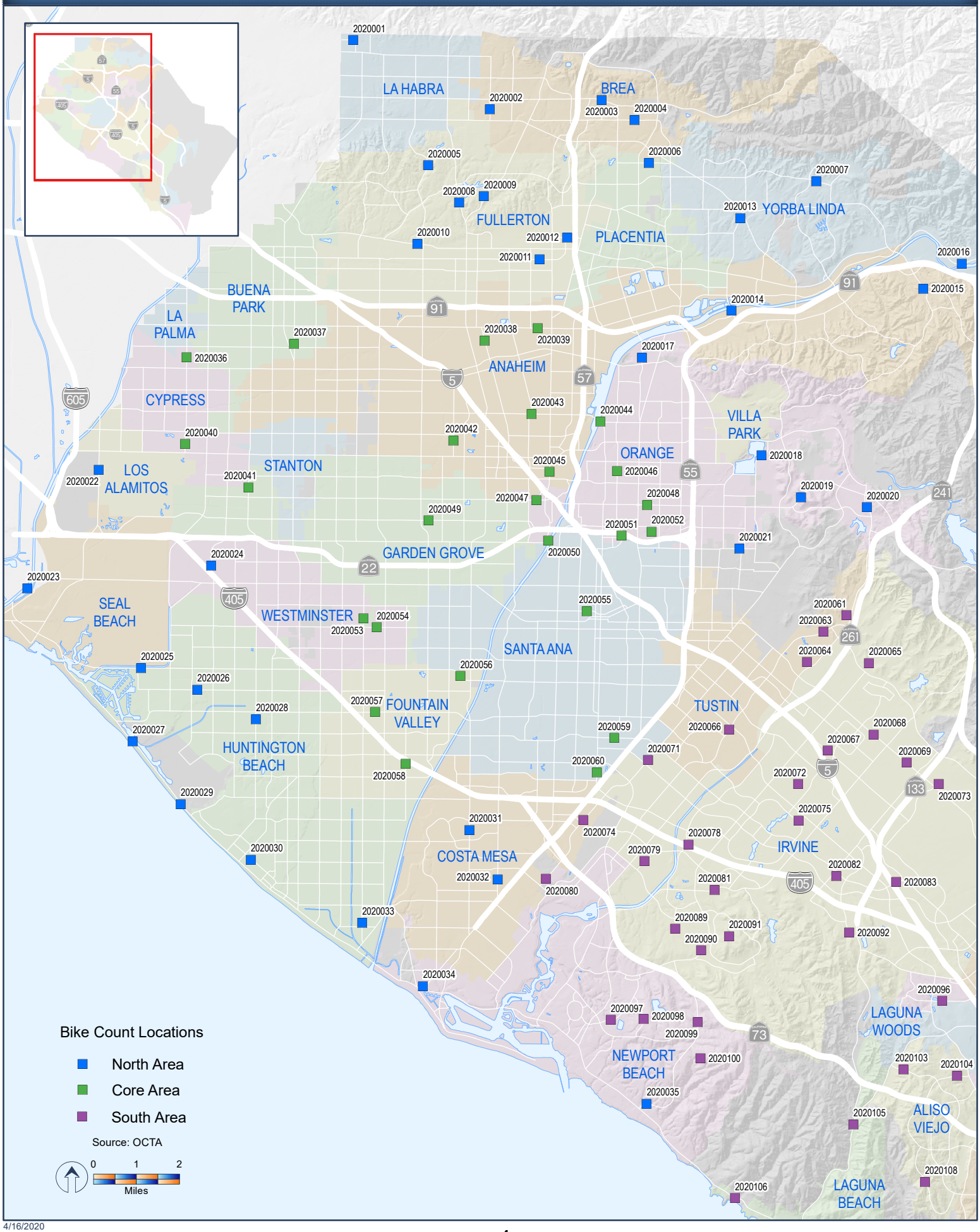
ATTACHMENT F

2020 Bicycle Count Locations				
ID	**Area**	**Location**	**City**	**Bikeway**
2020001	North Area	RUSSELL	LA HABRA	Class 3 Existing
2020002	North Area	PUENTE	BREA	Class 2 Proposed
2020003	North Area	LAMBERT	BREA	Class 2 Proposed
2020004	North Area	BIRCH	BREA	Class 2 Existing
2020005	North Area	EUCLID	FULLERTON	Class 2 Proposed
2020006	North Area	GOLDEN	PLACENTIA	Class 2 Existing
2020007	North Area	BASTANCHURY	YORBA LINDA	Class 2 Existing
2020008	North Area	HARBOR	FULLERTON	Class 2 Existing
2020009	North Area	BREA BLVD	FULLERTON	Class 3 Existing
2020010	North Area	MALVERN	FULLERTON	None
2020011	North Area	COMMONWEALTH	FULLERTON	Class 3 Existing
2020012	North Area	NUTWOOD	FULLERTON	None
2020013	North Area	LAKEVIEW	YORBA LINDA	Class 2 Proposed
2020014	North Area	LAKEVIEW	ANAHEIM	Class 2 Existing
2020015	North Area	WIER CANYON	ANAHEIM	Class 2 Existing
2020016	North Area	LA PALMA	YORBA LINDA	Class 2 Proposed
2020017	North Area	GLASSELL	ORANGE	Class 2 Proposed
2020018	North Area	HEWES	ORANGE	Class 1 Existing
2020019	North Area	CHAPMAN	ORANGE	Class 2 Existing
2020020	North Area	JAMBOREE	ORANGE	Class 2 Existing
2020021	North Area	FAIRHAVEN	COUNTY	Class 2 Proposed
2020022	North Area	LOS ALAMITOS	LOS ALAMITOS	Class 2 Proposed
2020023	North Area	SAN GABRIEL RIVER TRAIL	LONG BEACH	Class 1 Existing
2020024	North Area	SPRINGDALE	WESTMINSTER	None
2020025	North Area	EDINGER	HUNTINGTON BEACH	Class 2 Existing
2020026	North Area	HEIL	HINTINGTON BEACH	Class 2 Existing
2020027	North Area	PACIFIC COAST HIGHWAY	HUNTINGTON BEACH	Class 2 Proposed
2020028	North Area	GOLDEN WEST	HUNTINGTON BEACH	None
2020029	North Area	HUNTINGTON BEACH BIKE TRAIL	HUNTINGTON BEACH	Class 1 Existing
2020030	North Area	14TH ST	HUNTINGTON BEACH	None
2020031	North Area	HARBOR	COSTA MESA	Class 2 Proposed
2020032	North Area	FAIRVIEW	COSTA MESA	Class 2 Existing
2020033	North Area	BUSHARD	HUNTINGTON BEACH	Class 2 Existing
2020034	North Area	SUPERIOR	NEWPORT BEACH	Class 2 Existing
2020035	North Area	NEWPORT COAST	NEWPORT BEACH	Class 2 Existing
2020036	Core Area	WALKER	CYPRESS	Class 3 Proposed
2020037	Core Area	STANTON	BUENA PARK	None
2020038	Core Area	ANAHEIM	ANAHEIM	Class 2 Existing
2020039	Core Area	LA PALMA	ANAHEIM	Class 2 Existing
2020040	Core Area	WALKER	CYPRESS	Class 1 Proposed
2020041	Core Area	KNOTT	GARDEN GROVE	Class 2 Proposed
2020042	Core Area	WALNUT	ANAHEIM	Class 2 Proposed
2020043	Core Area	BALL	ANAHEIM	Class 2 Proposed
2020044	Core Area	TAFT	ORANGE	Class 2 Proposed
2020045	Core Area	STATE COLLEGE	ANAHEIM	None
2020046	Core Area	BATAVIA	ORANGE	None
2020047	Core Area	CHAPMAN	ORANGE	None
2020048	Core Area	CHAPMAN	ORANGE	None
2020049	Core Area	LAMPSON	GARDEN GROVE	Class 3 Existing
2020050	Core Area	SANTA ANA RIVER TRAIL	ORANGE	Class 1 Existing
2020051	Core Area	PARKER	ORANGE	Class 2 Proposed
2020052	Core Area	SANTIAGO CREEK TRAIL	ORANGE	Class 1 Existing
2020053	Core Area	BUSHARD	WESTMINSTER	Class 2 Existing

2020054	Core Area	BOLSA	WESTMINSTER	None
2020055	Core Area	CIVIC CENTER DRIVE	SANTA ANA	Class 2 Existing
2020056	Core Area	EDINGER	FOUNTAIN VALLEY	Class 2 Proposed
2020057	Core Area	WARNER	FOUNTAIN VALLEY	None
2020058	Core Area	WARD	FOUNTAIN VALLEY	Class 2 Existing
2020059	Core Area	DYER	SANTA ANA	None
2020060	Core Area	MAIN	SANTA ANA	Class 4 Proposed
2020061	South Area	PIONEER	TUSTIN	Class 2 Existing
2020062	South Area	SANTIAGO CANYON ROAD	COUNTY	Class 2 Existing
2020063	South Area	TUSTIN RANCH	TUSTIN	Class 2 Existing
2020064	South Area	ROBINSON	TUSTIN	Class 2 Existing
2020065	South Area	ORCHARD HILLS	IRVINE	Class 2 Existing
2020066	South Area	TUSTIN RANCH	TUSTIN	Class 2 Existing
2020067	South Area	TRABUCO	IRVINE	Class 2 Existing
2020068	South Area	IRVINE	IRVINE	Class 2 Existing
2020069	South Area	IRVINE	IRVINE	Class 2 Existing
2020070	South Area	SANTIAGO CANYON ROAD	LAKE FOREST	Class 2 Existing
2020071	South Area	RED HILL	IRVINE	Class 2 Existing
2020072	South Area	WALNUT TRAIL	IRVINE	Class 1 Existing
2020073	South Area	RIDGE VALLEY TRAIL	IRVINE	Class 1 Existing
2020074	South Area	RED HILL	COSTA MESA	Class 2 Existing
2020075	South Area	EAST YALE LOOP	IRVINE	Class 2 Existing
2020076	South Area	PORTOLA PARKWAY	LAKE FOREST	Class 2 Existing
2020077	South Area	GLENN RANCH	LAKE FOREST	Class 2 Proposed
2020078	South Area	FREEWAY TRAIL	IRVINE	Class 1 Existing
2020079	South Area	CARLSON	IRVINE	Class 2 Existing
2020080	South Area	SANTA ANA	CISTA MESA	Class 2 Proposed
2020081	South Area	UNIVERSITY	IRVINE	Class 2 Existing
2020082	South Area	SAN DIEGO CREEK TRAIL	IRVINE	Class 1 Existing
2020083	South Area	BARRANCA	IRVINE	Class 2 Existing
2020084	South Area	ALTON	IRVINE	Class 2 Existing
2020085	South Area	LOS ALISOS	MISSION VIEJO	Class 2 Existing
2020086	South Area	EL TORO ROAD	LAKE FOREST	None
2020087	South Area	MARGUERITE PARKWAY	MISSION VIEJO	Class 2 Existing
2020088	South Area	OLYMPIAD	MISSION VIEJO	Class 3 Existing
2020089	South Area	BERKELEY	IRVINE	Class 2 Existing
2020090	South Area	CULVER	IRVINE	None
2020091	South Area	STARCREST	IRVINE	Class 2 Existing
2020092	South Area	LAGUNA CANYON ROAD	IRVINE	Class 2 Existing
2020093	South Area	SANTA MARGARITA	RANCHO SANTA MARGARITA	Class 2 Existing
2020094	South Area	ANTONIO	RANCHO SANTA MARGARITA	Class 2 Existing
2020095	South Area	TRABUCO	MISSION VIEJO	Class 2 Existing
2020096	South Area	RIDGE ROUTE	LAGUNA HILLS	Class 2 Proposed
2020097	South Area	SAN MIGUEL	NEWPORT BEACH	Class 2 Existing
2020098	South Area	SPYGLASS HILL	NEWPORT BEACH	Class 2 Existing
2020099	South Area	NEWPORT COAST	NEWPORT BEACH	Class 2 Existing
2020100	South Area	VISTA RIDGE	NEWPORT BEACH	Class 2 Proposed
2020101	South Area	LOS ALISOS	LAKE FOREST	Class 2 Existing
2020102	South Area	MUIRLANDS	MISSION VIEJO	Class 2 Existing
2020103	South Area	ALISO CREEK ROAD	ALISO VIEJO	Class 2 Existing
2020104	South Area	GLENWOOD	ALISO VIEJO	Class 2 Existing
2020105	South Area	LAGUNA CANYON ROAD	LAGUNA BEACH	Class 3 Existing
2020106	South Area	COAST HIGHWAY	LAGUNA BEACH	Class 3 Existing
2020107	South Area	MARUERITE PARKWAY	MISSION VIEJO	Class 2 Existing
2020108	South Area	WOOD CANYON	ALISO VIEJO	None

2020109	South Area	CABOT-FORBES PATH	LAGUNA NIGUEL	Class 1 Existing
2020110	South Area	HIGHLANDS	LAGUNA NIGUEL	Class 2 Existing
2020111	South Area	CROWN VALLEY PARKWAY	LAGUNA NIGUEL	Class 2 Existing
2020112	South Area	UNNAMED TRAIL	LAGUNA NIGUEL	Class 1 Existing
2020113	South Area	ORTEGA HIGHWAY	SAN JUAN CAPISTRANO	None
2020114	South Area	ORTEGA HIGHWAY	COUNTY	None
2020115	South Area	LA PATA	COUNTY	Class 2 Existing
2020116	South Area	SAN JUAN CREEK TRAIL	SAN JUAN CAPISTRANO	Class 1 Existing
2020117	South Area	DANA POINT HARBOR DRIVE	DANA POINT	Class 2 Existing
2020118	South Area	VISTA HERMOSA	SAN CLEMENTE	Class 2 Existing
2020119	South Area	AVENIDA PICO	SAN CLEMENTE	Class 2 Existing
2020120	South Area	PRESEDENTE	SAN CLEMENTE	Class 2 Existing

2020 Bike Count Locations – North



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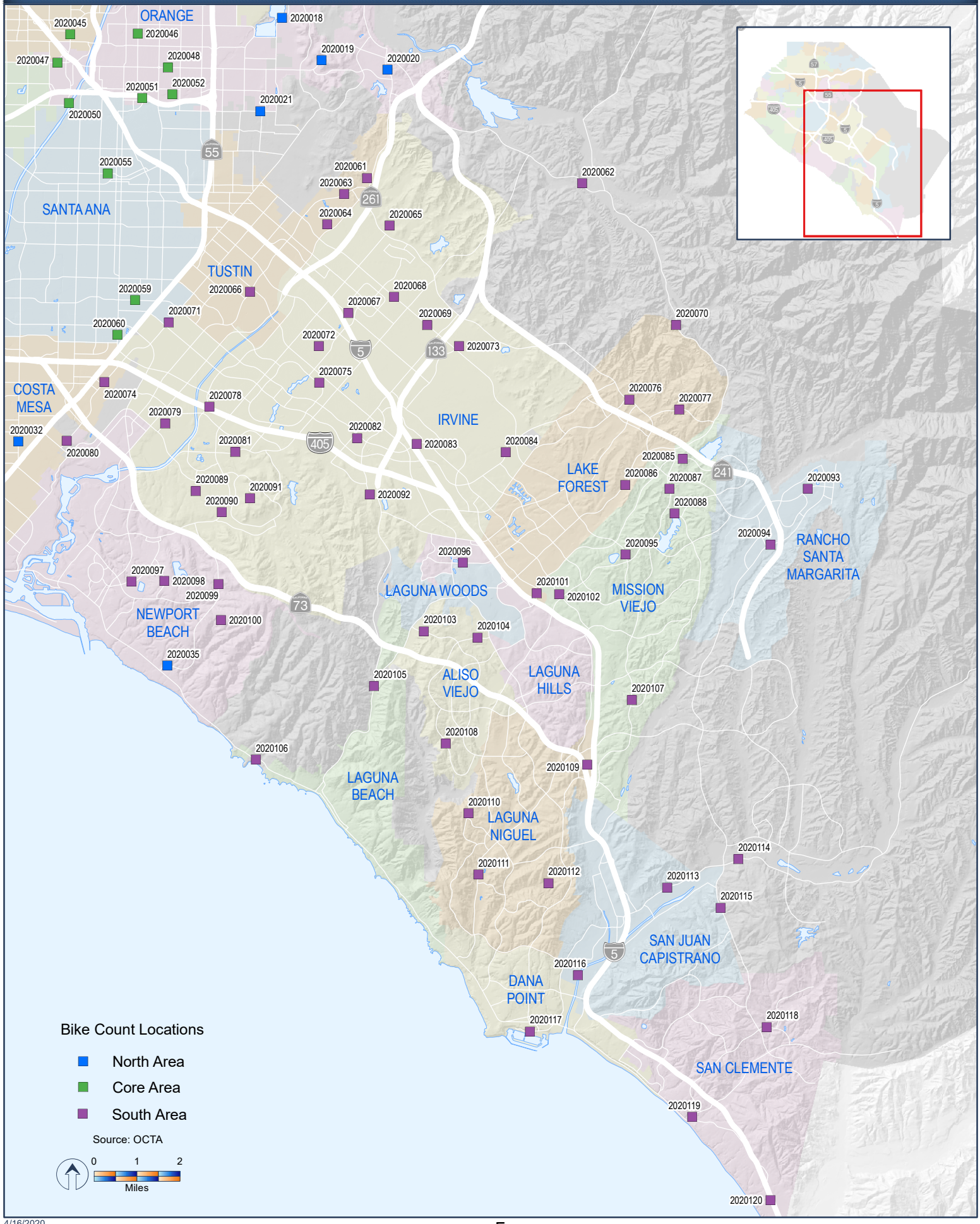
4/16/2020

2020 Bike Count Locations – South



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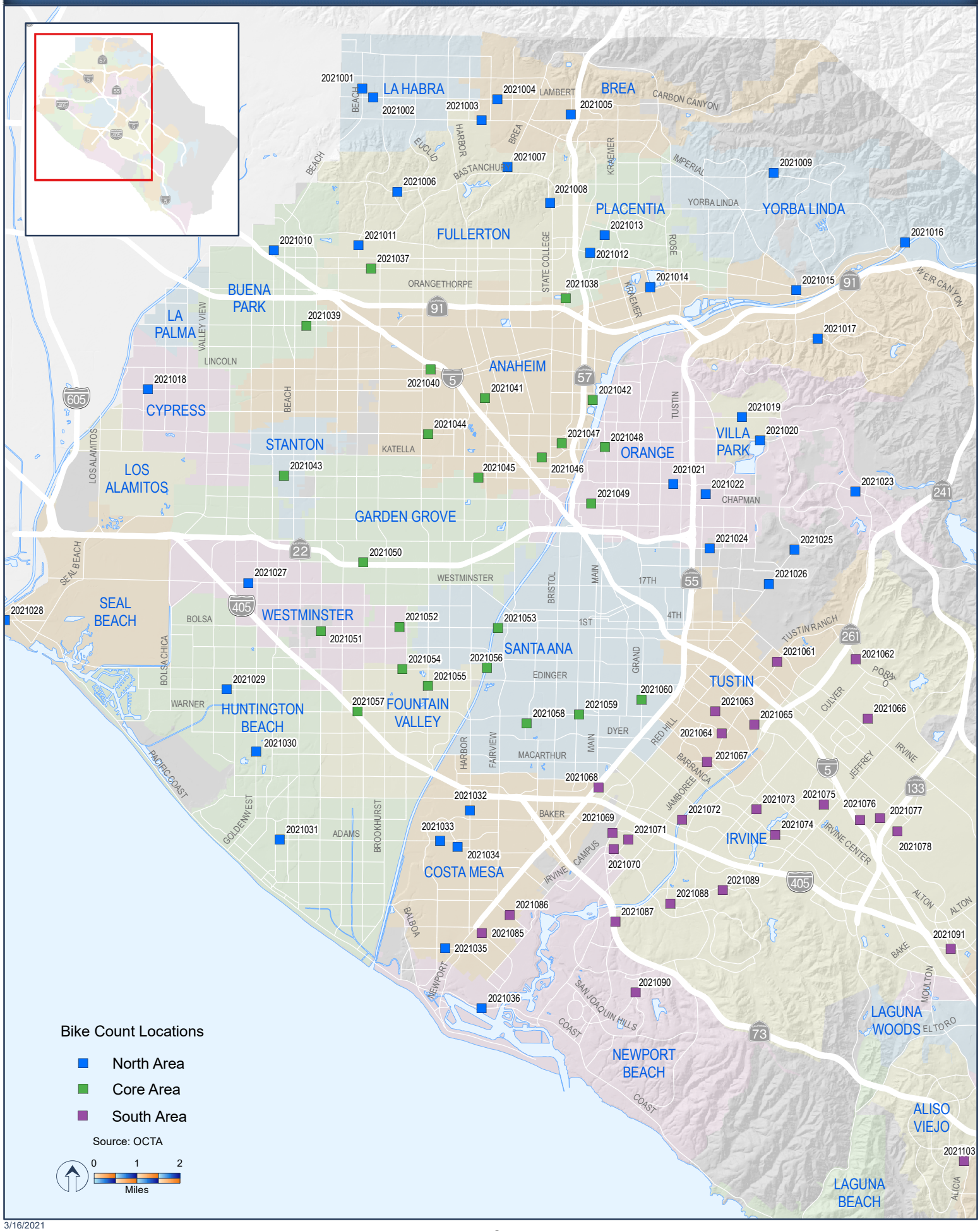
4/16/2020

2021 Bicycle Count Locations				
ID	Area	Location	City	Bikeway
2021001	North Area	BEACH	LA HABRA	Class 2 Proposed
2021002	North Area	LAMBERT	LA HABRA	Class 2 Existing
2021003	North Area	IMPERIAL	BREA	None
2021004	North Area	LAMBERT	BREA	Class 2 Proposed
2021005	North Area	STATE COLLEGE	BREA	Class 2 Existing
2021006	North Area	ROSECRANS	FULLERTON	Class 2 Proposed
2021007	North Area	BREA	FULLERTON	Class 2 Existing
2021008	North Area	STATE COLLEGE	FULLERTON	None
2021009	North Area	BASTANCHURY	YORBA LINDA	Class 2 Existing
2021010	North Area	WESTERN	BUENA PARK	None
2021011	North Area	GILBERT	FULLERTON	Class 2 Proposed
2021012	North Area	CHAPMAN	PLACENTIA	Class 2 Proposed
2021013	North Area	BRADFORD	PLACENTIA	Class 2 Proposed
2021014	North Area	MILLER	ANAHEIM	Class 2 Existing
2021015	North Area	IMPERIAL	ANAHEIM	None
2021016	North Area	SANTA ANA RIVER TRAIL	ANAHEIM	Class 1 Existing
2021017	North Area	NOHL RANCH	ANAHEIM	None
2021018	North Area	ORANGE	CYPRESS	Class 2 Existing
2021019	North Area	TAFT	VILLA PARK	Class 2 Existing
2021020	North Area	VILLA PARK	COUNTY	Class 2 Existing
2021021	North Area	WALNUT	ORANGE	Class 2 Existing
2021022	North Area	SANTIAGO CREEK BIKE TRAIL	ORANGE	Class 1 Existing
2021023	North Area	CHAPMAN	ORANGE	Class 2 Existing
2021024	North Area	FAIRHAVEN	COUNTY	Class 2 Proposed
2021025	North Area	NEWPORT	COUNTY	Class 2 Existing
2021026	North Area	NEWPORT	COUNTY	Class 2 Existing
2021027	North Area	WESTMINSTER	WESTMINSTER	Class 2 Proposed
2021028	North Area	MARINA	SEAL BEACH	Class 2 Existing
2021029	North Area	HEIL	HUNTINGTON BEACH	Class 2 Existing
2021030	North Area	GOLDENWEST	HUNTINGTON BEACH	Class 2 Existing
2021031	North Area	ADAMS	HUNTINGTON BEACH	Class 2 Existing
2021032	North Area	HARBOR	COSTA MESA	Class 2 Proposed
2021033	North Area	ADAMS	COSTA MESA	Class 2 Existing
2021034	North Area	MESA VERDE	COSTA MESA	Class 2 Proposed
2021035	North Area	17TH	COSTA MESA	Class 2 Proposed
2021036	North Area	COAST	NEWPORT BEACH	Class 3 Existing
2021037	Core Area	VALENCIA	FULLERTON	Class 3 Existing
2021038	Core Area	PLACENTIA	PLACENTIA	None
2021039	Core Area	LA PALMA	BUENA PARK	None
2021040	Core Area	LINCOLN	ANAHEIM	None
2021041	Core Area	HARBOR	ANAHEIM	None
2021042	Core Area	ANAHEIM COVES TRAIL	ANAHEIM	Class 1 Existing
2021043	Core Area	ORANGEWOOD	STANTON	Class 2 Proposed
2021044	Core Area	CERRITOS	ANAHEIM	Class 2 Proposed
2021045	Core Area	ORANGEWOOD	GARDEN GROVE	Class 2 Proposed
2021046	Core Area	KATELLA	ANAHEIM	None
2021047	Core Area	SUNKIST	ANAHEIM	None
2021048	Core Area	MAIN	ORANGE	Class 2 Proposed
2021049	Core Area	CHAPMAN	ORANGE	None
2021050	Core Area	TRASK	GARDEN GROVE	Class 2 Proposed
2021051	Core Area	NEWLAND	WESTMINSTER	Class 2 Proposed
2021052	Core Area	BOLSA	WESTMINSTER	None

2021053	Core Area	1ST	SANTA ANA	Class 4 Proposed
2021054	Core Area	EDINGER	FOUNTAIN VALLEY	None
2021055	Core Area	EUCLID	FOUNTAIN VALLEY	None
2021056	Core Area	SANTA ANA RIVER TRAIL	SANTA ANA	Class 1 Existing
2021057	Core Area	WARNER	FOUNTAIN VALLEY	None
2021058	Core Area	RAITT	SANTA ANA	Class 2 Proposed
2021059	Core Area	WARNER	SANTA ANA	Class 4 Existing
2021060	Core Area	GRAND	SANTA ANA	Class 2 Proposed
2021061	South Area	TUSTIN RANCH	TUSTIN	Class 2 Existing
2021062	South Area	PORTOLA	IRVINE	Class 2 Existing
2021063	South Area	EDINGER	TUSTIN	Class 2 Existing
2021064	South Area	VALENCIA	TUSTIN	Class 2 Existing
2021065	South Area	WALNUT	TUSTIN	Class 2 Existing
2021066	South Area	YALE	IRVINE	Class 2 Existing
2021067	South Area	TUSTIN RANCH	TUSTIN	Class 2 Existing
2021068	South Area	MAIN	COUNTY	Class 2 Proposed
2021069	South Area	MACARTHUR	IRVINE	None
2021070	South Area	CAMPUS	NEWPORT BEACH	Class 2 Proposed
2021071	South Area	VON KARMEN	IRVINE	Class 2 Proposed
2021072	South Area	MOUNTAINS TO THE SEA TRA	IRVINE	Class 1 Existing
2021073	South Area	WST YALE LOOP	IRVINE	Class 2 Existing
2021074	South Area	BARRANCA	IRVINE	Class 2 Existing
2021075	South Area	WALNUT TRAIL	IRVINE	Class 1 Existing
2021076	South Area	CYPRESS VILLAGE TRAIL	IRVINE	Class 1 Existing
2021077	South Area	SAND CANYON	IRVINE	Class 2 Existing
2021078	South Area	RIDGE VALLEY	IRVINE	Class 2 Existing
2021079	South Area	ALTON	LAKE FOREST	Class 2 Existing
2021080	South Area	RANCHO	LAKE FOREST	Class 2 Existing
2021081	South Area	ALISO CREEK BIKEWAY	LAKE FOREST	Class 1 Existing
2021082	South Area	EL TORO	LAKE FOREST	None
2021083	South Area	TRABUCO	LAKE FOREST	Class 2 Existing
2021084	South Area	SANTA MARGARITA	MISSION VIEJO	Class 2 Existing
2021085	South Area	19TH	COSTA MESA	Class 3 Proposed
2021086	South Area	22ND	COSTA MESA	Class 2 Proposed
2021087	South Area	MACARTHUR	IRVINE	None
2021088	South Area	HARVARD	IRVINE	Class 2 Existing
2021089	South Area	UNIVERSITY TRAIL	IRVINE	Class 1 Existing
2021090	South Area	SAN MIGUEL	NEWPORT BEACH	Class 2 Existing
2021091	South Area	BAKE	IRVINE	Class 2 Existing
2021092	South Area	ALISO CREEK BIKEWAY	LAKE FOREST	Class 1 Existing
2021093	South Area	MELINDA	MISSION VIEJO	Class 2 Existing
2021094	South Area	AVE DE LAS FLORES	RANCHO SANTA MARGARITA	Class 3 Existing
2021095	South Area	ALMA ALDEA	RANCHO SANTA MARGARITA	Class 3 Existing
2021096	South Area	AVE DE LAS BANDERAS	RANCHO SANTA MARGARITA	Class 3 Existing
2021097	South Area	ANTONIO	RANCHO SANTA MARGARITA	Class 2 Existing
2021098	South Area	OLYMPIAD	MISSION VIEJO	Class 2 Existing
2021099	South Area	MUIRLANDS	MISSION VIEJO	Class 2 Existing
2021100	South Area	ALICIA	LAGUNA HILLS	Class 2 Existing
2021101	South Area	MOULTON	LAGUNA HILLS	Class 2 Existing
2021102	South Area	OSO	MISSION VIEJO	Class 2 Existing
2021103	South Area	ALISO CREEK TRAIL	ALISO VIEJO	Class 1 Existing
2021104	South Area	LA PAZ	LAGUNA NIGUEL	Class 2 Existing
2021105	South Area	MOULTON	LAGUNA NIGUEL	Class 2 Existing
2021106	South Area	CABOT	MISSION VIEJO	Class 2 Existing
2021107	South Area	CROWN VALLEY PARKWAY	MISSION VIEJO	Class 2 Existing

2021108	South Area	CABOT	LAGUNA NIGUEL	Class 2 Existing
2021109	South Area	GOLDEN LANTERN	LAGUNA NIGUEL	Class 2 Existing
2021110	South Area	CROWN VALLEY PARKWAY	LAGUNA NIGUEL	Class 2 Existing
2021111	South Area	COAST	LAGUNA BEACH	Class 2 Proposed
2021112	South Area	CAMINO CAPISTRANO	SAN JUAN CAPISTRANO	Class 2 Existing
2021113	South Area	ANTONIO	COUNTY	Class 2 Existing
2021114	South Area	TRAIL	LAGUNA NIGUEL	Class 1 Existing
2021115	South Area	ORTEGA	SAN JUAN CAPISTRANO	None
2021116	South Area	NIGUEL	DANA POINT	Class 2 Existing
2021117	South Area	GOLDEN LANTERN	DANA POINT	Class 2 Existing
2021118	South Area	DEL OBISPO	SAN JUAN CAPISTRANO	Class 2 Existing
2021119	South Area	CAMINO DE LAS MARES	SAN CLEMENTE	Class 2 Existing
2021120	South Area	AVENIDA PICO	SAN CLEMENTE	Class 2 Existing

2021 Bike Count Locations – North



3/16/2021

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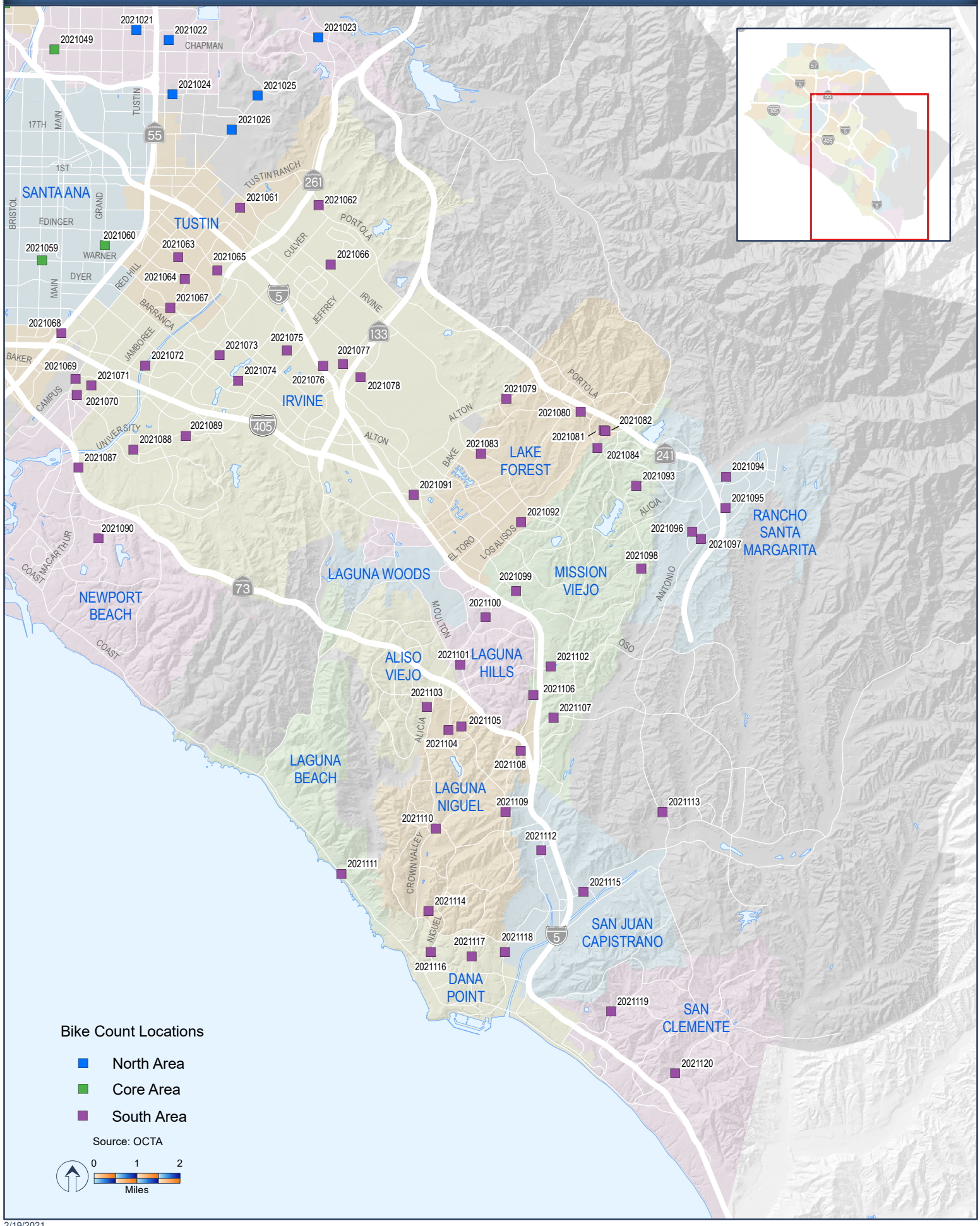
2021 Bike Count Locations – South



2/19/2021

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COMMITTEE TRANSMITTAL

June 13, 2022

To: Members of the Board of Directors

From: Andrea West, Interim Clerk of the Board

Subject: Draft 2022 State Route 91 Implementation Plan

Regional Planning and Highways Committee Meeting of June 6, 2022

Present: Directors Chaffee, Delgleize, Foley, Harper, Muller, and Murphy
Absent: Director Bartlett

Committee Vote

No action was taken by the Committee on this item.

Staff Recommendation

Receive and file as an information item.

OCTA

June 6, 2022

To: Regional Planning and Highways Committee

From: Darrell E. Johnson, Chief Executive Officer

Subject: Draft 2022 State Route 91 Implementation Plan

Overview

The Orange County Transportation Authority and the Riverside County Transportation Commission annually prepare a plan for potential improvements along the State Route 91 corridor between State Route 57 in Orange County and Interstate 15 in Riverside County. The plan includes a listing of proposed improvements, preliminary cost estimates, and potential implementation timeframes. The Draft 2022 State Route 91 Implementation Plan is provided for information purposes.

Recommendation

Receive and file as an information item.

Background

SB 1316 (Chapter 714, Statutes of 2008) requires the Orange County Transportation Authority (OCTA) and the Riverside County Transportation Commission (RCTC) to annually prepare a plan for potential improvements along the State Route 91 (SR-91) corridor between State Route 57 (SR-57) in Orange County and Interstate 15 (I-15) in Riverside County. The Draft 2022 SR-91 Implementation Plan (Plan) serves as an outlook of current and planned activities within the SR-91 corridor. The Plan describes projects, transportation benefits, and anticipated costs and schedules to implement through the post-2035 timeframe. The intent of the Plan is to provide a compilation of information for projects along the SR-91 corridor. This Plan was prepared in consultation with the California Department of Transportation (Caltrans), the Transportation Corridor Agencies (TCA), and the cities of Anaheim, Corona, Orange, and Yorba Linda.

Discussion

Since 2003, substantial progress has been made in improving the SR-91 corridor. Nearly $2 billion has been invested with the completion of nine projects, including the addition of 68.7 lane miles and multimodal services and projects throughout the SR-91 corridor. Average daily traffic throughput has also increased by 15 percent. This indicates that improvements within the corridor have helped to alleviate the effects of population growth and employment between Orange and Riverside counties as well as reduce the spillover of highway traffic onto parallel local roads. Completed projects from the Plan include:

- Green River Road Overcrossing Improvement Project;
- North Main Street Corona Metrolink Parking Structure Project;
- Eastbound lane addition from State Route 241 (SR-241) to State Route 71 (SR-71);
- Lane addition in both directions between State Route 55 (SR-55) and SR-241;
- Westbound lane addition at Tustin Avenue;
- Metrolink service improvements;
- SR-91 Corridor Improvement Project initial phase to add general purpose and express lanes and modernize local interchanges;
- Express Bus Service;
- La Sierra Metrolink parking improvements; and
- SR-91 Corridor Operations Project.

OCTA and RCTC have adopted similar goals for the 91 Express Lanes to continue to maintain a safe, reliable, and predictable travel time for motorists traversing seamlessly between the two counties. These guiding principles include:

- Optimizing vehicle throughput at free-flow speeds and increasing average vehicle occupancy;
- Balancing capacity and demand to serve customers who pay tolls, as well as carpoolers (3+) who are offered discounted tolls;
- Generating sufficient revenue to sustain the financial viability of the 91 Express Lanes;
- Paying debt service and maintaining debt service coverage; and
- Reinvesting net revenues for transit and highway improvements within the SR-91 corridor to improve regional mobility, when appropriate.

Information for projects in the Plan is updated annually. This ensures that the planning and implementation of each project is carefully coordinated to determine the appropriate timing to provide maximum benefits to the SR-91 corridor. Additionally, projects on the corridor should be coordinated to minimize construction impacts to commuters and the surrounding communities. As projects progress through development, operational analysis by OCTA and RCTC will be

prepared before implementation to ensure that the projects meet the OCTA and RCTC goals for the SR-91 corridor.

In October 2019, a consensus was reached that set the stage for a series of projects included in the Plan to be implemented sequentially to improve the SR-91 corridor. OCTA, RCTC, TCA, Caltrans District 8 District 12, as well as Caltrans Headquarters agreed to project sequencing to enable the streamlining of the SR-241/SR-91 Tolled Express Connector Project, while minimizing impacts to the SR-91 corridor. The agencies reached consensus on a program of projects and sequencing as follows:

1. 15/91 Express Lanes Connector
2. SR-91 Corridor Operations Project
3. SR-71/SR-91 interchange improvements*
4. SR-241/SR-91 Tolled Express Lanes Connector

*Note: SR-241/SR-91 Tolled Express Connector is not dependent upon completing SR-71/SR-91 interchange improvements.

Coordination efforts for the 2022 Plan resulted in minor updates to project status, costs, and schedules. Projects included in the Plan are organized as follows: Orange County projects, Riverside County projects, and bi-county projects as shown below.

- Orange County projects include three improvements at a total cost of approximately $530 million:
  - SR-91 improvements between SR-57 and SR-55;
  - Anaheim Canyon Metrolink Station improvements; and
  - Placentia Metrolink Rail Station.

- Riverside County projects include three improvements, totaling over $399 million:
  - 15/91 Express Lanes Connector;
  - SR-71/SR-91 interchange; and
  - Improvements east of I-15.

- Bi-county projects, which benefit both Orange and Riverside counties, total over $380 million and include:
  - SR-241/SR-91 Tolled Express Connector; and
  - Sixth lane addition from SR-241 to SR-71.

Due to the lingering effects of the coronavirus (COVID-19) pandemic, the 2021 traffic patterns are not deemed as a true reflection of the typical existing conditions nor as a proper baseline to forecast the future demand and operations of the SR-91 corridor. Therefore, the pre-COVID-19 traffic conditions are being utilized

for the existing conditions and baseline for the forecasted future traffic conditions in the 2022 Plan and further described in Attachment A.

OCTA and RCTC will continue monitoring the SR-91 traffic pattern changes throughout 2022. If traffic conditions are showing a trend of normalization, then the traffic analysis will be updated for the 2023 Plan.

The Plan also includes a listing of potential future improvements that are highly conceptual in nature (Appendix A of the Plan). Some of the concepts are derived from the Riverside-Orange County Major Investment Study (MIS), for example;

- Anaheim to Ontario International Airport high-speed ground transportation system;
- Irvine-Corona Expressway (ICE) from SR-241/State Route 133 to I-15/Cajalco Road; (MIS Corridor B)
- Connector improvements at the SR-91/SR-55 interchange;

Appendix A includes the full list of concepts. The projected cost of the conceptual improvements exceeds $14 billion, which is based on preliminary cost estimates dating as far back as 2005. The implementation of the concepts would require a significant amount of planning, design, external funding, technological advancements, and future policy and public input.

Staff continues to monitor the financial viability and geotechnical feasibility of the ICE concept as requested by the SR-91 Advisory Committee and the Riverside Orange Corridor Authority in 2010. A review of recent tunneling projects shows feasibility for the ICE tunnel concept is slowly improving as tunneling technology progresses. Technology has not advanced to the point where long, wide highway tunnels can be constructed at a reasonable, fundable, or viable cost. However, modern boring methods have lowered the cost on smaller, shorter tunnels. Although some tunneling projects have been completed in California with similar lane configurations as the ICE concept, without significant state and federal policy and funding support, this project will be a challenge to complete. In addition, land uses adjacent to the proposed eastern terminus complicate the viability of the conceptual ICE alignment with ongoing commercial and residential developments occupying formerly open space.

Summary

OCTA and RCTC have completed the 2022 Plan required by SB 1316. As the Plan is updated annually, it is important to ensure that projects are coordinated in such a way that they provide maximum benefits to the SR-91 corridor. This would be achieved through implementing projects that optimize the operations of the corridor and the 91 Express Lanes.

The Plan serves as a compilation of future potential projects and project level decisions can be made when individual projects are being considered for implementation. OCTA and RCTC will continue monitoring the SR-91 traffic pattern changes throughout the year of 2022.

Attachment

A. Draft State Route 91 Implementation Plan 2022

Prepared by:

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Principal Transportation Analyst,
Project Development
(714) 560-5537

Approved by:

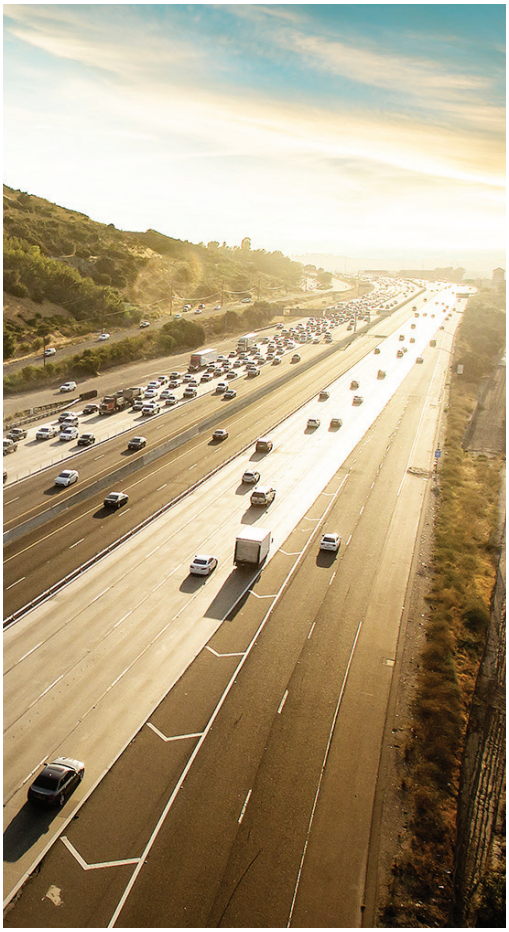
Kia Mortazavi
Executive Director, Planning
(714) 560-5741

ATTACHMENT A

STATE ROUTE 91

IMPLEMENTATION PLAN 2022

DRAFT



OCTA

RCTC RIVERSIDE COUNTY TRANSPORTATION COMMISSION

PREPARED BY: Michael Baker INTERNATIONAL

STATE ROUTE 91 (SR-91) IMPLEMENTATION PLAN
KEEPING MOTORISTS MOVING ON THE SR-91 CORRIDOR

Every year since 2003, OCTA, RCTC, and stakeholders have worked collaboratively to review a program of projects along the SR-91 corridor.

BENEFITS

- Provides seamless connectivity between Orange and Riverside Counties
- Increases travel options
- Optimizes vehicle throughput
- Reinvests net 91 Express Lanes revenues on the SR-91 corridor to improve regional mobility
- Investments to date: $1.9 billion

COMPLETED EFFORTS

	PROJECT	COST (MILLIONS)	COMPLETION
Orange County	Eastbound Lane Addition (SR-241 to SR-71)	$51.2	2010
	Fifth Lane Addition (SR-55 to SR-241)	$85.2	2013
	Westbound Lane at Tustin Avenue	$43.3	2016
Riverside County	Green River Road Overcrossing	$24.3	2009
	North Main Street Corona Metrolink Parking Structure	$25	2009
	91 Corridor Improvement Project (Initial Phase)	$1,407	2017
	La Sierra Metrolink Parking Improvements	$6.3	2019
Bi-County	Metrolink Service Improvements	$249	2016
	Express Bus Service	$6	2019
	SR-91 Corridor Operations Project	$38	2022

ANTICIPATED PROJECTS

	PROJECT	COST (MILLIONS)	CURRENT PHASE
Orange County	SR-91 Improvements (SR-57 to SR-55)	$460	Final Design
	Anaheim Canyon Metrolink Station Improvements	$34.2	Final Design
	Placentia Metrolink Rail Station	$34.8	Final Design
Riverside County	15/91 Express Lanes Connector	$270	Construction
	SR-71/SR-91 Interchange Improvements	$129	Final Design
	Improvements East of I-15	TBD	Environmental
Bi-County	SR-241/SR-91 Tolled Express Connector	$380	Final Design
	Sixth Lane Addition (SR-241 to SR-71)	TBD	Preliminary Engineering

CONCEPTS

LOCATION	COST (MILLIONS)
Elevated 4-Lane Facility (MIS Corridor A) from SR-241 to I-15 (Post-2035)	$2,720
Anaheim to Ontario International Airport Maglev High Speed Rail (Post-2035)	$2,770 - $3,200
Irvine-Corona Expressway (ICE) 4-Lane Facility from SR-241/SR-133 to I-15/Cajalco Road (Post-2035)	$8,855
WB SR-91 to SB SR-55 Connector Improvements (Post-2035)	$75 - $150
EB SR-91 Fifth Lane Addition at SR-241	$31
Fairmont Boulevard Improvements	$76.8

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INTRODUCTION

Previous law authorized the California Department of Transportation (Caltrans) to enter into franchise agreements with private companies to construct and operate four demonstration toll road projects in California. This resulted in the development of the 91 Express Lanes facility in Orange County. The four-lane, 10-mile toll road runs along the median of State Route 91 (SR-91) in northeast Orange County between the Orange/Riverside County line and State Route 55 (SR-55). Since the 91 Express Lanes carried its first vehicle on December 27, 1995, the facility has saved users tens of millions of hours of commuting time.

While the 91 Express Lanes facility has improved travel time along the SR-91 corridor, provisions in the franchise agreement between Caltrans and the private franchisee, the California Private Transportation Company (CPTC), prohibited Caltrans and county transportation agencies from adding transportation capacity or operational improvements to the SR-91 corridor through the year 2030 from Interstate 15 (I-15) in Riverside County to the Orange/Los Angeles Counties border. Consequently, the public agencies were barred from adding new lanes, improving interchanges, and adding other improvements to decrease congestion on the SR-91 freeway.

Recognizing the need to eliminate the non-compete provision of the franchise agreement, Governor Gray Davis signed Assembly Bill 1010 (Lou Correa) (AB 1010) into law in September 2002, paving the way for much-needed congestion relief for thousands of drivers who use SR-91 to travel between Riverside and Orange Counties each day. The bill allowed the Orange County Transportation Authority (OCTA) to purchase the 91 Express Lanes franchise and eliminate the non-compete clause that prohibited capacity-enhancing improvements from being made to SR-91. Although the 91 Express Lanes operate within a 10-mile stretch of Orange County, between SR-55 and Orange/Riverside county lines the franchise technically allowed operation of toll lanes into Riverside County. The purchase agreement for the 91 Express Lanes was completed on January 3, 2003, placing the road in public hands at a cost of $207.5 million. With the elimination of the non-compete provision through AB 1010 and the subsequent 91 Express Lanes purchase by OCTA, Orange County and Riverside County public officials and Caltrans Districts 8 and 12 have been coordinating improvement plans for SR-91.

Senate Bill 1316 (Lou Correa) (SB 1316) was signed into law in September 2008 as an update to the provisions of AB 1010. SB 1316 authorizes OCTA to transfer its rights and interests in the Riverside County portion of SR-91 toll lanes by assigning them to the Riverside County Transportation Commission (RCTC) and authorizes RCTC to operate tolls for 50 years. In 2017, RCTC opened the extension of the 91 Express Lanes to traffic into Riverside County with completion of the initial phase of the SR-91 Corridor Improvement Project (see Appendix B). SB 1316 also requires OCTA and RCTC, in consultation with Caltrans, to issue an annual SR-91 Implementation Plan (Plan) for SR-91 improvements between State Route 57 (SR-57) and I-15. The Plans prior to adoption of SB 1316 included a westerly project limit of SR-55. The Plan establishes a program of potential improvements to relieve congestion and improve operations in the SR-91 corridor.

The 2022 Plan fulfills the requirement to provide the State Legislature with an annual Implementation Plan for SR-91 improvements and builds on the 2021 Plan. The projects included in the 2022 Plan have been infused with various sources of local, state, and federal funding. The 2022 Plan includes overviews, status summaries, and proposed costs and schedules for projects to improve mobility on SR-91. Also included are conceptual lane diagrams (as appropriate), and discussions of key considerations that need to be addressed in the planning and development of each project. This Plan will provide OCTA, RCTC, and Caltrans with a framework to implement SR-91 and other related improvements. Future annual Plan updates will continue to refine the scope, cost, and schedule of each project included in this version of the Plan.

91 EXPRESS LANES TOLL POLICY GOALS

With the completion of the State Route 91 Corridor Improvement Project's initial phase in spring 2017, there

are now approximately 18 miles of Express Lanes between Orange and Riverside counties. OCTA and RCTC have adopted goals for the 91 Express Lanes to continue to maintain a safe, reliable, and predictable travel time for express lane users traversing seamlessly between the two counties. The goals below take into consideration the 91 Express Lanes as well as the SR-91 corridor at large. These guiding principles include:

- optimizing vehicle throughput at free flow speeds;
- increasing average vehicle occupancy;
- balancing capacity and demand to serve customers who pay tolls as well as carpoolers (3+) who are offered discounted tolls;
- paying debt service and maintaining debt service coverage;
- generating sufficient revenue to sustain the financial viability of the 91 Express Lanes; and
- when appropriate, reinvesting net revenues on the SR-91 corridor to improve regional mobility.

PROJECT ACCOMPLISHMENTS

Much progress has been made since the initial 2003 SR-91 Implementation Plan was approved. The 2022 Plan includes select completed project exhibits as a historical reference (see Appendix B).

Completed Construction/Improvement Projects

The following improvements have been constructed or implemented:

- ❖ Repaved and sealed pavement surfaces, restriped, and replaced raised channelizers on the 91 Express Lanes.
- ❖ On EB SR-91 the roadway was restriped, and the median barrier was reconstructed. This project removed the CHP enforcement area and extended the EB auxiliary lane from SR-71 to the Serfas Club Drive off-ramp.
- ❖ The WB auxiliary lane was extended between the County line and SR-241. This project eliminated the lane drop at the 91 Express Lanes and extended the existing auxiliary lane from the County line to SR-241 in the westbound direction. This improvement minimized the traffic delays at the lane drop area, resulting in improved vehicle progression.
- ❖ On WB SR-91 the roadway was restriped to extend the auxiliary lane between SR-71 and the County line. This resulted in a new continuous lane between SR-71 and SR-241.
- ❖ Safety Improvements were constructed at the Truck Scales. Existing shoulders were improved, lanes were re-striped, illumination improved, and signage was modified into and out of the EB facilities.
- ❖ Green River Road overcrossing replacement (see Appendix B).
- ❖ Metrolink parking structure at the North Main Street Corona Metrolink Station (see Appendix B).
- ❖ EB SR-91 lane addition from SR-241 to SR-71 (see Appendix B).
- ❖ Additional SR-91 WB and EB travel lane between SR-55 and SR-241 (see Appendix B).
- ❖ SR-91 WB bypass lane to Tustin Avenue at SR-55 (see Appendix B).
- ❖ Metrolink Service Improvements (see Appendix B).
- ❖ Initial SR-91 Corridor Improvement Project (CIP) (see Appendix B).
- ❖ La Sierra Metrolink Parking Improvements (see Appendix B)
- ❖ Express Bus Service (see Appendix B)
- ❖ 91 Corridor Operations Project (see Appendix B)

These projects provide enhanced freeway capacity and/or improved mobility for one of the most congested segments of SR-91.

The completed EB SR-91 lane addition project from SR-241 to SR-71 (see Appendix B) has improved highway operations. This project reduced travel time by approximately 20 minutes during its opening year.

The Initial CIP project has provided significant benefits to drivers on SR-91. This $1.4 billion investment project included widening SR-91 by one GP lane in each direction east of SR-71, adding collector-distributor (CD) roads and direct south connectors at I-15/SR-91, extending the 91 Express Lanes to I-15, and providing system/local interchange improvements. The new lanes and other improvements provide time savings, offer choice and reliability, boost safety, enhance access and job creation, promote ridesharing, reduce pollution, and aid the movement of goods along the region's roadways.

The WB SR-91 Widening Project completed construction in 2016 from State College Blvd to Interstate 5 (I-5). This project added one WB general purpose lane and removed the dedicated exit lane to State College Blvd from the SB SR-57 to WB SR-91 Connector that contributed to operational issues due to the short weaving distance. While this project falls just to the west of the limits for the Plan study area, it will have an influence on operations within the Plan area.

In addition, there are two projects that impact future SR-91 widening projects. The first is the $2.8 billion U.S. Army Corps of Engineers (Corps) Santa Ana River Mainstem project that provides flood protection from the recently improved Prado Dam (near SR-71) to the Pacific Ocean. The project includes many features that have already been completed, including improvements to Seven Oaks Dam, 30 miles of levees and modifications to original project features including raising the Prado Dam embankment and installation of new, larger capacity outlet works. In 2021, the Corps and Orange County Flood Control District amended a cooperative agreement which would allow the Corps to use federal funds under the Bipartisan Budget Act to complete select features of the project.

SR-91 project teams have coordinated with the Corps, Orange County Flood Control District, Caltrans, and other federal, regional, and local agencies to accommodate planned SR-91 improvements adjacent to the Santa Ana River.

Completed Designs and Reports

There are various project development phase documents (Feasibility Reports, Studies, PSR, PA/ED, or PS&E) that are completed, or are in draft form and anticipated to be approved that identify mobility improvements. These documents include:

- MIS – Final Project Report: Locally Preferred Strategy Report (January 2006).
- Renewed Measure M Transportation Investment Plan (November 2006).
- RCTC 10-Year Western County Highway Delivery Plan (December 2006).
- SR-91/Fairmont Boulevard Feasibility Study (December 2009).
- Corridor System Management Plan (CSMP) Orange County SR-91 Corridor Final Report (August 2010).
- Renewed Measure M Early Action Plan, approved August 2007 and subsequently renamed as the Capital Action Plan (April 2011).
- PSR-PDS for SR-241/SR-91 Tolled Express Connector (January 2012).
- Project Report & Environmental Document for 91 Corridor Improvement Project (October 2012)
- PSR-PDS on SR-91 between SR-57 and SR-55 (October 2014).
- SR-71/SR-91 Interchange Environmental Phase (2011) and Final Design (2015).
- 2021 Next 10 Delivery Plan approved by OCTA Board, (December 2021).
- Project Report & Environmental Document for 15/91 Express Lanes Connector (June 2019)
- Project Report & Environmental Document for 91 Corridor Operations Project (April 2020)
- Project Report & Environmental Document for SR-241/SR-91 Tolled Express Connector (April 2020).

SR-91 CORRIDOR CONDITIONS

Project Limits

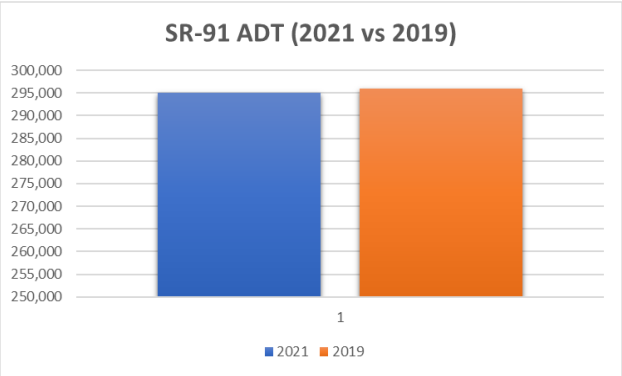
The project study limits encompass the segment of SR-91 from west of the junction of SR-57 and SR-91 in the City of Anaheim in Orange County, to east of the junction of SR-91 and I-15 in the City of Corona in Riverside County. The freeway segment is approximately 20.3 miles long and includes 12.7 miles within Orange County and 7.6 miles within Riverside County.

Existing Traffic Conditions Summary

Similar to other parts of the state, traffic demand on Orange County roadways, including the SR-91 corridor, encountered significant variations due to the COVID-19 pandemic and the Stay-at-Home Order that was implemented March 2020. Traffic demand started to increase following the lifting of the Stay-at-Home Order on June 15, 2021. Daily travel demand on the SR-91 corridor increased by over 6% from February 2021 (before the Stay-at-Home Order was lifted) to October 2021 (after the Stay-at-Home Order was lifted). However, the October 2021 traffic demand on the SR-91 corridor was still lower than the October 2019 demand by approximately 0.5% (Figure 1). The peak period times as well as day-to-day

variations of congestion patterns still show effects from the pandemic when compared to 2019 conditions.

Figure 1



Due to the aftereffect of the COVID-19 pandemic, the 2021 traffic patterns are not deemed as a true reflection of the typical existing conditions nor as a proper baseline to forecast the future demand and operations of the SR-91 corridor. Therefore, the 2019 traffic conditions are being utilized for the 2022 Plan.

Traffic conditions on the SR-91 corridor are expecting continued changes due to uncertainties related to the COVID-19 aftereffect. OCTA and RCTC will continue monitoring the SR-91 traffic pattern changes throughout the year of 2022. If traffic conditions are showing a trend of normalization (reverting back to pre-pandemic conditions), then the traffic analysis will be updated for the 2023 Plan.

A review of the 2019 traffic conditions in the corridor indicates that the existing capacity of the facility is inadequate to accommodate current and future peak demand volumes. Level of Service (LOS) F prevails in the peak direction during the entire peak period. The definition of LOS F is a density of more than 45 passenger cars/lane/mile and the worst freeway operating condition. The results also indicate that there are several physical conditions that contribute to unacceptable traffic queues.

During the weekdays, westbound SR-91 experiences heavier traffic conditions during the morning commute for travelers leaving Riverside County to employment areas in Orange and Los Angeles counties. The corridor is generally congested between the peak period of 6 a.m. to 10 a.m. in the westbound direction and the peak period of 3 p.m. to 7 p.m. in the eastbound direction. Due to the high demand, congestion in the corridor occurs before and after the peak periods. The eastbound afternoon conditions tend to be exacerbated by the lack of receiving capacity in the Riverside County portion of the SR-91 corridor. Accordingly, RCTC is working closely with Caltrans District 8 to sponsor improvements that will provide congestion relief for the eastbound afternoon condition. Some of these improvements include the 15/91 Express Lane Connector, SR-71/SR-91 Interchange, and Improvements East of I-15.

The following is a summary of the deficiencies identified along the SR-91 corridor:

- Heavy traffic volumes to/from I-15 converge with the SR-91 and increase delay during the morning and evening peak hours.
- SR-71 traffic demand as well as physical and operational constraints for the EB SR-91 to NB SR-71 connector contribute to mainline and EB SR-91 corridor delays.
- Traffic entering the WB SR-91 from the Green River Road and SR-71 on-ramps contribute to mainline congestion during the AM peak period.
- High traffic volumes entering the freeway from Gypsum Canyon Road, Santa Ana Canyon Road, Green River Road, Weir Canyon Road, Imperial Highway and Lakeview Avenue contribute to congestion on the SR-91 mainline.
- One of the two lanes from the Eastern Transportation Corridor (State Route 241) connector is dropped at the merge to EB SR-91 causing additional congestion on the EB SR-91 general purpose lanes.
- At the NB SR-55 interchange with EB SR-91, a lane on SR-91 is dropped (as a dedicated exit) at Lakeview Avenue and a second lane is dropped (as a dedicated exit) at Imperial Highway creating a weave condition.
- WB SR-91 drops two GP lanes and a 91 Express Lane to SB SR-55, contributing to mainline congestion. This drop also occurs on the left-hand side of SR-91, creating a weaving condition.
- WB traffic entering SR-91 at Lakeview Avenue traveling to SB SR-55 contributes to mainline congestion by weaving across three lanes on SR-91. The existing two-lane connector from WB SR-91 to SB SR-55 traffic volume exceeds operational capacity causing a queue on the SR-91 mainline.

- A lane drop on EB SR-91 at SB SR-241 creates a chokepoint.

Logical Project Sequencing

As noted, the SR-91 Corridor in Riverside County, in the EB direction, lacks the receiving capacity during the afternoon peak period which creates a bottleneck condition. Due to the high levels of congestion experienced on this segment of the corridor, there is sensitivity to any changes that may affect traffic operations. Without first addressing the congestion in Riverside County, any performance or capacity enhancing projects upstream would further exacerbate congested conditions causing additional delays and queueing. Therefore, projects that have the potential to impact demand and/or provide additional capacity in the EB direction should be considered in a logical sequence to ensure that there is sufficient receiving capacity in Riverside County.

In October 2019, a consensus was reached between OCTA, RCTC, Caltrans, and the TCA that would set the stage for a series of projects to be implemented in sequential order to improve the SR-91 corridor. OCTA, RCTC, TCA, and Caltrans, Districts 8 and 12, as well as Caltrans Headquarters directors, worked through five major issues. This framework will enable the streamlining of the implementation of the SR-241/SR-91 Tolled Express Connector project while minimizing impacts to the 91 corridor. The subject matter of the multi-agency consensus is outlined below:

1. Setting priorities for SR-91 corridor projects to reduce construction-related impacts;
2. Allowing completion of the environmental approval process and updating related programming documents;
3. Clarifying lead agencies for final design, construction, and maintenance;
4. Identifying the principal funding agency for final design, construction, and maintenance; and
5. Designating lead agencies for retaining toll revenue and toll setting/operational control.

Based on the above framework, the agencies reached consensus on a 91 Corridor program of projects and sequencing as outlined below:

- 15/91 Express Lanes Connector
- SR-91 Corridor Operations Project
- SR-71/SR-91 Interchange Improvements*
- SR-241/SR-91 Tolled Express Connector

*Note: SR-241/SR-91 Tolled Express Connector is not dependent upon completion of SR-71/SR-91 Interchange Improvements

PROJECT SUMMARY

The projects in this Plan are presented in the following groups: Orange County Projects, Riverside County Projects and Bi-County Projects. The stage of development for each project, such as planning, final design, construction, or procurement and implementation, varies as noted in the project summaries. Table 1 summarizes the various planned projects, concept projects, and completed projects. For details on each project refer to Section 2 for planned projects and Appendix B for selected complete projects:

- The Orange County projects have a total cost of approximately $529 million. The projects include the SR-91 improvements between SR-57 and SR-55, Anaheim Canyon Metrolink station improvements, and Placentia Metrolink rail station.
- The Riverside County projects have a total cost of over $399 million. The improvements include: a 15/91 Express Lanes Connector, the SR-71/SR-91 Interchange Improvements, and the SR-91 improvements east of I-15.
- The Bi-County projects benefit both Orange and Riverside Counties. The total cost for the Bi-County projects exceeds $380 million. The improvements include: the SR-241/SR-91 Tolled Express Connector and a Sixth Lane Addition (SR-241 to SR-71).

Table 1 – SR-91 Implementation Plan Projects

Project	Cost ($M)
Orange County Projects	
SR-91 Improvements between SR-57 and SR-55	460
Anaheim Canyon Metrolink Station Improvements	34.2
Placentia Metrolink Rail Station	34.8
SUBTOTAL	**529**
Riverside County Projects	
15/91 Express Lanes Connector	270
SR-71/SR-91 Interchange Improvements	129
SR-91 Improvements East of I-15	TBD
SUBTOTAL	**399+**
Bi-County Projects	
SR-241/SR-91 Tolled Express Connector	380
Sixth Lane Addition (SR-241 to SR-71)	TBD
SUBTOTAL	**380+**
Concept Projects	**Cost ($M)**
Elevated 4-Lane Facility (MIS Corridor A) from SR-241 to I-15	2,720
Anaheim to Ontario International Airport Maglev High Speed Rail	2,770 – 3,200
Irvine-Corona Expressway (ICE) 4-Lane Facility from SR-241/SR-133 to I-15/Cajalco Road	8,855
Westbound SR-91 to Southbound SR-55 Improvements	75 – 150
Eastbound SR-91 Fifth Lane Addition at SR-241	31
Fairmont Boulevard Improvements	76.8
SUBTOTAL	**14,527.8–15,032.8**
Completed Project Summary Since 2006 (Constructed Year)	**Cost ($M)**
Green River Road Overcrossing Replacement (March 2009)	24.3
North Main Street Corona Metrolink Station Parking Structure (June 2009)	25
Eastbound Lane Addition from SR-241 to SR-71 (September 2010)	51.2
Widen SR-91 between SR-55 and SR-241 by Adding a 5th GP Lane in Each Direction (January 2013)	85.2
SR-91 WB Lane at Tustin Avenue (April 2016)	43.2
Metrolink Service Improvements (June 2016)	249
Initial Phase CIP: Widen SR-91 by One GP Lane in Each Direction East of Green River Rd, CD Roads and I-15/SR-91 Direct South Connector, Extension of Express Lanes to I-15 and System/Local Interchange Improvements (2017)	1,407
Express Bus Service (2019)	6
La Sierra Metrolink Parking Improvements (2019)	6.3
SR-91 Corridor Operations Project (2022)	38
SUBTOTAL	**1,935.2**

Traffic Analysis

For the 2022 Plan, the traffic analysis for major SR-91 capacity projects used the Caliper TransModeler software model and traffic data calibrated to reflect existing traffic patterns of 2019 as described in the prior section. This traffic simulation model provides a better depiction of actual travel delays experienced by motorists compared to traditional travel demand models. The model can be used to analyze freeway bottlenecks sometimes neglected in traditional travel demand models. This approach is especially important given high SR-91 traffic volumes and the potential for relatively few vehicles to significantly slow down traffic. For example, a minor freeway merging area can cause many vehicles to slow, cascading delay through the traffic stream, and rapidly decreasing both speed and volume for major segments of the freeway. The metrics reported in the Plan include travel time

from the beginning to the end of the study corridor and vehicle hours of delay experienced on study corridor, which both focus on operations for vehicles on SR-91. A third metric includes vehicles served by the system in the study corridor and takes into consideration vehicles on ramps and freeways that feed into or are fed by SR-91 in the study area. In addition to the existing year 2019 analysis, two future years of 2030 and 2045 were analyzed and include capacity enhancing projects that are scheduled to be completed by the respective year. The operations analysis quantified travel time savings for WB morning and EB afternoon conditions for the following major capacity enhancing projects:

Year 2030

- SR-91 Improvements between SR-57 and SR-55
- 15/91 Express Lanes Connector
- SR-71/SR-91 Interchange Improvements
- SR-91 Corridor Operations Project
- SR-241/SR-91 Tolled Express Connector

Year 2045

- Projects completed in 2030
- SR-91 Improvements East of I-15
- SR-91 Sixth Lane Addition
- Fairmont Boulevard Improvements

Westbound Analysis

The WB morning (a.m.) traffic analysis results indicate that for the year 2030 forecasts, peak hour travel times are anticipated to improve in Riverside County (by about 6 minutes) and in Orange County (by about 11 minutes). In addition to decreasing travel time, overall vehicle hours of delay in the corridor will decrease (by about 20 percent), while the entire system is serving more vehicles (by about 9 percent). Bottlenecks are anticipated at the Orange-Riverside County line and at the SR-241 interchange/Gypsum Canyon interchange area. The main bottlenecks in Riverside County will be relieved due to the completion of proposed projects. The bottleneck at the SR-55 interchange will also be relieved. However, with the additional vehicles traveling downstream, there is additional congestion at the SR-57 interchange. For the year 2045, travel times are anticipated to decrease (by about 16 minutes) in Riverside County, and increase (by about 23 minutes) in Orange County when compared to 2030. Overall vehicle hours of delay will increase (by about 68 percent) in the corridor, but the number of vehicles the system is serving will increase (by about 6 percent). Bottlenecks appear at SR-71 and at SR-57. Due to the SR-71 Corridor Improvement Project, there is a large increase of vehicles going to and from SR-71. Travel time in Orange County shows an increase in 2045 due to the growth in traffic, projects relieving congestion upstream allowing more vehicles to travel downstream, and no additional capacity enhancing projects in Orange County. OCTA and RCTC are exploring multi-modal opportunities on, or adjacent to, the SR-91 corridor that could provide additional congestion relief.

Express Lanes in the westbound direction operate satisfactorily in all the analysis years.

Eastbound Analysis

The EB evening (p.m.) traffic analysis indicates that for the year 2030 forecasts, peak hour travel times are anticipated to decrease (by about 7 minutes) in Riverside County and increase (by about 11 minutes) in Orange County. Although the overall travel time through the corridor will increase slightly, the vehicle hours of delay will decrease (by about 26 percent) and the number of vehicles served by the system will increase (by about 12 percent). The major bottleneck still occurs at the county line. Improvement projects near SR-55 and I-15 should alleviate congestion in those areas. For the year 2045, travel times are anticipated to increase (by about 4 minutes) in Riverside County and decrease in Orange County (by about 18 minutes) when compared to 2030. Overall vehicle hours of delay will increase (by about 40 percent) but the number of vehicles the system is serving will be greater (by about 8 percent). The main bottleneck remains at the county line. However, with the inclusion of the Sixth Lane Addition project, the congestion at the county line will be reduced. More vehicles traveling downstream will slightly increase congestion in Riverside County near I-15.

Express Lanes in the eastbound direction operate satisfactorily in all the analysis years.

Figures 1-1 and 1-2 below summarize the westbound corridor vehicle hours of delay and systemwide served vehicles, respectively. Figures 1-3 and 1-4 below summarize the eastbound corridor vehicle hours of delay and systemwide served vehicles, respectively.

Figure 1-1 – Westbound SR-91 from I-15 to SR-57 A.M. Peak Period Corridor Vehicle Hours of Delay

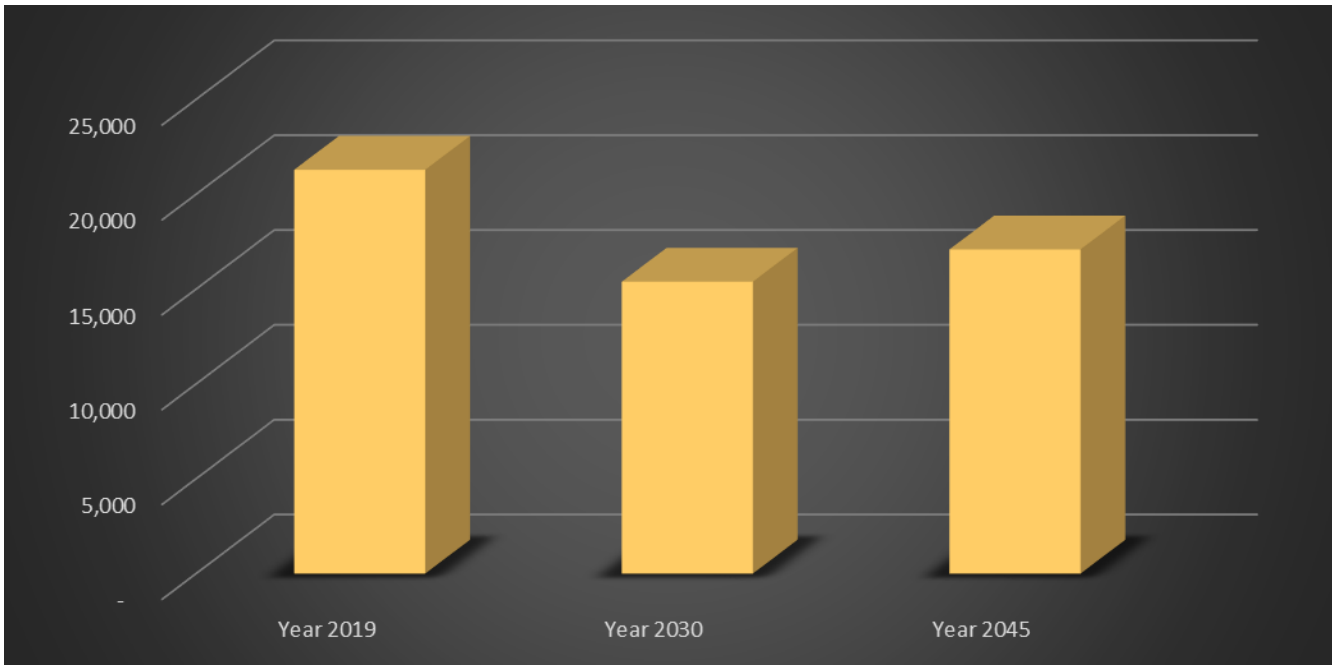


Figure 1-2 – Westbound SR-91 from I-15 to SR-57 A.M. Peak Period Systemwide Served Vehicles

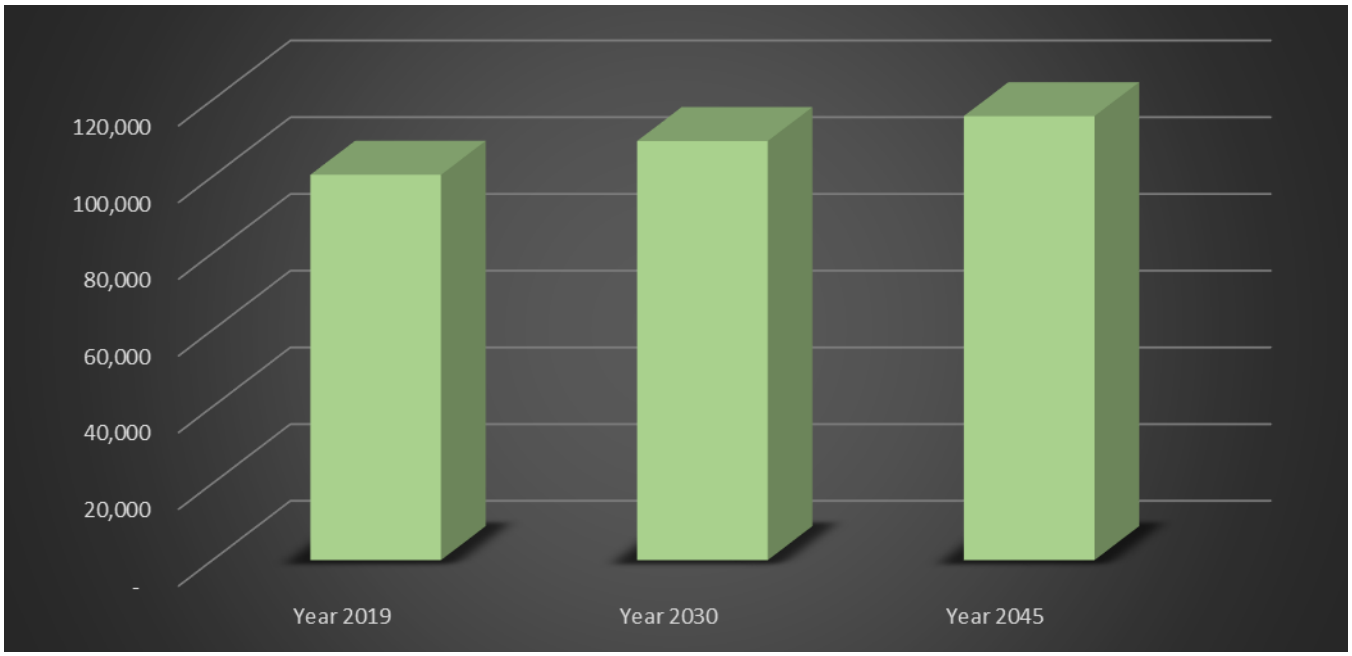


Figure 1-3 – Eastbound SR-91 from SR-57 to I-15 P.M. Peak Period Corridor Vehicle Hours of Delay

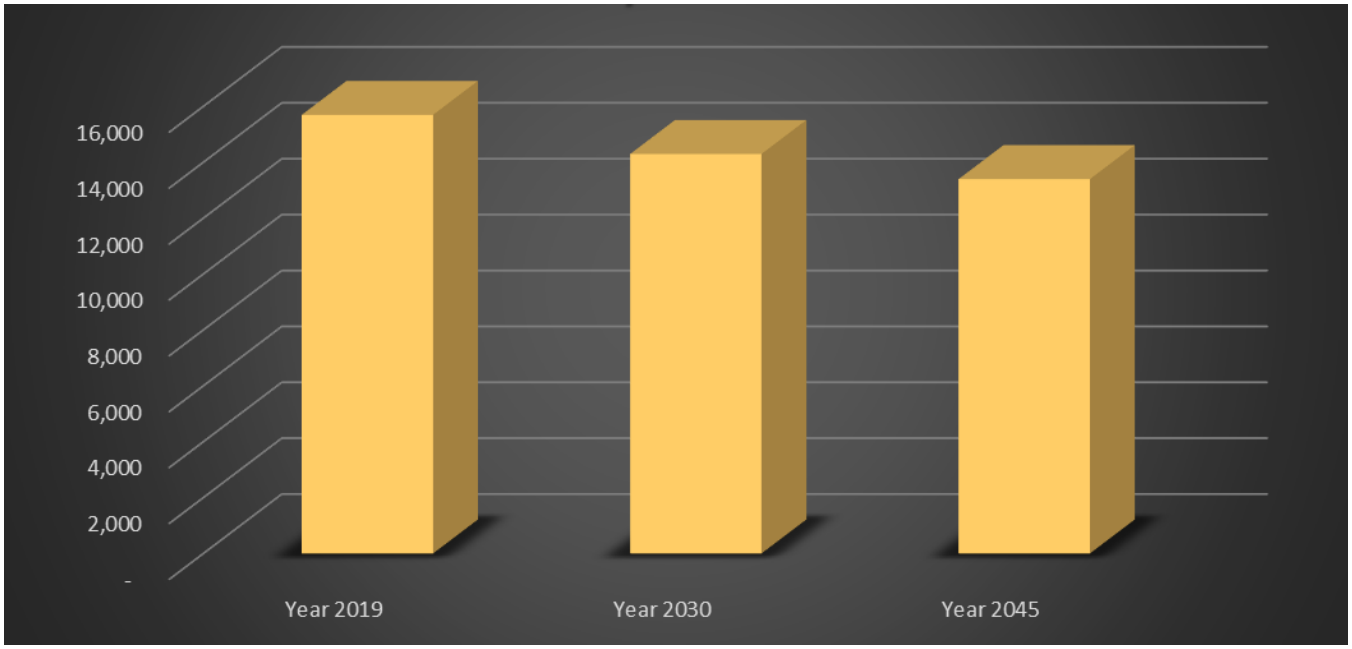
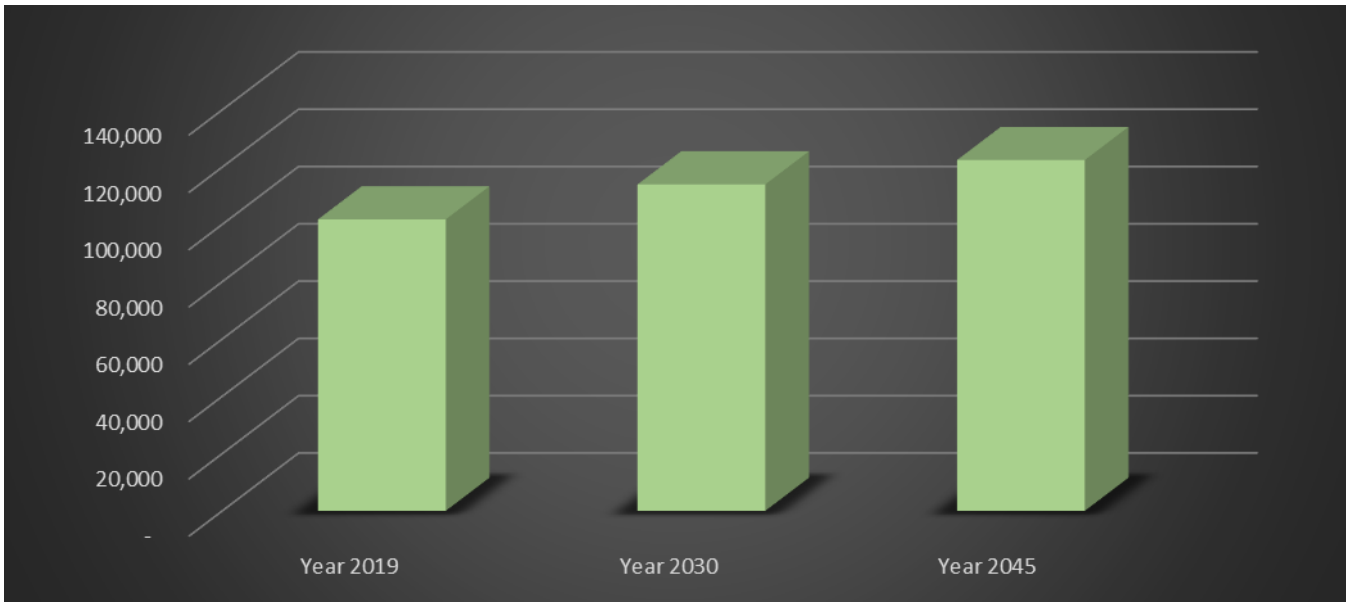


Figure 1-4 – Eastbound SR-91 from SR-57 to I-15 P.M. Peak Period Systemwide Served Vehicles



CONCEPT PROJECT SUMMARY

Many of the highway concept projects identified in this 2022 Plan are long lead time projects and/or projects without sufficient project development detail to be advanced into the Project Summary section. These potential concepts include significant environmental constraints and right of way requirements in addition to requiring a significant amount of planning, design, and future policy and public input. Many of these concept projects are multi-billion-dollar improvements that will remain a challenge to implement. Refer to Appendix A for details on each concept project.

IRVINE CORONA EXPRESSWAY STATUS SUMMARY

The Irvine Corona Expressway (ICE) concept was conceived as part of the MIS and was established as part of a suite of projects to support future peak demand volumes between Riverside and Orange Counties. The ICE was further evaluated in the 2009 ICE Feasibility Study for financial and geotechnical feasibility. Seven (7) primary feasibility issues were considered:

- Geologic, hydrogeologic/hydrologic, and geotechnical conditions.
- Corridor concepts (full tunnel and partial tunnel/partial surface road).
- Tunnel configuration.
- Tunnel excavation and support methods.
- Tunnel systems (e.g., ventilation, emergency fire system, operation building, toll system, etc.).
- Construction considerations.
- Construction, Operation & Maintenance (O&M) costs.

Per the direction of the Riverside-Orange Corridor Authority Board (ROCA) in 2010, staff has reevaluated the concept annually, as part of the preparation of this Plan, to determine if construction costs and tunneling technology have changed and become less prohibitive.

Planned and constructed tunnel projects were reviewed for insight into how tunnel construction technology is changing. Projects such as the Las Vegas Convention Center (LVCC) Loop and the Ontario International Airport (ONT) Loop are utilizing innovative ideas that could deliver transit tunnel projects with faster construction timelines and at a lower cost. These projects propose smaller diameter tunnels (12-14 feet) and are designed to accommodate specialized vehicles with the intent of eventually incorporating autonomous electric vehicles. The Boring Company constructed the 1.7-mile LVCC Loop dual tunnels for $52.5 million over approximately two years. The current estimated cost (including all phases and support) for the 4-mile ONT Loop is $85 million and is expected to take 48 months to complete.

The Boring Company plans to develop technology to construct tunnels faster and at lower cost. To accomplish this, The Boring Company plans to reduce tunnel diameters and increase the speed and efficiency of tunnel boring machines (TBM). Additional initiatives include electrifying and automating TBMs to increase safety and efficiency.

Two shorter tunnels were constructed in California with similar lane configurations to the ICE concept. The Devil's Slide Tunnel in San Mateo County and the Caldecott Fourth Bore Tunnel in Contra Costa County both opened in 2013. These tunnels used a method of drilling and blasting (known as the New Austrian Tunneling Method), rather than operating a TBM. Both tunnels were approximately 1.2 miles long and took six years and three years to construct, respectively.

Based on recent tunnel projects, the challenges that were identified in the ICE Feasibility Study were also experienced by other tunnel construction projects which provides insight into how tunneling technologies have changed. The New Austrian Tunneling Method may be a way to reduce the cost of boring for the ICE tunnel. This method was discussed in the 2009 ICE Feasibility Study but was dismissed due to the proposed length of the ICE tunnel concept. In the future, more investigation would be required to assess the feasibility of using a boring method other than a TBM, and to qualitatively assess possible impacts to the ICE corridor construction cost and duration.

Reducing the bore diameter and proposed cross section of the ICE corridor concept may be a way to reduce the cost of the project. More investigation is required to determine how the cross-section and bore size could be reduced for the ICE concept. Additionally, there are several regulatory requirements that would likely need to be considered in designing the cross section. While it may be difficult to reduce the highway or rail tunnel cross section, a smaller diameter could be considered for an alternative design vehicle. The ONT Loop and LVCC Loop are example projects where smaller diameter bores were allowable for autonomous transit use.

Even if reducing the cross-section and bore diameter may not be feasible, new developments in the form of autonomous boring machines may be able to reduce project time and cost. A tunnel project in Malaysia has utilized an autonomous TBM setup, and a tunnel in Sydney Australia is expected to deploy specially designed autonomous TBMs by the end of next year. With their consistency and precision, these TBMs may be four times as fast as the projected speed of conventional TBMs for the ICE. However, these cutting-edge machines have limited technical maturity. While there is demonstrated use for tunnels of diameters comparable to the ICE's 26-foot rail tunnel, no autonomous TBM has been developed that could achieve the diameter proposed for the highway tunnel.

A review of land uses adjacent to proposed ICE eastern terminus near the Interstate 15/Cajalco Road junction revealed much has changed since the concept was developed in 2006. Significant development has occurred and is proposed in the area which complicates the viability of the eastern end of conceptual alignment of the ICE.

The review of recent tunneling projects shows feasibility for the ICE tunnel concept is slowly improving as tunneling technology is progressing. Technology has not advanced to the point where long, wide highway tunnels can be constructed at a lower cost. However, modern boring methods have lowered the cost on smaller, shorter tunnels.

OVERVIEW

The 2022 Plan describes projects, key considerations, benefits, current status, schedule, and costs (in 2022 dollars, or as noted) for major projects and concepts. The projects are grouped as follows: Orange County Projects, Riverside County Projects and Bi-County Projects.

The intent of the Implementation Plan is to present a list of projects and studies along the SR-91 corridor and highlight coordination between OCTA, RCTC, and Caltrans to improve the corridor.

As part of the project development process, detailed operational analysis will need to be conducted to evaluate operational issues associated with each project. The project development phases are discussed in the status updates and are defined as follows:

- **Conceptual Engineering = Pre-Project Study Report (Pre-PSR) –** Conceptual planning and engineering for project scoping and feasibility prior to initiating the PSR phase.
- **Preliminary Engineering = Project Study Report (PSR) –** Conceptual planning and engineering phase that allows for programming of funds.
- **Environmental = Project Approval/Environmental Document (PA/ED) –** The detailed concept design that provides environmental clearance for the project and programs for final design and right of way acquisition. The duration for this phase is typically 2-3 years.
- **Design = Plans, Specifications, and Estimates (PS&E) –** Provide detailed design to contractors for construction bidding and implementation.
- **Construction =** The project has completed construction and will provide congestion relief to motorists.

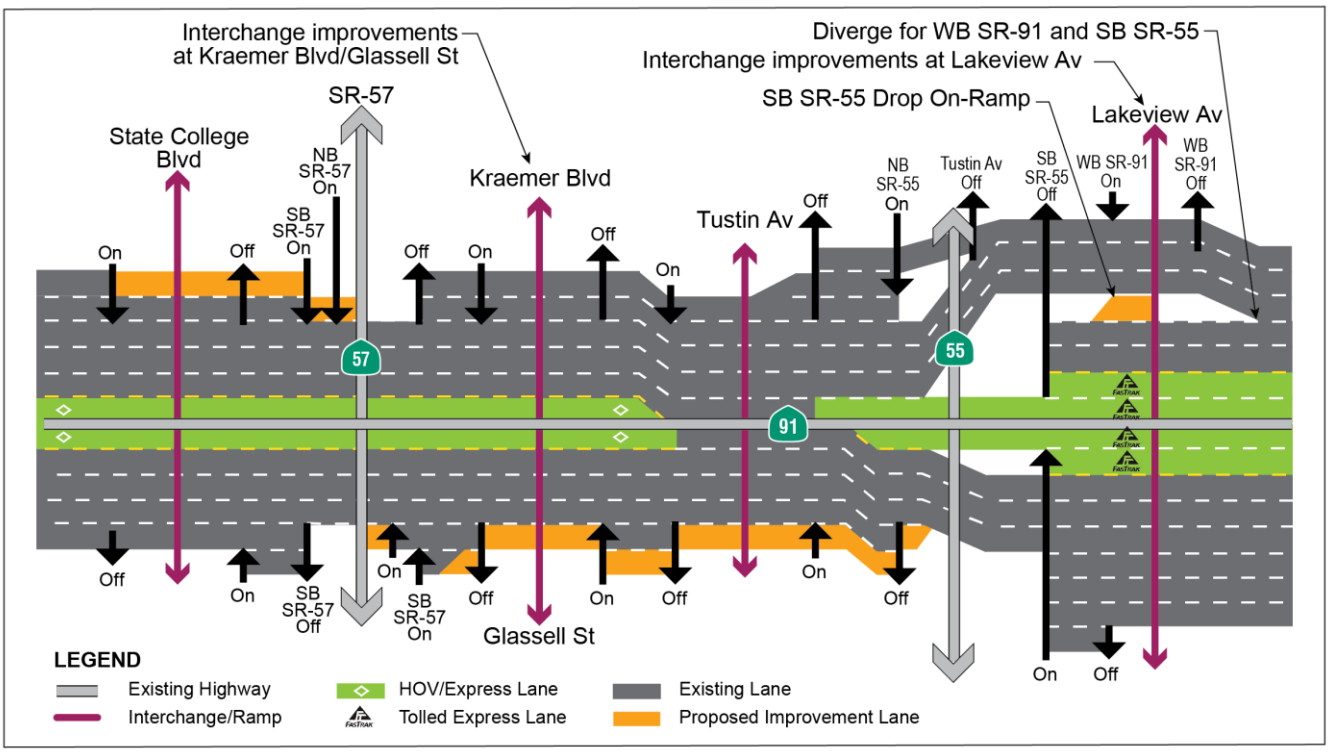
Figure 2-1 – SR-91 Project Study Area from SR-57 to I-15

Orange County Projects

The Orange County set of projects includes three improvements at a total cost of approximately $529 million (in 2022 dollars, or as noted). The projects include: SR-91 improvements between SR-57 and SR-55, Anaheim Canyon Metrolink station improvements, and new Placentia Metrolink rail station. Further details for each of the projects are included in the following summaries.

Orange County Project Summary	Cost ($M)
SR-91 Improvements between SR-57 and SR-55	460
Anaheim Canyon Metrolink Station Improvements	34.2
Placentia Metrolink Rail Station	34.8
SUBTOTAL	**529**

SR-91 Improvements between SR-57 and SR-55



Project Description

The project proposes to add EB capacity between SR-55 and SR-57, improve the SR-91/SR-57 and SR-91/SR-55 interchanges and local interchanges. In the SR-91/SR-57 interchange area, improvements identified in Project Approval/Environmental Document (PA/ED) phase include extending an additional lane on WB SR-91 from the NB SR-57 to WB SR-91 connector through State College Boulevard and terminating at the auxiliary lane to Raymond Avenue-East Street. At the SR-91/SR-55 interchange area, a drop on-ramp from Lakeview Avenue would be constructed between realigned WB SR-91 lanes for direct access to SB SR-55, allowing for the exit to SB SR-55 to be moved further east, separating WB SR-91 and SB SR-55 traffic west of the Lakeview Avenue bridge. The 91 Express Lanes will not be impacted by the project. In order to accommodate the improvements, the Lakeview, Tustin, Kraemer/Glassell, and La Palma bridges are proposed to be replaced. The improvements have been developed in cooperation with local jurisdictions and affected communities.

Key Considerations

The proposed project improvements on WB and EB SR-91 may require partial right-of-way acquisition and Temporary Construction Easements (TCEs). In some areas, a non-standard geometric cross-section is proposed to reduce the right-of-way impacts.

Benefits

The proposed project improvements on WB and EB SR-91 between SR-57 and SR-55 include, among other features, adding one EB general purpose lane to achieve lane balancing and interchange improvements. Project improvements will reduce congestion and delay and reduce weaving.

Current Status

The project improvements were originally studied in the SR-91 Feasibility Study, which was completed in June 2009. The Project Study Report was completed in 2014 and the Project Approval/Environmental Document (PA/ED) was completed in 2020. This project was then split into three separate segments and the Plans Specifications and Estimate (PS&E) phase began in 2020 for all three segments. The proposed improvements are included in the Measure M program.

Schedule and Cost

Construction is anticipated to be completed in 2028 and the total project cost is estimated to be approximately $460,000,000.

Anaheim Canyon Metrolink Station Improvements

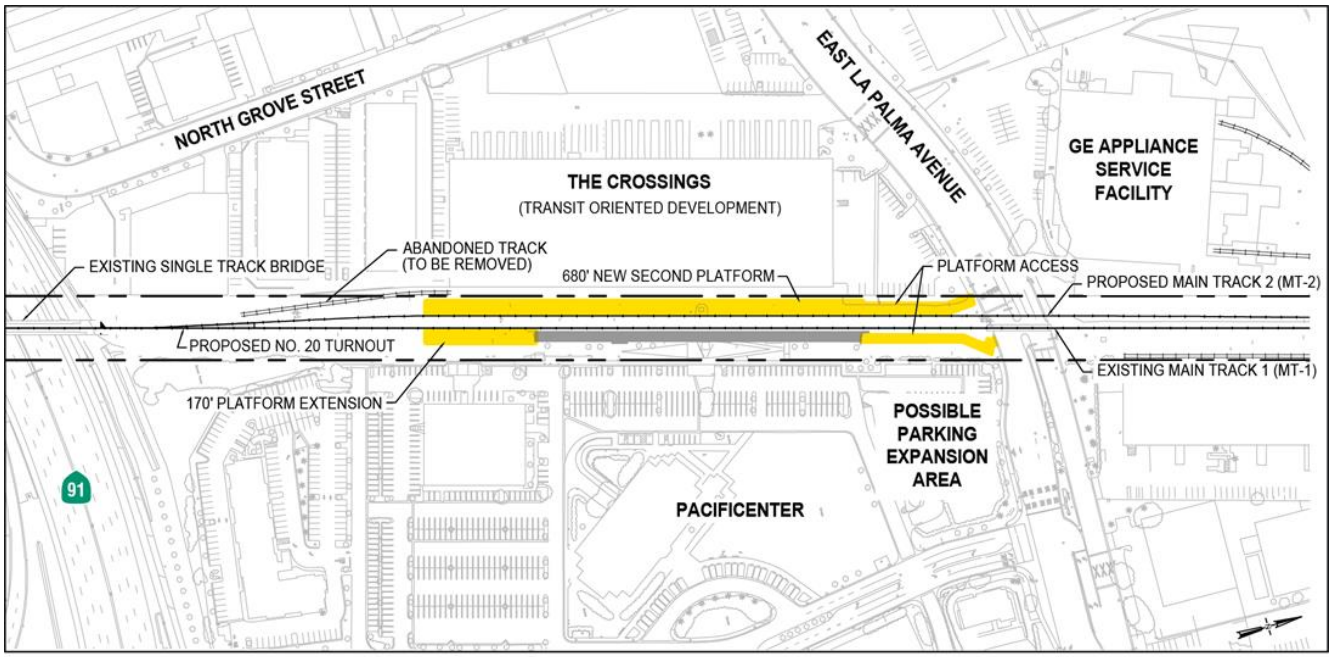


Image source:
Anaheim Canyon Station Project Definition Report, February 23, 2015

Project Description

The Anaheim Canyon Metrolink Station Improvement Project will include the addition of approximately 3,400 linear feet of secondary track; a second platform; extending the existing platform; improvements at two at-grade railroad crossings located at Tustin and La Palma; as well as new shade structures, benches, and ticket vending machines. These project improvements will accommodate planned future train service and will enhance on time service and safety.

Benefits

The project will enable future Metrolink service expansion, improve train service efficiency, and foster train ridership growth in the region, which will contribute to congestion relief on SR-91.

Current Status

OCTA is the lead agency on the project. Funding for the project is programmed to use Federal Congestion Mitigation and Air Quality Improvement Program (CMAQ), 5307 Federal Formula, M2 (OC Go), and City of Anaheim funds.

Schedule and Cost

The plans were completed, and the project was advertised for bid in October 2020. Construction began in May 2021 and is anticipated to be completed in November 2022. The total project cost is estimated to be $34.2 million.

Image source: www.placentia.org/Placentia-Metrolink-Site-Plan (Wildan Engineering)

Project Description

The new Placentia Metrolink Station will serve the Metrolink 91/Perris Valley Line, providing commuter rail service between Perris and Los Angeles, via Riverside and Orange counties. The project includes construction of a parking structure, OCTA bus access, an area for passenger pick-up and drop-off, and two station platforms.

Benefits

The station will meet the current transit demand and foster train ridership growth in the region, contributing to congestion relief on SR-91.

Current Status

The City of Placentia is the lead on right-of-way and environmental clearance, and OCTA is the lead agency for design and construction of the project. Funding for the project is programmed to use 91 Toll Revenues, M2 (OC Go) and the City of Placentia funds for the construction phase. State Transportation Improvement Program (STIP), Public Transportation Modernization, Improvement, and Service Enhancement Account (PTMISEA), OC Go and City funds are programmed for the design and right-of-way costs. Project is currently on hold.

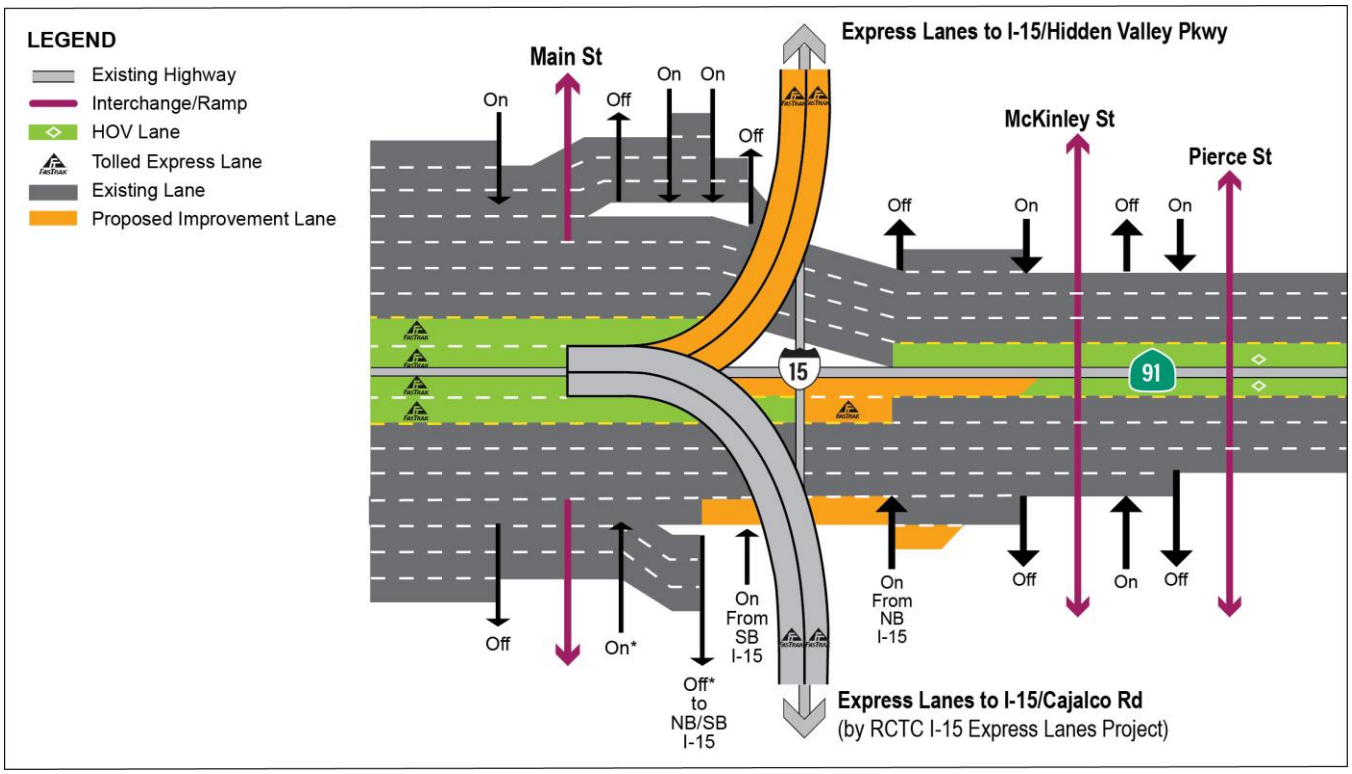
Schedule and Cost

Plans are 100 percent complete, however, the construction contract cannot be advertised until a Construction and Maintenance Agreement is in place with BNSF Railway, the right-of-way owner. The project will be advertised for bids once an agreement is in place. The total project cost is estimated to be $34.8 million.

Riverside County Projects

The Riverside County set of projects includes three improvements: a 15/91 Express Lanes Connector, the SR-71/SR-91 Interchange Improvements, and SR-91 Improvements east of I-15. Projects for implementation in Riverside County are anticipated to cost in excess of $399 million (in 2022 dollars, or as noted).

Riverside County Project Summary	Cost ($M)
15/91 Express Lanes Connector	270
SR-71/SR-91 Interchange Improvements	129
SR-91 Improvements East of I-15	TBD
SUBTOTAL	**399+**



Project Description

The Project Approval and Environmental Document (PA/ED) for the SR-91 Corridor Improvement Project (CIP), from SR-241 to Pierce Street, included the addition of a 5th lane in each direction, the addition of auxiliary lanes at various locations, the addition of collector-distributor lanes at the I-15/SR-91 interchange, the extension of the 91 Express Lanes from the Orange County line to I-15, the construction of a SR-91 Express Lanes median direct connector to and from I-15 South, a SR-91 Express Lanes median direct connector to and from I-15 North (15/91 Express Lanes Connector, the subject project), and the construction of one Express Lane in each direction from the I-15/SR-91 interchange southerly to I-15/Cajalco Road (now part of RCTC I-15 Express Lanes Project), and easterly to east of McKinley Street. Due to funding constraints, a Project Phasing Plan was developed to allow an Initial Phase, with reduced improvements, to move forward as scheduled, with the remaining ultimate improvements to be completed later. Subsequently, the proposed 15/91 Express Lanes Connector improvements (the subject of this project) have been pulled out from the CIP as a standalone project.

Key Considerations

Coordination among many of the SR-91 freeway projects that overlap the project limits is critical to successfully delivering these projects on schedule and within budget. Designing to accommodate future projects is a recurring theme for each of these projects. Minimizing conflicts in scope between projects requires direct coordination between each project team. Additionally, future projects frequently have multiple alternatives under study, each with differing scope and construction footprints. Specifically, the project improvements need to continue to be coordinated with the SR-71/SR-91 interchange and the SR-241/SR-91 Tolled Express Connector.

Benefits

The 15/91 Express Lanes Connector project will reduce congestion and operational delays by providing direct median-to-median access between the SR-91 Express Lanes and I-15 Express Lanes. Traffic operations will improve by eliminating weaving conflicts and out-of-direction travel along SR-91 and I-15 by the use of the direct connectors. The project will provide motorists a choice to use the 15/91 Express Lanes Connector for a fee in exchange for time savings.

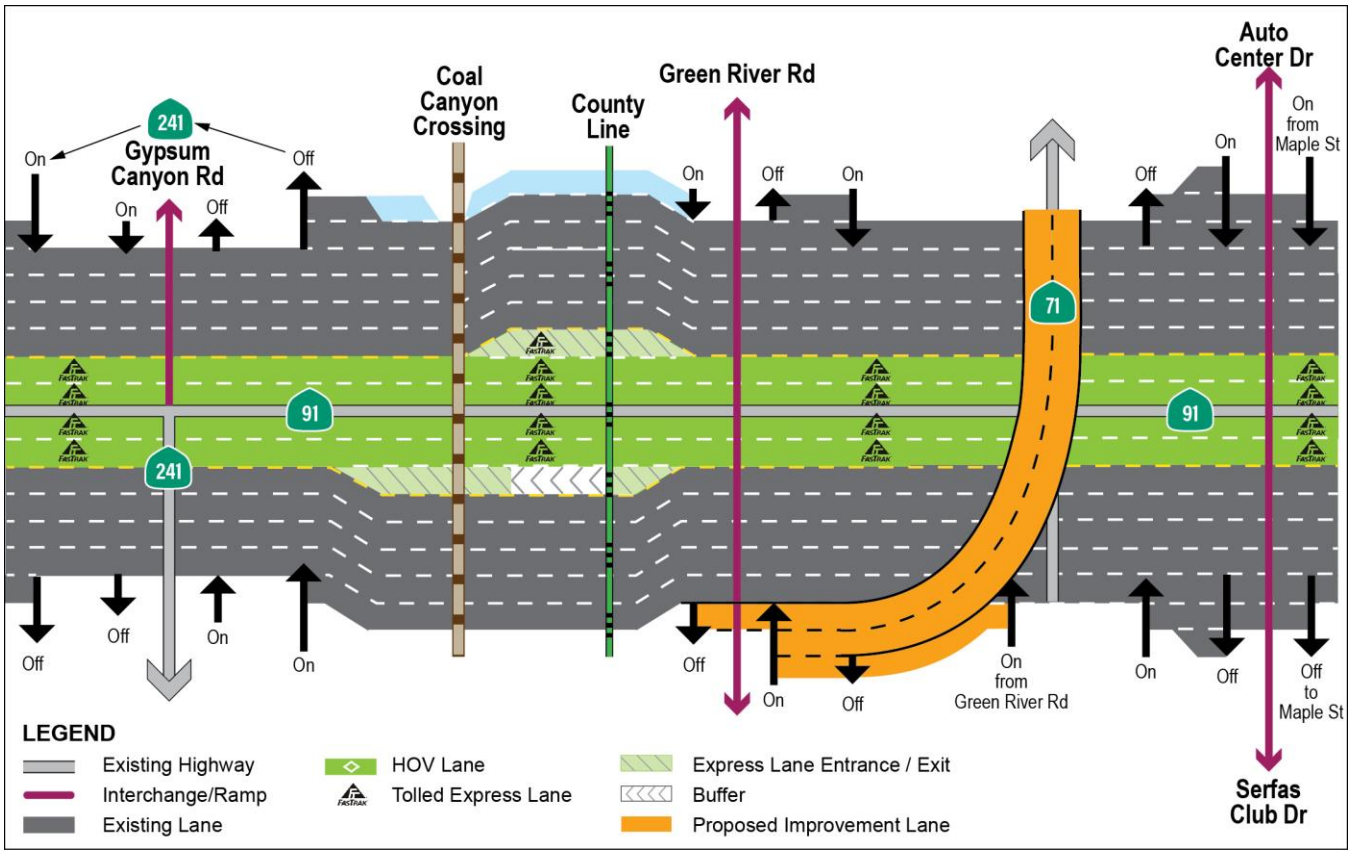
Current Status

The 15/91 Express Lanes Connector is currently discussed in the environmental document for the SR-91 CIP that was completed in 2012. An environmental revalidation was completed in 2019. A Design-Build contract was awarded in Spring 2020 and the project is currently under construction.

Schedule and Cost

Construction is planned to be completed in 2023. The total project cost is estimated to be $270,000,000.

SR-71/SR-91 Interchange Improvements



Project Description

The current project includes a new two-lane direct connector from eastbound (EB) SR-91 to northbound (NB) SR-71 and realignment of the existing Green River Road SR-91 EB on-ramp to provide connection to NB SR-71 and EB SR-91.

Key Considerations

Project improvements must be coordinated with the following projects: the SR-91 Sixth GP Lane Addition and the SR-241/SR-91 Tolled Express Connector. Close coordination with the U.S. Army Corps of Engineers, U.S. Fish and Wildlife Service, and California Department of Fish and Wildlife will also be required as the connector crosses the Santa Ana River west of the Prado Dam.

Benefits

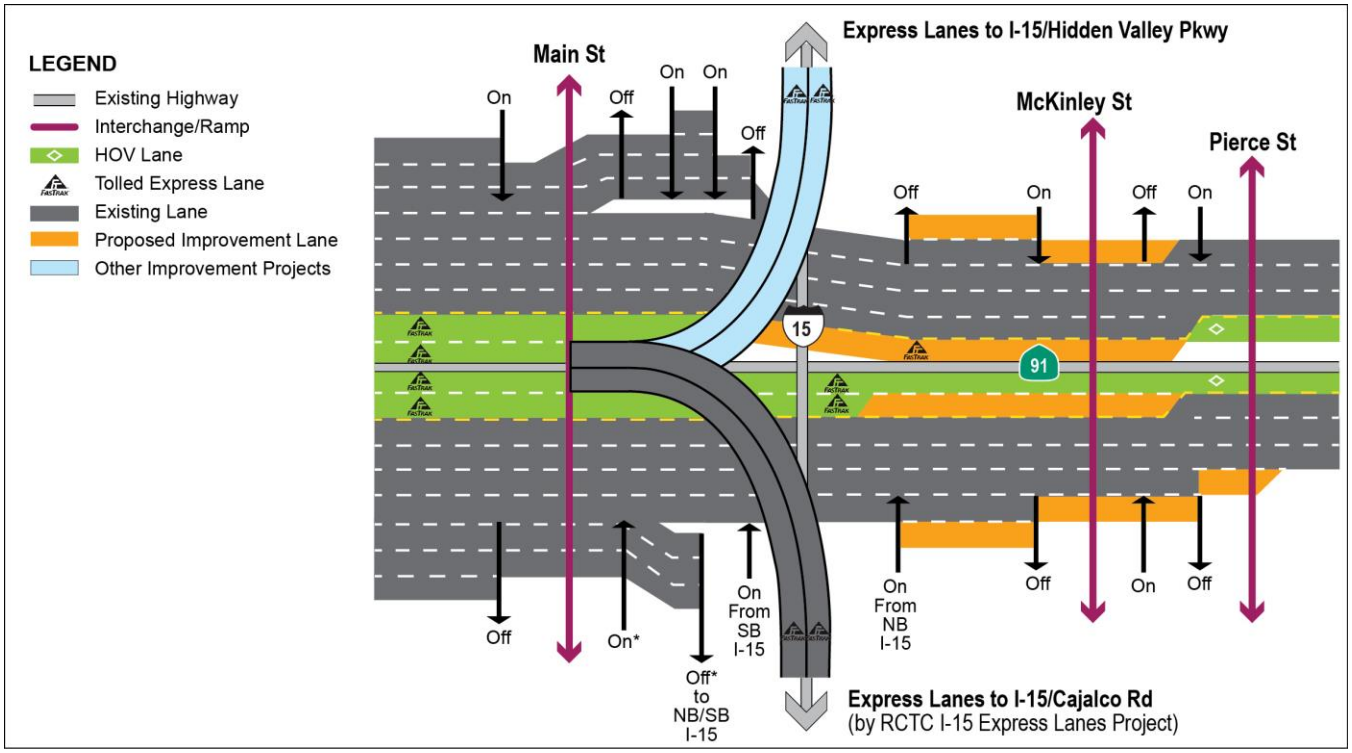
The project will provide a new direct connector improvement from EB SR-91 to NB SR-71, replacing the geometric choke point created by the existing loop connector. The project will also improve traffic operations and operational efficiency by eliminating or minimizing weaving conflicts through the use of auxiliary lanes.

Current Status

The environmental phase was completed in 2011 and final design in 2015. An environmental revalidation and update to the final design is underway.

Schedule and Cost

Construction is planned for completion in 2025. Construction cost is estimated to be $129,000,000.



Project Description

The Project Approval and Environmental Document (PA/ED) for the SR-91 Corridor Improvement Project (CIP), from SR-241 to Pierce Street, included the addition of a 5th lane in each direction, the addition of auxiliary lanes at various locations, the addition of collector-distributor lanes at the I-15/SR-91 interchange, the extension of the 91 Express Lanes from the Orange County line to I-15, the construction of a SR-91 Express Lanes median direct connector to and from I-15 South, a SR-91 Express Lanes median direct connector to and from I-15 North, and the construction of one Express Lane in each direction from the I-15/SR-91 interchange southerly to I-15/Cajalco Road (now part of RCTC I-15 Express Lanes Project), and easterly to east of McKinley Street. Due to funding constraints, a Project Phasing Plan was developed to allow an Initial Phase, with reduced improvements, to move forward as scheduled, with the remaining ultimate improvements to be completed later. The SR-91 improvements east of I-15, which includes extending an Express Lane east of McKinley Street and adding a general purpose lane to Pierce Street in each direction (the subject project), is a component of the SR-91 CIP that was not constructed with the Initial Phase.

Key Considerations

Coordination among many of the SR-91 freeway projects that overlap the project limits is critical to successfully delivering these projects on schedule and within budget. Designing to accommodate future projects is a recurring theme for each of these projects. Minimizing conflicts in scope between projects requires direct coordination between each project team. Additionally, future projects frequently have multiple alternatives under study, each with differing scope and construction footprints. Specifically, the project improvements need to continue to be coordinated with the SR-71/SR-91 interchange, the SR-241/SR-91 Tolled Express Connector, and 15/91 Express Lanes Connector.

Benefits

The SR-91 Improvements east of I-15 will reduce congestion and delays by providing additional SR-91 capacity from I-15 to Pierce Street.

Current Status

Preliminary engineering is complete but may need to be revisited at a future date. The SR-91 Improvements east of I-15 is currently discussed in the SR-91 CIP environmental document for the SR-91 that was completed in 2012.

Schedule and Cost

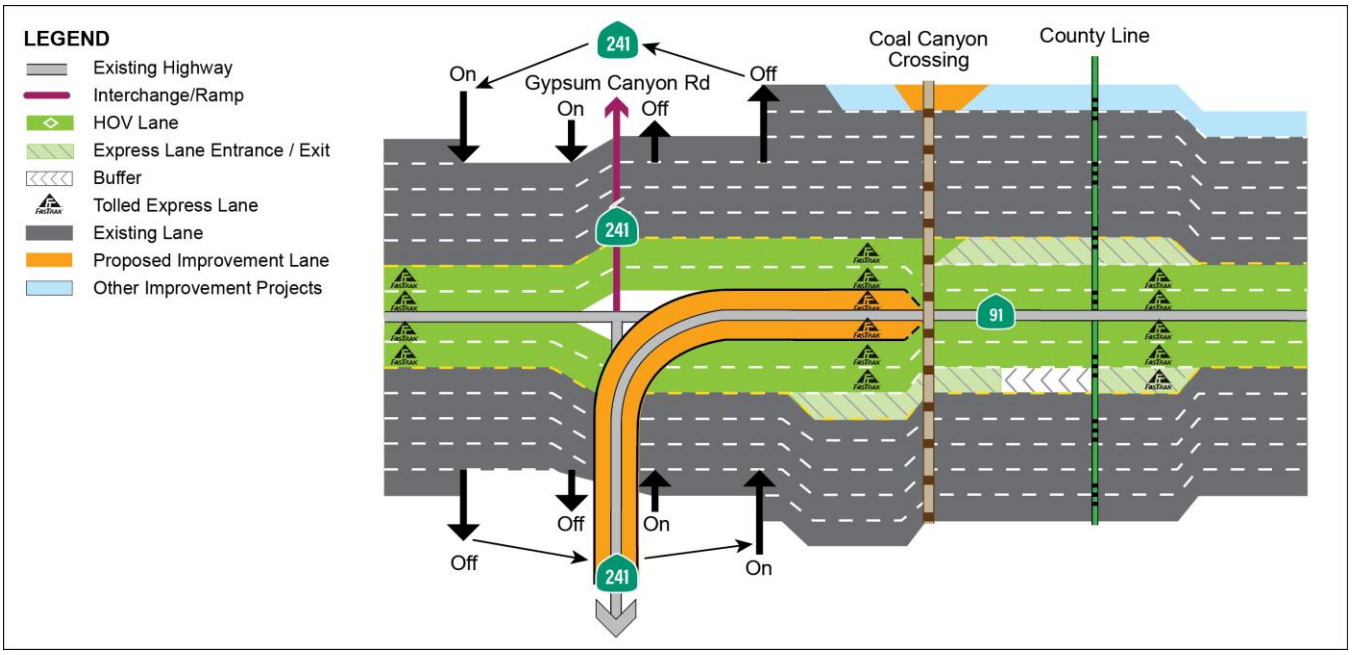
Anticipated project completion and cost are to be determined.

Bi-County Projects

There are three Bi-County improvement projects that will benefit both Orange and Riverside Counties. These projects include: the SR-241/SR-91 Tolled Express Connector and a Sixth Lane Addition (SR-241 to SR-71). The total cost for the projects is expected to be more than $380 million (in 2022 dollars, or as noted).

Riverside County Project Summary	Cost ($M)
SR-241/SR-91 Tolled Express Connector	380
Sixth Lane Addition (SR-241 to SR-71)	TBD
SUBTOTAL	**380+**

SR-241/SR-91 Tolled Express Connector



Project Description

The SR-241/SR-91 Tolled Express Connector will consist of a direct connector between the 241 Toll Road and 91 Express Lanes, carrying northbound 241 Toll Road traffic to the eastbound 91 Express Lanes and westbound 91 Express Lanes traffic to the southbound 241 Toll Road.

Key Considerations

The purpose of the project is to implement the build out of the Eastern Transportation Corridor as approved in 1994 in order to improve traffic operations on the northbound 241 Toll Road and the SR-91 general-purpose lanes while also maintaining reliable travel times and free flow speeds during peak periods on the 91 Express Lanes which were all key considerations in Caltrans' approval of the project. The project will require widening of SR-91 to accommodate the direct connector and associated Express Auxiliary Lanes in the median. The project's planned construction is aligned with the implementation of other planned improvements in the area including the 15/91 Express Lanes Connector, SR-91 Corridor Operations Project, and SR-71/SR-91 Interchange Improvements. Coordination will be conducted with local agencies to ensure the project avoids impacts to planned bicycle and trail connections on Gypsum Canyon Road per the City of Anaheim General Plan and OCTA Commuter Bikeways Strategic Plan.

Benefits

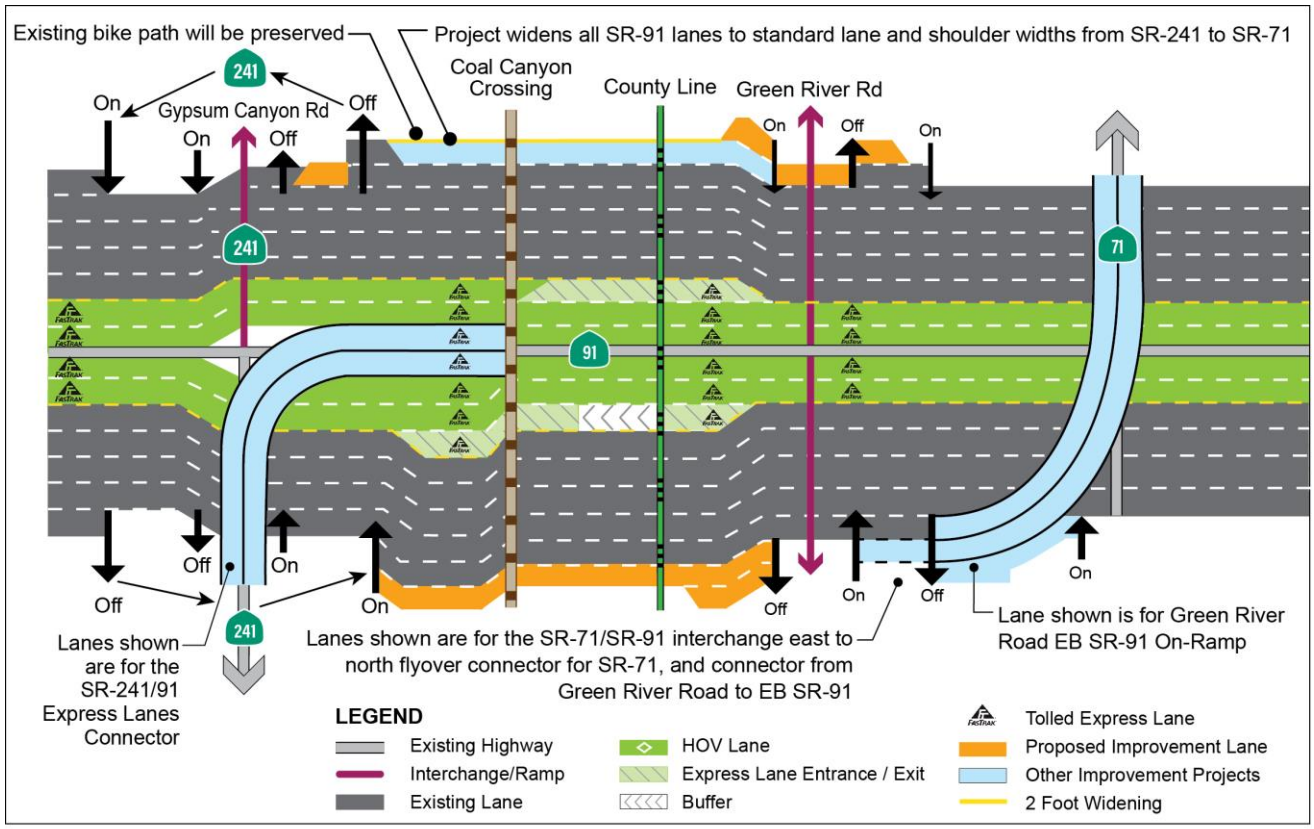
The project will provide connectivity between the 91 Express Lanes and the 241 Toll Road, which will enhance operations along the SR-91 general purpose lanes while also improving traffic operations on the northbound 241 Toll Road.

Current Status

Preliminary engineering concepts for a SR-241/SR-91 Tolled Express Connector have been developed by the Foothill/Eastern Transportation Corridor Agency (F/E TCA) and Caltrans, which were utilized for the environmental analysis. The 91 Express Lanes Extension and SR-241 Connector Feasibility Study was completed in March 2009 and was initiated to evaluate various alternatives. A Project Study Report was initiated in January 2011 and was completed in January 2012. The Draft Environmental Document was circulated for public review from November 7, 2016, through January 9, 2017. Caltrans's approval of the project with the Record of Decision was completed in March 2020. Final design is in progress.

Schedule and Cost

Agreements to document roles and responsibilities for F/ETCA funding, Caltrans construction, and OCTA/RCTC tolling operation of the project are under development by the multi-agency team. Final Design is expected to be completed in 2022. Construction is anticipated to last approximately 36 months beginning in 2023 with project opening in 2026. The total cost of the project will be approximately $380,000,000.



Project Description

The Project Approval and Environmental Document (PA/ED) for the SR-91 Corridor Improvement Project (CIP), from SR-241 to Pierce Street, included the addition of a 5th lane in each direction, the addition of auxiliary lanes at various locations, the addition of collector-distributor lanes at the I-15/SR-91 interchange, the extension of the 91 Express Lanes from the Orange County line to I-15, the construction of a SR-91 Express Lanes median direct connector to and from I-15 South, a SR-91 Express Lanes median direct connector to and from I-15 North, and the construction of one Express Lane in each direction from the I-15/SR-91 interchange southerly to I-15/Cajalco Road (now part of RCTC I-15 Express Lanes Project), and easterly to east of McKinley Street. Due to funding constraints, a Project Phasing Plan was developed to allow an Initial Phase, with reduced improvements, to move forward as scheduled, with the remaining ultimate improvements to be completed later. The SR-91 sixth lane in each direction between SR-241 and SR-71 (the subject of this project) is a component of the SR-91 CIP that was not constructed with the Initial Phase.

Key Considerations

Coordination among many of the SR-91 freeway projects that overlap the project limits is critical to successfully delivering these projects on schedule and within budget. Designing to accommodate future projects is a recurring theme for each of these projects. Minimizing conflicts in scope between projects requires direct coordination between each project team. Additionally, future projects frequently have multiple alternatives under study, each with differing scope and construction footprints. Specifically, the project improvements need to continue to be coordinated with the SR-71/SR-91 interchange and the SR-241/SR-91 Tolled Express Connector.

Benefits

The Sixth Lane Addition will reduce congestion and delays by providing additional SR-91 capacity from SR-241 to SR-71.

Current Status

The Sixth Lane Addition is discussed in the SR-91 CIP environmental document that was completed in 2012. An alternatives analysis to evaluate potential improvement options in the eastbound direction was initiated in 2020 and completed in 2022.

Schedule and Cost

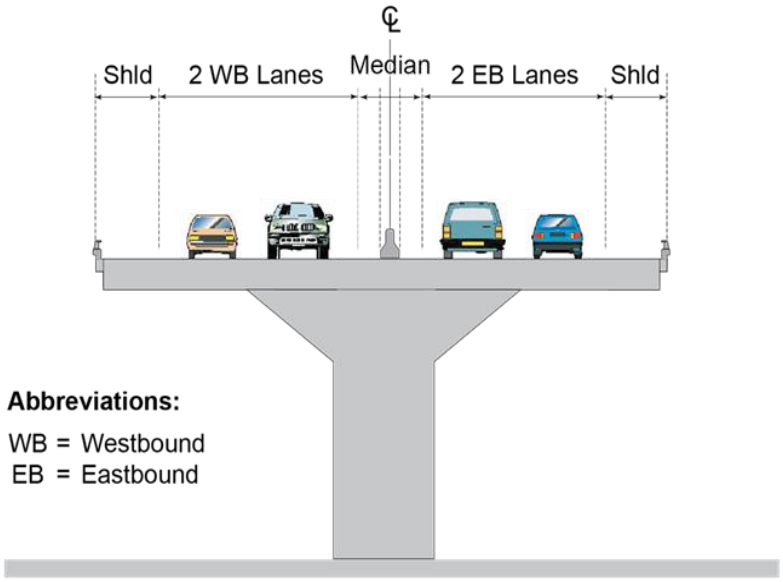
Anticipated project completion and cost are to be determined.

Appendix A - Post-2035 and Conceptual Projects

Concepts for potential Post-2035 implementation (potentially earlier if funding becomes available) focus on longer-lead time projects. This multi-billion dollar program may include: an elevated 4-lane facility (MIS Corridor A) from SR-241 to I-15; the Anaheim to Ontario International Airport Maglev High Speed Rail; the Irvine-Corona Expressway (ICE) 4-lane facility from SR-241/SR-133 to I-15/Cajalco Road (formerly known as MIS Corridor B), Westbound SR-91 to Southbound SR-55 Connector Improvements, Eastbound SR-91 Fifth Lane Addition at SR-241 and Fairmont Boulevard Improvements. These potential concepts include significant environmental constraints and right of way requirements in addition to requiring a significant amount of planning, design, and future policy and public input.

Concept Summary	Cost ($M)
Elevated 4-Lane Facility (MIS Corridor A) from SR-241 to I-15	2,720
Anaheim to Ontario International Airport Maglev High Speed Rail	2,770-3,200
Irvine-Corona Expressway (ICE) 4-Lane Facility from SR-241/SR-133 to I-15/Cajalco Road	8,855
Westbound SR-91 to Southbound SR-55 Connector Improvements	75-150
Eastbound SR-91 Fifth Lane Addition at SR-241	31
Fairmont Boulevard Improvements	76.8
SUBTOTAL	**14,527.8 – 15,032.8**

Elevated 4-Lane Facility from SR-241 to I-15 (MIS Corridor A)



Elevated 4-Lane Facility (MIS Corridor A) Cross-Section

Concept Description

The improvements primarily consist of constructing a new 4-lane elevated expressway near or within the Santa Ana Canyon with freeway-to-freeway connectors at SR-241 and I-15. The facility may include managed lanes and potential reversible operations.

Key Considerations

Choice of alignment will be key to determining net capacity increase. Extensive right-of-way (R/W) will be required to implement the improvements if the alignment is not in the SR-91 corridor. When median connector projects or HOV/HOT projects are constructed and this 4-lane elevated facility is proposed within the median of SR-91 through Corona, then extensive managed lane closures would be required during construction (thus temporarily reducing SR-91 capacity during construction).

An alternative could be studied for the median Corridor A viaduct along with reduced SR-91 geometric standards to minimize R/W impacts. Also, direct connectors (such as for High Occupancy Vehicle (HOV) / High Occupancy Toll (HOT) at I-15/SR-91) to/from the median could be precluded by Maglev columns located within the same median area. Caltrans and Maglev highway R/W, maintenance, safety, and operations considerations would need to be analyzed if shared use with a Maglev facility were pursued. Additional mitigation costs may be required for improvements to SR-241 and SR-133 as a result of additional Corridor traffic volumes. Corridor A as managed lanes, with the extension of 91 Express Lanes to I-15, this project concept may affect traffic distribution due to “parallel” tolled facilities.

Benefits

The concept would provide significant congestion relief by allowing vehicles to bypass the at-grade freeway lanes and local arterial interchanges between SR-241 and I-15. Connections are proposed directly between SR-91, SR-241, and I-15.

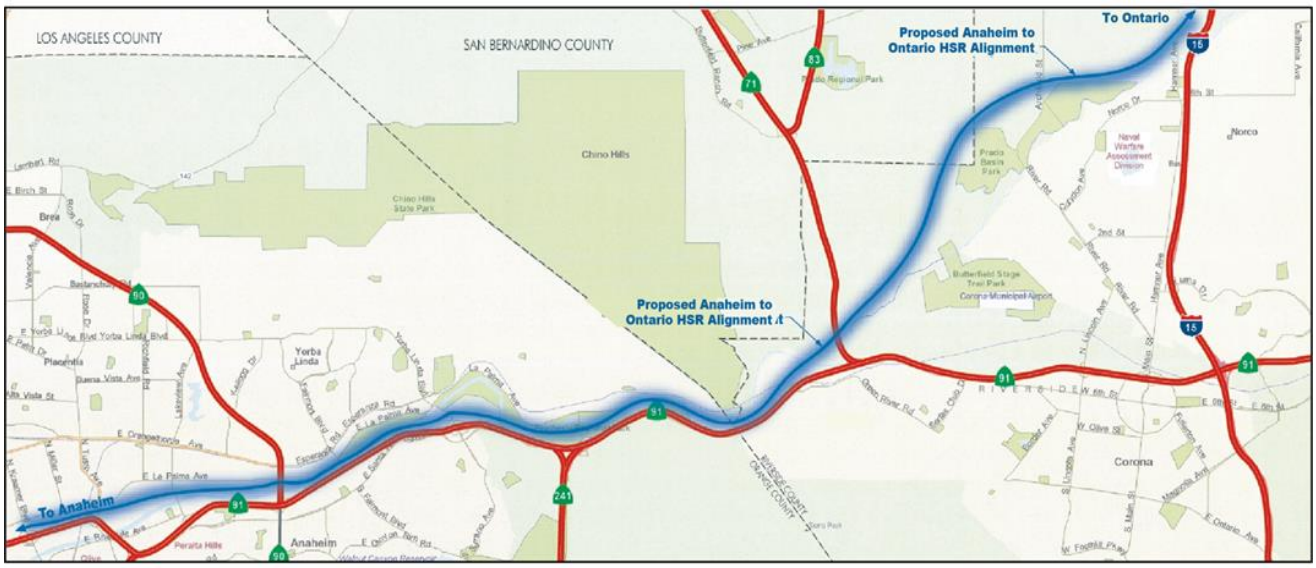
Current Status

This concept is identified in the Riverside County - Orange County Major Investment Study (MIS) as part of the Locally Preferred Strategy to improve mobility between Riverside County and Orange County. No project development work is planned at this time.

Schedule and Cost

Anticipated project completion is post-2035 and construction cost is estimated to be $2,720,000,000 (2005 dollars).

Anaheim to Ontario International Airport Maglev High Speed Rail



REPRESENTATIVE ALIGNMENT SHOWN FOR ILLUSTRATIVE PURPOSES ONLY

LEGEND

- Existing Highway
- High Speed Rail Representative Alignment

Concept Description

Proposals for a new super-speed train corridor from Anaheim to Ontario are included in this concept. This concept includes an alternative that would use SR-91 right-of-way or would be aligned adjacent to SR-91 right-of-way or could potentially be co-located with the Major Investment Study (MIS) Corridor A alignment. Another alignment opportunity is being investigated along SR-57.

Key Considerations

Alternative alignment impacts to SR-91 right-of-way envelope and/or Santa Ana River are undetermined. The choice of alignment will potentially impact MIS Corridor A. Right-of-way (R/W) will be required to implement the improvements. Potential considerations for co-locating the Magnetic Levitation (Maglev) train adjacent to Corridor A (and also SR-91) include providing a two-column structure with a barrier between the trains and vehicles. Caltrans and Maglev highway R/W, maintenance, safety, and operations considerations would need to be analyzed if shared use with a Maglev facility were pursued. See the MIS Corridor A project for additional considerations. Coordination with Metrolink improvements will be required.

Benefits

The concept would provide congestion relief by providing a direct high-speed/high-capacity connection with Ontario International Airport for Orange County air passengers and business next-day deliveries. Maglev will make the trip in just 14.5 minutes. Relieves congestion on SR-91 by providing additional capacity in the corridor.

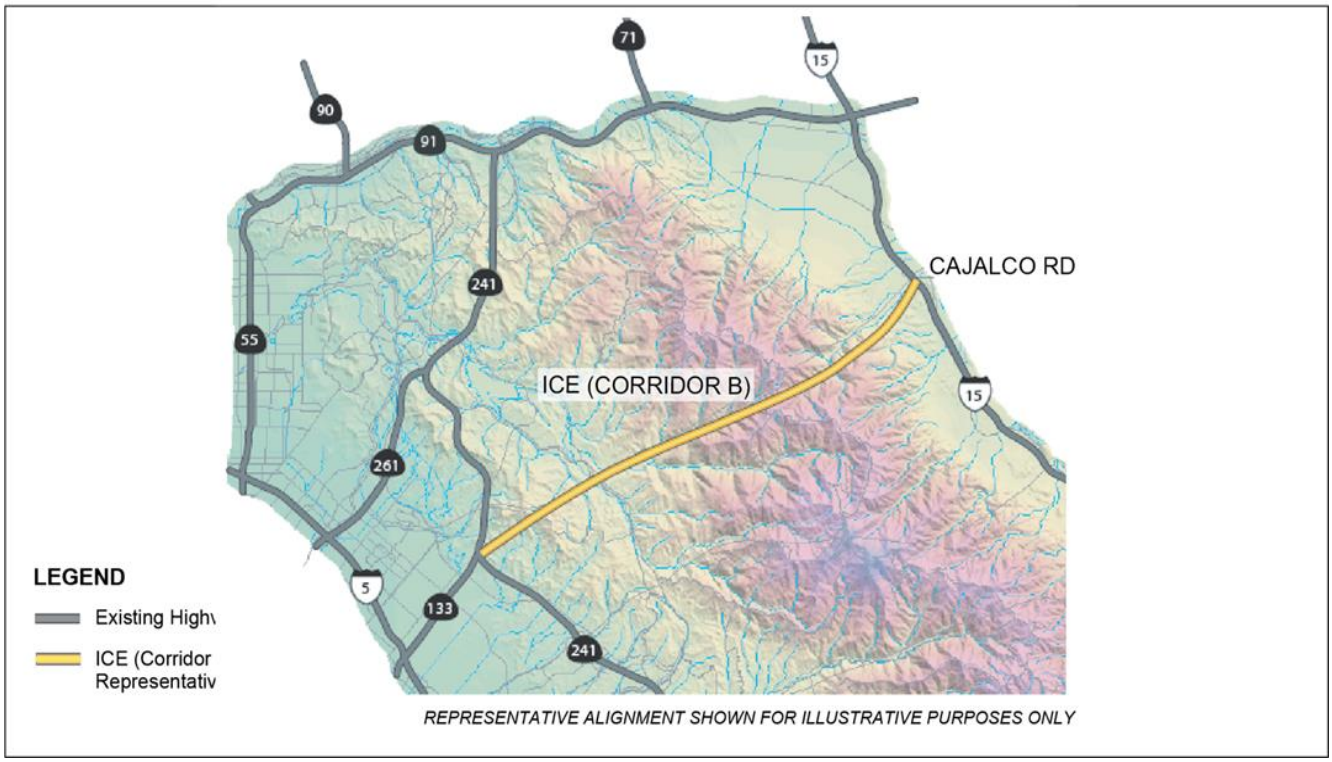
Current Status

Since 2012, no progress on this project has occurred. Preliminary design, engineering and Phases 1 and 2 of a Preliminary Environmental Impact Statement/Environmental Impact Statement (PEIS/EIS) are completed. Congress approved $45M in SAFETEA-LU for the environmental phase of the project. Construction funding of up to $7 billion was identified through a loan commitment from the China Export-Import Bank.

Schedule and Cost

Anticipated project completion is to be determined and construction cost is estimated to be from $2,770,000,000 to $3,200,000,000 (2012 dollars).

Irvine-Corona Expressway (ICE) from SR-241/SR-133 to I-15



Concept Description

The improvements primarily consist of constructing a highway and rail facility through the Cleveland National Forest with freeway-to-freeway connectors at SR-241/SR-133 and I-15/Cajalco Road. The facility would essentially be a continuation of SR-133 on the west end of the corridor, to I-15 on the east end.

Key Considerations

The tunnel concept is technically feasible based on the geotechnical investigation completed in December 2009. The initial project phase would be the construction of one 2-lane highway tunnel and one rail tunnel. The second project phase would include construction of a second 2-lane highway tunnel. Additional technical studies and geotechnical borings would be needed to refine the tunnel alignments and grades. Costs associated with the Irvine-Corona Expressway (ICE) tunnels are based on the Feasibility Evaluation Report completed in December 2009. A financial analysis will be needed for the construction, operations and toll requirements of the ICE tunnels. Land use changes and development have occurred in locations where this concept was conceptualized in 2006 which complicate the viability of original concept alignment. With further analysis, these changes would not exclude future potential alignment(s) connecting I-15 and SR-241/SR-133 via tunneling through the Cleveland National Forest. Land use patterns in the vicinity of this concept will be evaluated as part of this Plan's annual updates.

Benefits

The concept would provide significant congestion relief by providing an alternative route between Orange and Riverside counties and would allow vehicles to bypass SR-91 between SR-241 and I-15. The concept would not disrupt SR-91 traffic during construction and would allow for additional route selection for incident management, emergency evacuation, and for continuity of the highway network by linking SR-133 to I-15.

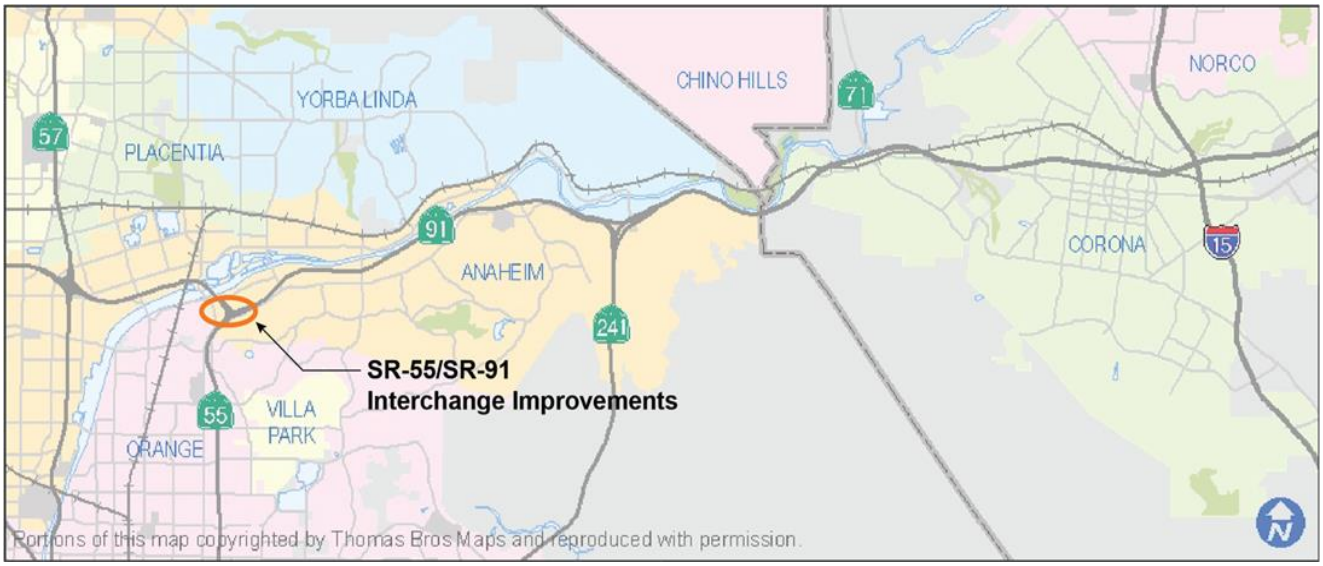
Current Status

On August 27, 2010, the Riverside Orange Corridor Authority Board took action to defer additional study of the ICE concept until such time as financial considerations improve and/or technological advancements warrant reexamination. Review of the concept shall be done annually through the SR-91 Implementation Plan update to determine if any of the major assumptions about financial considerations, private sector interest, or technological advancements have changed to make the tunnel financially viable. (See "ICE status summary" for further discussion).

Schedule and Cost

Anticipated project completion is post-2035 and construction cost is estimated to be $8,855,000,000 (2009 dollars).

Westbound SR-91 to Southbound SR-55 Connector Improvements



Concept Description

The project consists of operational improvements by modifying the connector to SB SR-55 from WB SR-91. The improvements would extend to Lakeview Avenue to the east and would include a new connector from WB SR-91 to SB SR-55 as a potential right-hand exit.

Key Considerations

Right-of-way impacts, detailed SR-55/SR-91 interchange improvements, and downstream impacts to SR-55 require further evaluation in a subsequent phase of project development. Conceptual design of SR-55/SR-91 would be coordinated with completed improvements at SR-91 and Tustin Avenue, and with the SR-91 Environmental Study Improvements from SR-57 to SR-55. This study is currently being conducted.

Operational enhancements between SR-55 and Lakeview Avenue will provide some benefit for SR-55/SR-91 by addressing WB SR-91 weaving issues. In addition, the proposed WB drop-ramp from Lakeview AV has been designed to accommodate three WB through lanes on either side in order to reduce throwaway costs in the future should the SR-91 be shifted to accommodate a right-hand exit for SB SR-55.

Benefits

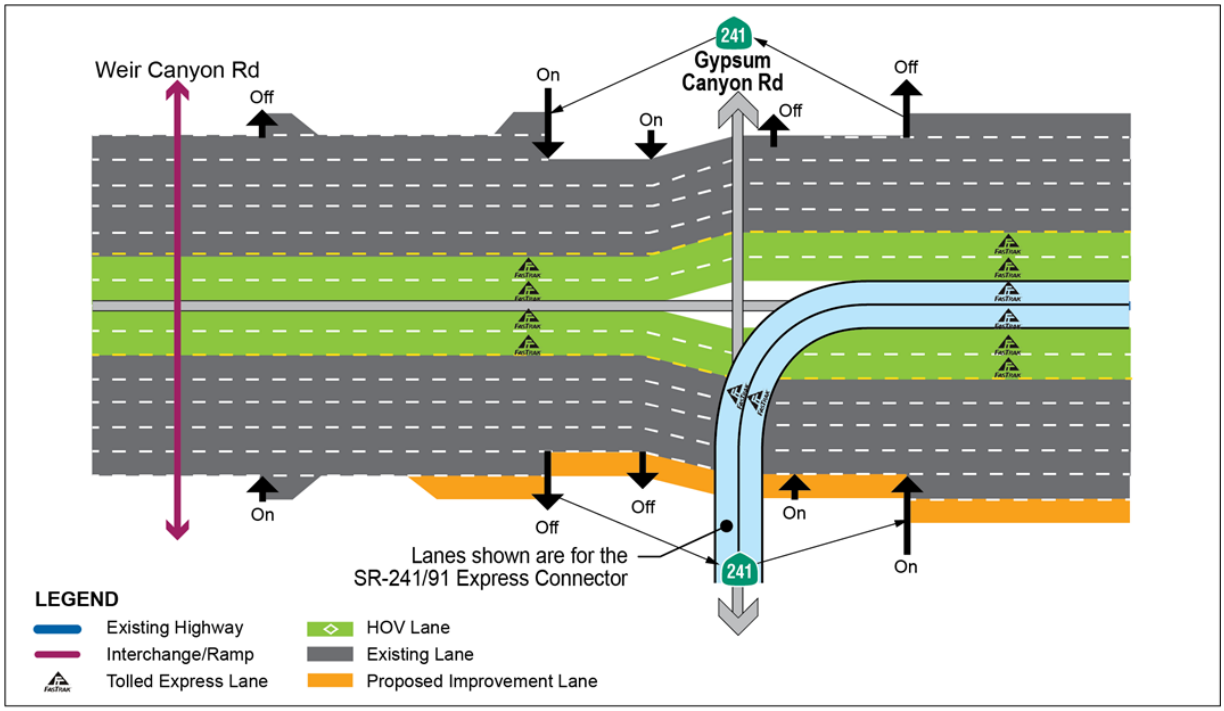
Interchange improvements are anticipated to provide congestion relief for WB SR-91 traffic and potentially improve the connection from WB SR-91 to SB SR-55.

Current Status

SR-55/SR-91 project information was derived from the Final Alternatives Evaluation and Refinement Report, December 2005, by the Riverside County - Orange County Major Investment Study (MIS). Focused SR-91/SR-55 conceptual engineering needs to be scheduled. However, initial conceptual engineering was also studied as part of the SR-91 Feasibility Study Between State Route 57 and State Route 55 Interchange Areas in June 2009, and as part of the SR-91 Environmental Study Improvements from SR-57 to SR-55.

Schedule and Cost

Anticipated project completion is post-2035 and construction cost is estimated to be from $75,000,000 to $150,000,000 (2014 dollars).



Concept Description

The location of the proposed EB SR-91 fifth general purpose (GP) lane addition (The Segment) is on EB SR-91 from Weir Canyon Road to the NB SR-241 Connector. The Segment consists of four GP lanes and two managed lanes (91 Express Lanes).

Upstream (westerly) from The Segment the EB SR-91 has 5 GP lanes and the 5th lane drops to the SB SR-241 Connector as some traffic volume exits to the SB SR-241. Downstream from The Segment the EB SR-91 gains the 5th lane back as the NB SR-241 Connector merges with SR-91 in a dedicated lane addition. This 5th lane continues beyond the Riverside County line providing enhanced mobility.

Key Considerations

This segment with four GP lanes might be creating a traffic choke point due to the decrease of capacity, potentially contributing to significant traffic delays passing through this segment along with other traffic issues such as queue jumping, weaving, merging and operational speed differential. However, additional traffic from NB SR-241 to EB SR-91 and Gypsum Canyon Rd on-ramp suggest balancing the number of lanes should be carefully examined. As such, additional capacity will enhance EB freeway operations along this Segment.

Benefits

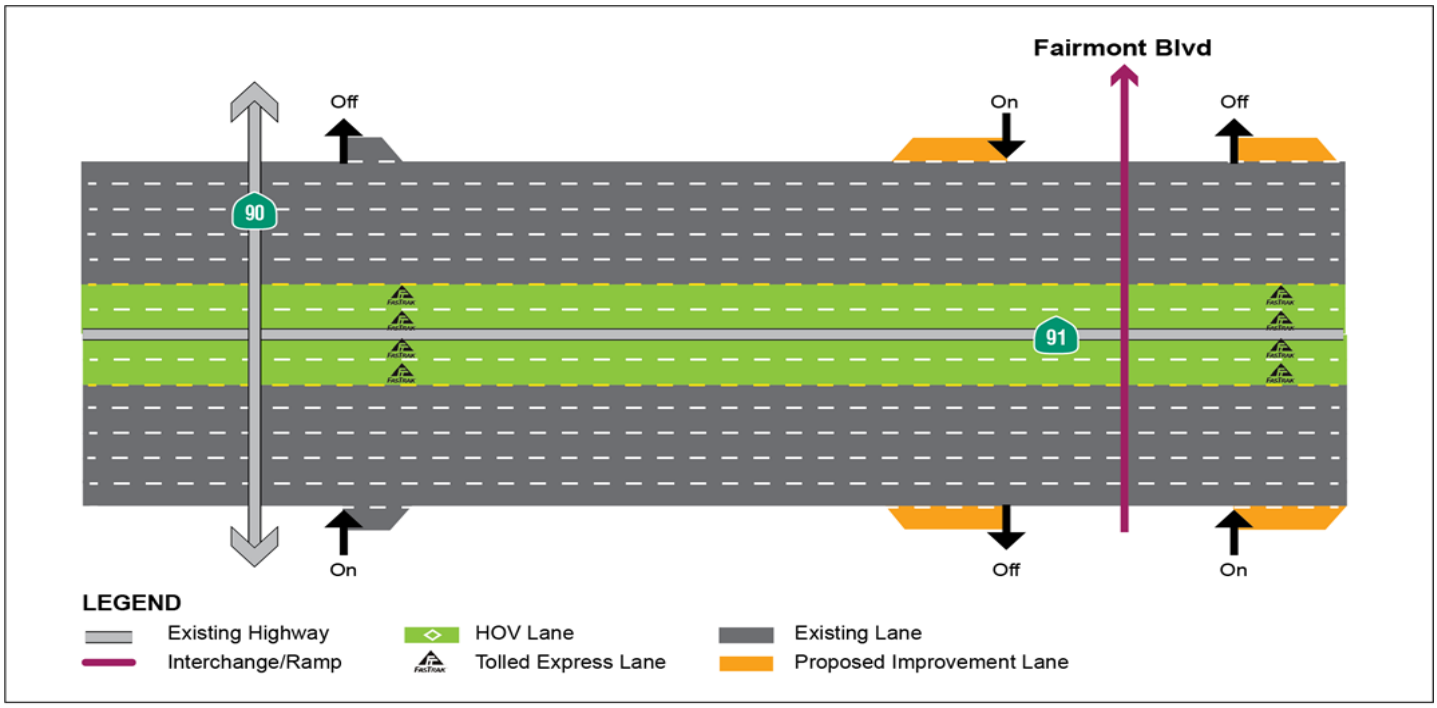
1) Extends the existing 5th EB GP lane easterly and ties it to the existing 5th lane downstream. This could provide capacity enhancement and may result in removing an existing choke point. Significant delay savings is anticipated.
2) Potentially eliminate queue jumping in this area from EB SR-91 as well as Weir Canyon Rd.
3) Potentially reduce speed differential between through lanes, thus creating a more balanced flow.
4) Potentially provide balanced lane utilization at high traffic demand area.

Current Status

Additional traffic analysis and study is required to confirm the benefits to EB SR-91 by the proposed improvements. This location was identified by Caltrans as a high congestion location in the County. The concept is intended to improve the choke point that exists due to the presence of a 4-lane segment between 5-lane freeway segments.

Schedule and Cost

Total project cost, based on Caltrans' estimate, is $31.25 million Project schedule has not been determined.



Project Description

The project would provide a new interchange with SR-91 at Fairmont Boulevard. On and off ramps will connect Fairmont Boulevard from the north to eastbound (EB) and westbound (WB) SR-91. The proposed interchange does not include a vehicular Fairmont Boulevard connection to Santa Ana Canyon Road to the south. A pedestrian/bicycle connection is also proposed between La Palma Avenue and Santa Ana Canyon Road. This bridge and pathway will allow for direct Santa Ana River Trail access from both Anaheim south of SR-91 and from Yorba Linda.

Key Considerations

Interchange spacing and weaving issues (to SR-55) need to be evaluated. Widening of SR-91 may be needed to accommodate interchange ramps. Proximity of the Santa Ana River may require that the WB ramp junction be located north of the river. New connection requirements and interchange spacing needs to be considered. Ramp and bridge placement needs to take pedestrian/bicycle bridge into account or incorporate the pedestrian/bike path into the design beyond the vehicular access limits of the project.

Benefits

The interchange is expected to relieve congestion at Imperial Highway (SR-90), Lakeview Avenue, and Weir Canyon Road Interchanges. Preliminary traffic modeling shows a 10-15% decrease in volumes at Weir Canyon and SR-90 interchanges with the interchange alternative.

Current Status

The City of Anaheim completed a conceptual engineering study in December 2009 for the interchange. Multiple alternatives have been developed as part of the conceptual engineering study. Bicycle/pedestrian bridge is currently in initial planning stages. Project development is pending funding identification. On July 24, 2017, OCTA staff along with a senior staff member of WSP presented the findings of a 91 Express Lanes intermediate access study. The study provided various alternatives, traffic modeling, and financial impacts of the additional access. At the conclusion of the discussion, the OCTA Board of Directors did not authorize additional analysis for the intermediate access.

Schedule and Cost

Anticipated project completion is post 2035 and construction cost is estimated to be $76,800,000 (costs from 2009 Feasibility Study). R/W cost is undetermined. Cost excludes any potential impact to Santa Ana River.

Appendix B - COMPLETED PROJECT EXHIBITS

The following exhibits represent completed projects from previous Plans since 2006 and are intended to be used as a reference to illustrate the progress made since the inception of the Plan. Note: some projects listed in the Plan as completed (see Section 1, Project Accomplishments) are not included herein since there was no exhibit created or necessary for use with prior Plans (such as for restriping projects, various safety enhancements, minor operational improvements, etc.).

Project Improvements	Constructed
Green River Road Overcrossing Replacement	March 2009
North Main Street Corona Metrolink Station Parking Structure	June 2009
Eastbound Lane Addition from SR-241 to SR-71	September 2010
Widen SR-91 between SR-55 and SR-241 by Adding a 5th GP Lane in Each Direction	December 2012
SR-91 WB Lane at Tustin Avenue	April 2016
Metrolink Service Improvements	June 2016
Initial Phase CIP: Widen SR-91 by One GP Lane in Each Direction East of Green River Rd, CD Roads and I-15/SR-91 Direct South Connector, Extension of Express Lanes to I-15 and System/Local Interchange Improvements	July 2017
Express Bus Service	2019
La Sierra Metrolink Parking Improvements	February 2019
SR-91 Corridor Operations Project	February 2022

Appendix Project No: B-1

Actual Completion: March 2009

Project Costs

Capital Cost	$ 21,000,000
Support Cost	$ 3,000,000
R/W Cost	$301,000
Total Project Cost	$ 24,301,000

Project Schedule

Preliminary Engineering	Completed
Environmental	Completed
Design	Completed
Construction	Completed

Project Schedule Caltrans Equivalents:
Preliminary Engineering = PID
Environmental = PA/ED
Design = PS&E

Abbreviations:
CD = Collector Distributor Lane
FTR = Future
HOV = High Occupancy Vehicle
SHLD = Shoulder

Project Description

Improvements primarily consist of replacing the existing Green River Road overcrossing with a new six-lane wide, 4-span overcrossing to accommodate future widening of SR-91. The interior spans will accommodate up to eight mainline lanes in each direction including two HOV lanes. The exterior spans can accommodate two lanes, either for auxiliary lanes or collector distributor roads. Entrance and exit ramps will be realigned and widened to accommodate the new bridge, yet the interchange will retain its current configuration. New signals will be installed at the ramp intersections. Ramp and bridge improvements will be constructed within existing right of way.

Key Considerations

Design interface is required with the Eastbound Lane Addition from SR-241 to SR-71, SR-71/SR-91 Interchange Improvements, SR-91 Corridor Improvement Project, and SR-241/SR-91 HOV/HOT Connector.

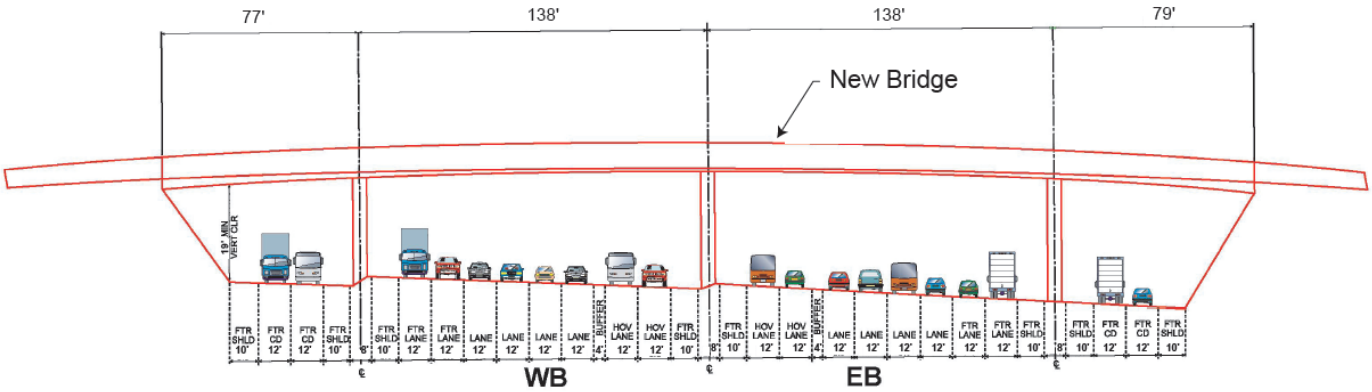
Benefits

The project will improve the level of service at ramp and local street intersections at the interchange. Improvements will reduce ramp queues that extend into the freeway's general purpose lanes, thus contributing to congestion relief on SR-91.

Current Status

The project began construction in March 2007 and was completed in March 2009.

COMPLETED



GREEN RIVER BRIDGE CROSS-SECTION

NOTE: All dimensions are approximate

North Main Street Corona Metrolink Station Parking Structure

Appendix Project No: B-2

Actual Completion: June 2009

Project Costs

Capital Cost	$ 20,000,000
Support Cost	$ 5,000,000
R/W Cost	$0
Total Project Cost	$ 25,000,000

Project Schedule

Preliminary Engineering	Completed
Environmental	Completed
Design	Completed
Construction	Completed

Project Description

The project provides a six level parking structure with 1,065 parking stalls. The construction is within the existing North Main Street Metrolink station property in Corona.

Key Considerations

Proposed improvements were constructed within existing right of way. Currently there are 700 users of the facility, 200 more that were previously able to accomodate. Additionally RCTC has opened up the lot to park and ride carpools and vanpools and has issued over 120 permits for carpoolers to use the expanded station. This shows an added benefit of supporting carpooling as well as transit to offset congestion on SR-91.

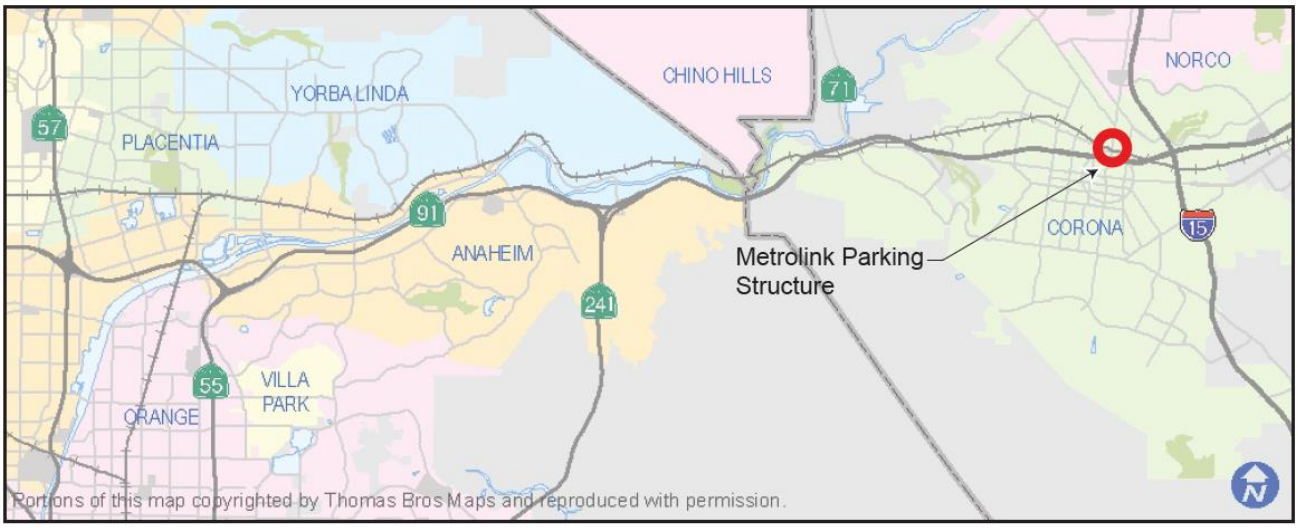
Benefits

Demand for parking currently exceeds the capacity at the North Main Street Corona station. New parking capacity will allow Metrolink ridership to increase thereby diverting vehicle trips from SR-91.

Current Status

Construction was initiated in January 2008 and was completed in June 2009. The project was funded with Federal Congestion Management and Air Quality (CMAQ) funds.

COMPLETED



Eastbound Lane Addition from SR-241 to SR-71

Appendix Project No: B-3

Actual Completion: September 2010

Project Cost Estimate

Capital Cost	$ 41,000,000
Support Cost	$ 8,000,000
R/W Cost	$ 2,200,000
Total Project Cost	$ 51,200,000

Project Schedule

Preliminary Engineering	Completed
Environmental	Completed
Design	Completed
Construction	Completed

Project Description

The project will provide an additional eastbound (EB) lane from the SR-91/SR-241 interchange to the SR-71/SR-91 interchange and will widen all EB lanes and shoulders to standard widths.

Key Considerations

Coordination with the SR-91 Corridor Improvement Projects (Project #3 and #11) will be required. Staged construction would be required for all ramp reconstruction and freeway widening. Freeway operations would most likely be affected by this project, however, freeway lane closures are not anticipated. An EB concrete shoulder will be constructed with a 12 foot width to provide for future widening as contemplated by Project #3 and #11.

Benefits

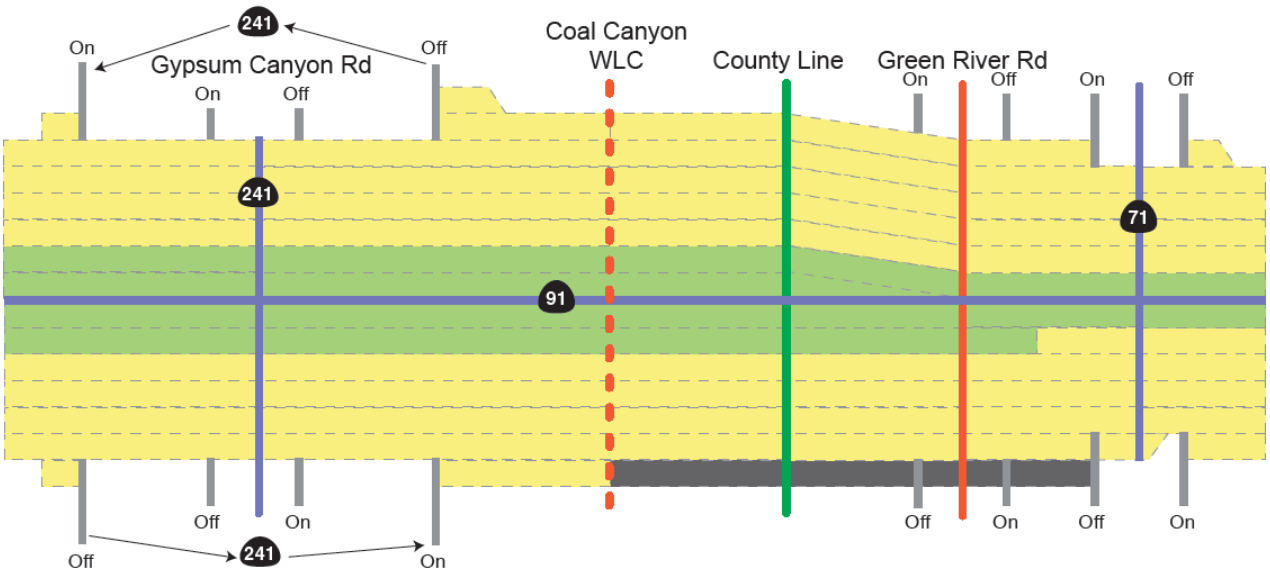
The lane addition would help to alleviate the weaving condition between SR-241 and SR-71, as well as remove vehicles from the SR-91 mainline that would be exiting at Green River Road and SR-71.

Current Status

Funding is from the American Recovery and Reinvestment Act (ARRA) with $71.44M approved, and the balance of project costs are from other sources. Construction began in late 2009 and was completed in September 2010.

COMPLETED

LEGEND
- Existing Highway
- Interchange/Ramp
- County Line
- HOV or HOT Lane
- Existing Lane
- Project Improvement Lane
- Existing Interchange



Widen SR-91 between SR-55 and SR-241 by Adding a 5th GP Lane in Each Direction

Appendix Project No: B-4
Actual Completion: January 2013

Project Costs

Capital Cost	$ 65,005,000
Support Cost	$ 19,639,000
R/W Cost	$ 573,000
Total Project Cost	$ 85,217,000

Project Schedule

Preliminary Engineering	Completed
Environmental	Completed
Design	Completed
Construction	Completed

Project Description

This project proposes capacity and operational improvements by adding one general purpose (GP) lane on eastbound (EB) SR-91 from the SR-55/SR-91 connector to east of the Weir Canyon Road interchange and on westbound (WB) SR-91 from just east of Weir Canyon Road interchange to the Imperial Highway (SR-90) interchange. Additionally, this project would facilitate truck traffic approaching the truck scales in both directions.

Key Considerations

Caltrans is not considering relocation of the truck scales at this time.

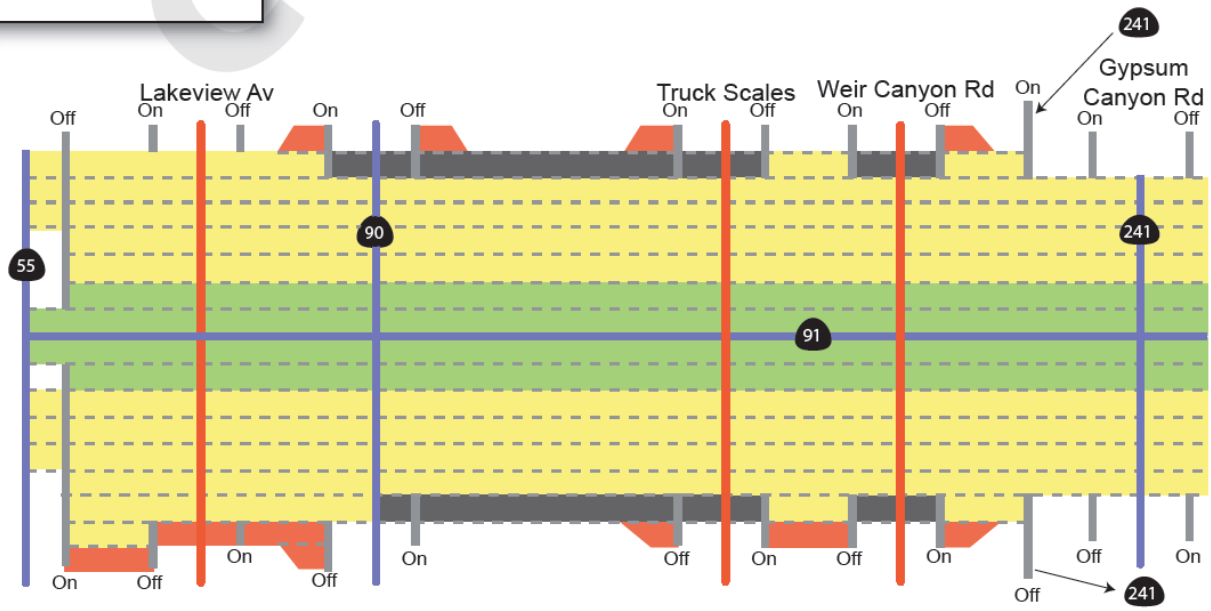
Benefits

Alleviates congestion on WB SR-91 by eliminating the lane drop at the truck scales and providing a continuous GP lane to SR-90. Alleviates congestion on EB SR-91 by eliminating the lane drop for northbound (NB) SR-55 at SR-91 by providing an auxiliary lane to Lakeview Avenue, and at SR-90 by providing a continuous GP lane through Weir Canyon

Construction was completed in January 2013. The project received $22M of Corridor Mobility Improvement Account (CMIA) funding and $74M of State Transportation Improvement Program (STIP) Augmentation funds.

COMPLETED

LEGEND
- Existing Highway
- Interchange/Ramp
- Existing Interchange
- HOV or HOT Lane
- Existing Lane
- Project Improvement Lane
- Auxiliary Lane



NOTE: FAIRMONT BLVD IS CONTINGENT UPON IMPLEMENTATION OF THE PROJECT

Appendix Project No: B-5
Actual Completion: April 2016

Project Cost Estimate*

Capital Cost	$ 22,218,000
Support Cost	$ 16,382,000
R/W Cost	$ 4,682,000
Total Project Cost	$ 43,282,000

Project Schedule

Preliminary Engineering	Completed
Environmental	Completed
Design	Completed
Construction	Completed

Project Description

The project will add a westbound (WB) auxiliary lane on SR-91 beginning at the northbound (NB) SR-55 to WB SR-91 connector through the Tustin Avenue interchange. This project includes approximately 1.1 lane miles.

Key Considerations

Build Alternative 3 was selected from the Project Study Report (PSR), *On Westbound (WB) SR-91 Auxiliary Lane from the Northbound (NB) SR-55/WB SR-91 Connector to the Tustin Avenue Interchange,* and requires additional right-of-way. City of Anaheim utilities are within close proximity of the proposed widening section. Widening of the Santa Ana River bridge is required. Coordination with the City of Anaheim occurred for widening of Tustin Avenue and the WB SR-91 Off-Ramp that was completed in early 2011.

Benefits

The project would reduce or eliminate operational problems and deficiencies on this section of WB SR-91 including weaving and merging maneuvers. This project would also address choke-point conditions, which are caused primarily by extensive weaving between the NB SR-55 to WB SR-91 connector and the WB SR-91 off-ramp to Tustin Avenue.

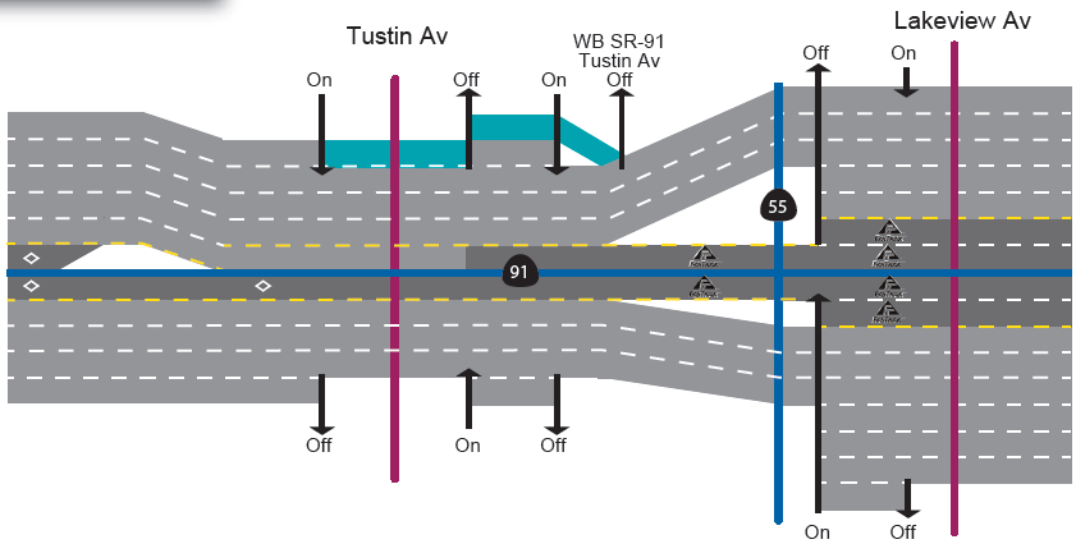
Current Status

Preliminary engineering was completed and approved by Caltrans. The environmental phase was completed in November 2010, and design was completed in mid-2013. Construction was initiated in February 2014. The project received $14M from the Proposition 1B State-Local Partnership Program (SLPP), $14M from Measure M, with the balance from Regional Improvement Program (RIP) funds. Contract acceptance and open to traffic in May 2016.

COMPLETED

LEGEND

- Existing Highway
- Interchange/Ramp
- County Line
- HOV Lane
- Tolled Express Lane
- Existing Lane
- Proposed Improvement Lane



Appendix Project No: B-6
Actual Completion: 2016

Project Cost Estimate*

IEOC Service Cost	$ 1,160,000
Perris Valley Line Cost	$ 248,000,000
Total Metrolink Costs	$ 249,160,000

Project Schedule
Complete 2016

* Costs from OCTA and RCTC (in 2015 dollars)

Project Description

There are sixteen daily trains that run on the IEOC Line and nine trains running on the Los Angeles to Riverside portion of 91/Perris Valley (91/PV) Line for a total of 25 daily trains. The long-term service improvements will include 24 IEOC trains by 2030.

The Perris Valley portion of the 91 Line extends Metrolink service southeast by 25 miles, from Riverside to Perris. The project is located within the right of way of the existing San Jacinto Branch Line through Riverside, Moreno Valley and Perris. Construction began in October 2013, cost approximately $248 million, and the extension opened to the public in June 2016. The inaugural schedule (December 2015) includes nine trains through to Los Angeles and 12 between Perris and Riverside.

COMPLETED

Key Considerations

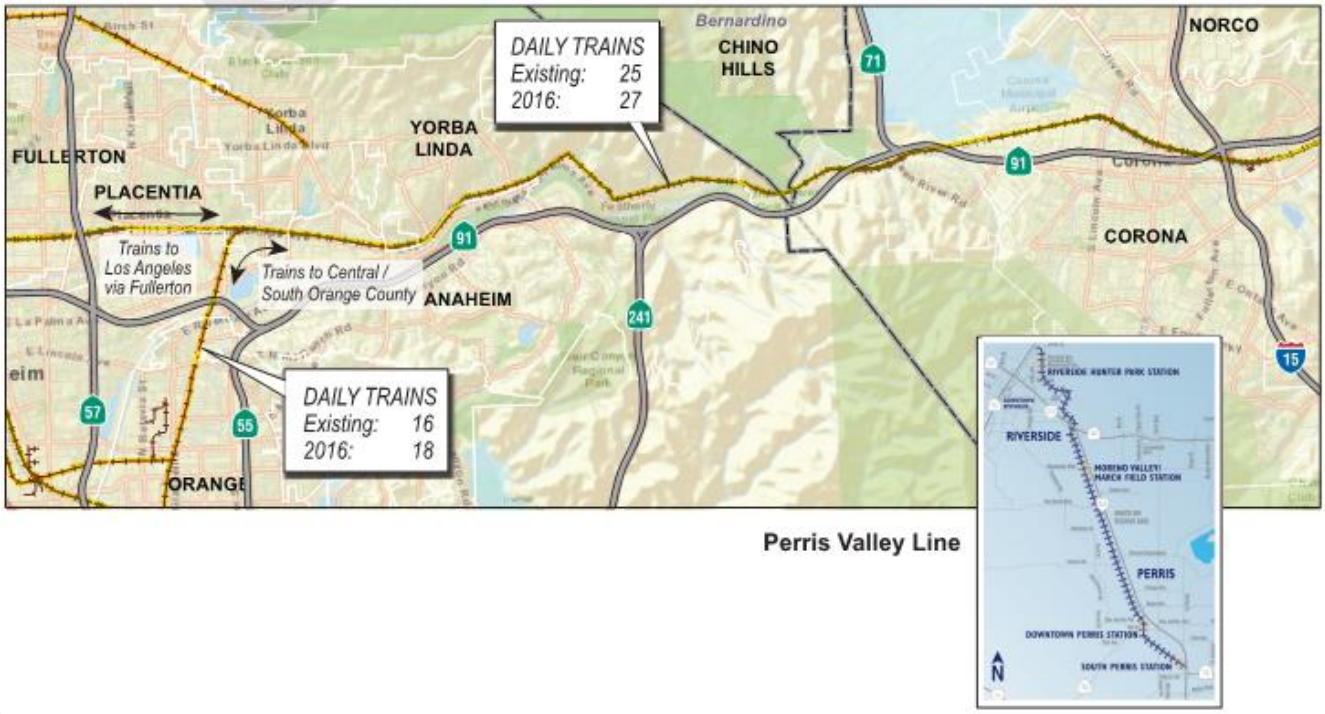
Construction of the new Placentia Metrolink station will improve passenger access to the 91/PV Line, by creating a station between Fullerton and Corona. Improvements at the Anaheim Canyon station are designed to account for future expansion of the IEOC rail service.

Benefits

Enables development of expanded Metrolink service, improved efficiency, and fosters train ridership growth in the region, which will contribute to congestion relief on SR-91.

Current Status

Two additional IEOC Line roundtrips were added in late 2015, and in mid-2016, nine trains began service on the Perris Valley extension to the 91/PV Line.



Perris Valley Line

Initial Phase CIP: Widen SR-91 by One GP lane In Each Direction East of Green River Road, CD Roads and I-15/SR-91 Direct South Connector, Extension of Express Lanes to I-15 and System / Local Interchange Improvements

Project No: B-7
Actual Completion: 2017

Project Cost Estimate*

Total Capital Cost	$ 1,161,000,000
Support Cost	$ 246,000,000
Total Project Cost	$ 1,407,000,000

Project Schedule**

Preliminary Engineering	Completed
Environmental	Completed
Design/Construction	2013-2017

* Cost obtained for Initial Phase is from RCTC (2014 dollars)
** Schedule for Inital Phase; subsequent phase for Ultimate Project anticipated in 2035

Project Description

The approved Project Study Report (PSR) for the SR-91 Corridor Improvement Project (CIP), from SR-241 to Pierce Street, includes the addition of a 5th general purpose lane in each direction, the addition of auxiliary lanes at various locations, additional lanes at the SR-71/SR-91 interchange (Project #5), and collector-distributor (CD) lanes at the I-15/SR-91 interchange. Subsequently, the Riverside County Transportation Commission's (RCTC) 10-Year Delivery Plan recommended the following in addition to the PSR recommended improvements: the extension of the 91 Express Lanes from the Orange County line to I-15, the construction of SR-91 (EB/WB)/I-15 (SB/NB) Express Lanes median direct connectors, and the construction of one Express Lane in each direction from the I-15/SR-91 interchange southerly to I-15/Cajalco Road, and northerly to I-15/Hidden Valley Parkway. An Express Lanes ingress/egress lane is also planned near the County Line. Due to economic conditions, a Project Phasing Plan was developed to allow an Initial Phase with reduced improvements to move forward as scheduled, with the remaining ultimate improvements to be completed later. The following is a summary of the deferred ultimate improvements: I-15/SR-91 median North Direct Connector, and I-15 Express Lanes North to Hidden Valley Parkway (Project #9); general purpose lanes and Express Lanes from I-15 to Pierce Street; and general purpose lanes from SR-241 to SR-71. The I-15 Express Lanes to be extended from Ontario Avenue to Cajalco Road are included in RCTC's I-15 Express Lane Project with an anticipated completion in 2020.

Key Considerations

Coordination among many of the SR-91 freeway projects that overlap the project limits is critical to successfully delivering these projects on schedule and within budget. Designing to accommodate future projects is a recurring theme for each of these projects. Minimizing conflicts in scope between projects requires direct coordination between each project team. Additionally, future projects frequently have multiple alternatives under study, each with differing scope and construction footprints. Specifically, the project improvements need to continue to be coordinated with the SR-71/SR-91 Interchange, the SR-241/91 Express Connector, and RCTC's I-15 Express Lane Project.

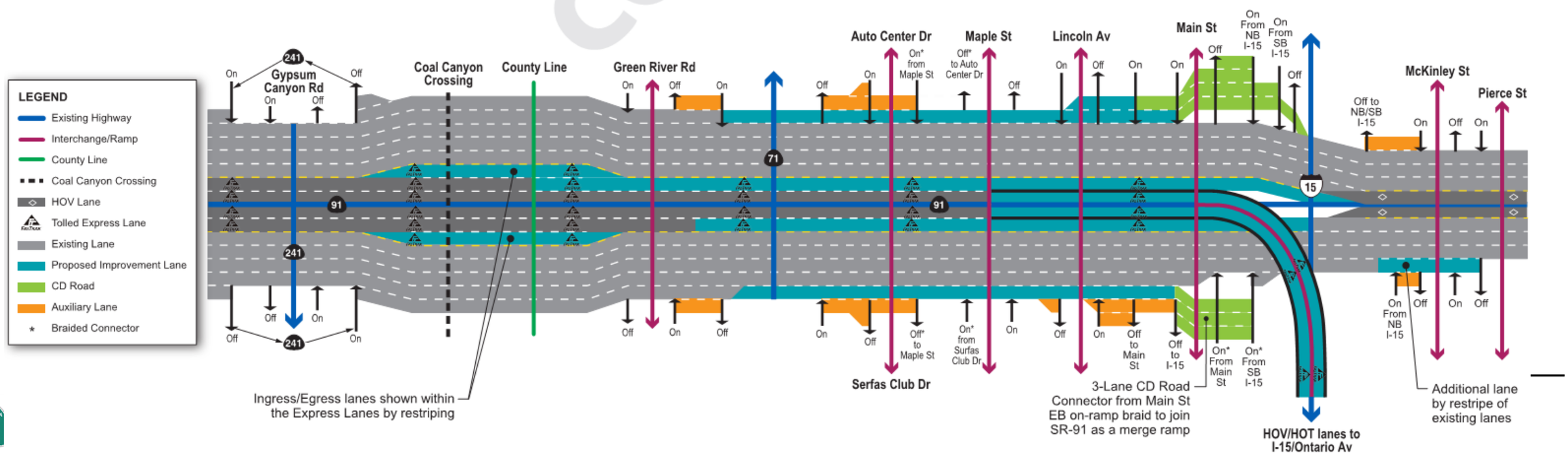
Benefits

The Initial Phase and Ultimate CIP projects will reduce congestion and delays by providing additional SR-91 capacity from SR-241 to Pierce Street, along I-15 from SR-91 to Cajalco Road to the south, and to Hidden Valley Parkway to the north. Traffic operations will improve by eliminating or reducing weaving conflicts along SR-91 and I-15 by the use of CD roads and auxiliary lanes. The project will provide motorists a choice to use Express Lanes for a fee in exchange for time savings.

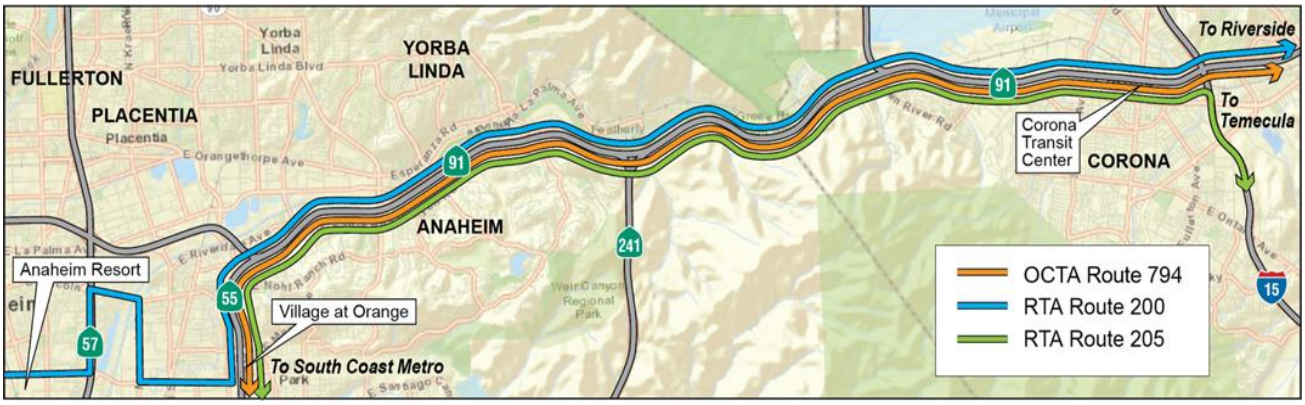
Current Status

The environmental phase was completed in Fall 2012. A Design-Build contractor was selected in May 2013 and construction activities began in early 2014 for the Initial Phase. The project is anticpated to open to traffic in Spring 2017 with final project acceptance anticipated at the end of 2017.

COMPLETED



Express Bus Service Improvements



Project Description

Orange County Transportation Authority (OCTA), working with the Riverside County Transportation Commission (RCTC) and the Riverside Transit Agency (RTA), operate Express Bus service between Riverside and Orange counties. Commuters lack direct transit connections to some Orange County employment centers not served by Metrolink. The Express Bus service provides this connection.

Existing Service

OCTA has operated Route 794 since 2006 from Riverside County to Hutton Centre and South Coast Metro (shown in orange above). On Route 794, OCTA removed trips to Corona in February 2018 based on low ridership. OCTA currently operates six morning westbound trips and five afternoon eastbound trips to/from the La Sierra Metrolink Station. Two new Express Bus routes were implemented by RTA in January 2018 between Riverside County and Orange County including RTA Route 200 (shown in blue above) from San Bernardino/Riverside to the Anaheim Resort. The route provides hourly service on weekdays and 90-120 minute service on weekends with a fleet of six buses. RTA Route 205 (shown in green above) from Lake Elsinore/Temecula/ Corona to the Village at Orange includes three AM and three PM roundtrips with 3 buses.

New Service

The Express Bus Routes have been fully implemented as of FY19 and there are no planned service additions. Changes to routes may be made in the future based on available funding and ridership demand.

Key Considerations

Intercounty Express Bus service is effective between locations where transit travel times by Express Bus would be more competitive than Metrolink and connecting rail feeder buses.

Benefits

Express Bus services contribute to congestion relief on SR-91.

Current Status

Since completion of the 91 Express Lanes, RTA more than doubled its Express Bus service on SR-91. Currently, OCTA operates 11 bus trips per day on SR-91. RTA now operates 47 trips on weekdays (up from 18 trips that Route 216 provided weekdays) and 18 trips on weekends (up from 8 trips provided by Route 216) on SR-91 Express Lanes. Service hours for this expansion is an extra 21,445 hours per year and is being served by five new coaches added to the RTA fleet.

Schedule and Cost

The Express Bus Routes have been fully implemented as of FY19. Ongoing operating costs average $4,892,000 per year and capital costs average $1,174,000 per year (2019 dollars). The annual capital cost was increased in 2019 to reflect the future cost of complying with the new Innovative Clean Transit regulation.

COMPLETED

La Sierra Metrolink Parking Improvements

Image source:
Riverside Transit Agency, April 2019

COMPLETE

Project Description

There are currently 1,000 spaces available. RCTC is implementing a parking lot expansion to include an additional 496 spaces and six bus bays to accommodate RTA Express Lane Service 200 that originates at Metrolink San Bernardino Transit Center with stops along Riverside Downtown Metrolink Station, Metrolink La Sierra, the Village at Orange, ARTIC, Disneyland, and Anaheim Convention Center, as well as other potential bus routes in the future.

Benefits

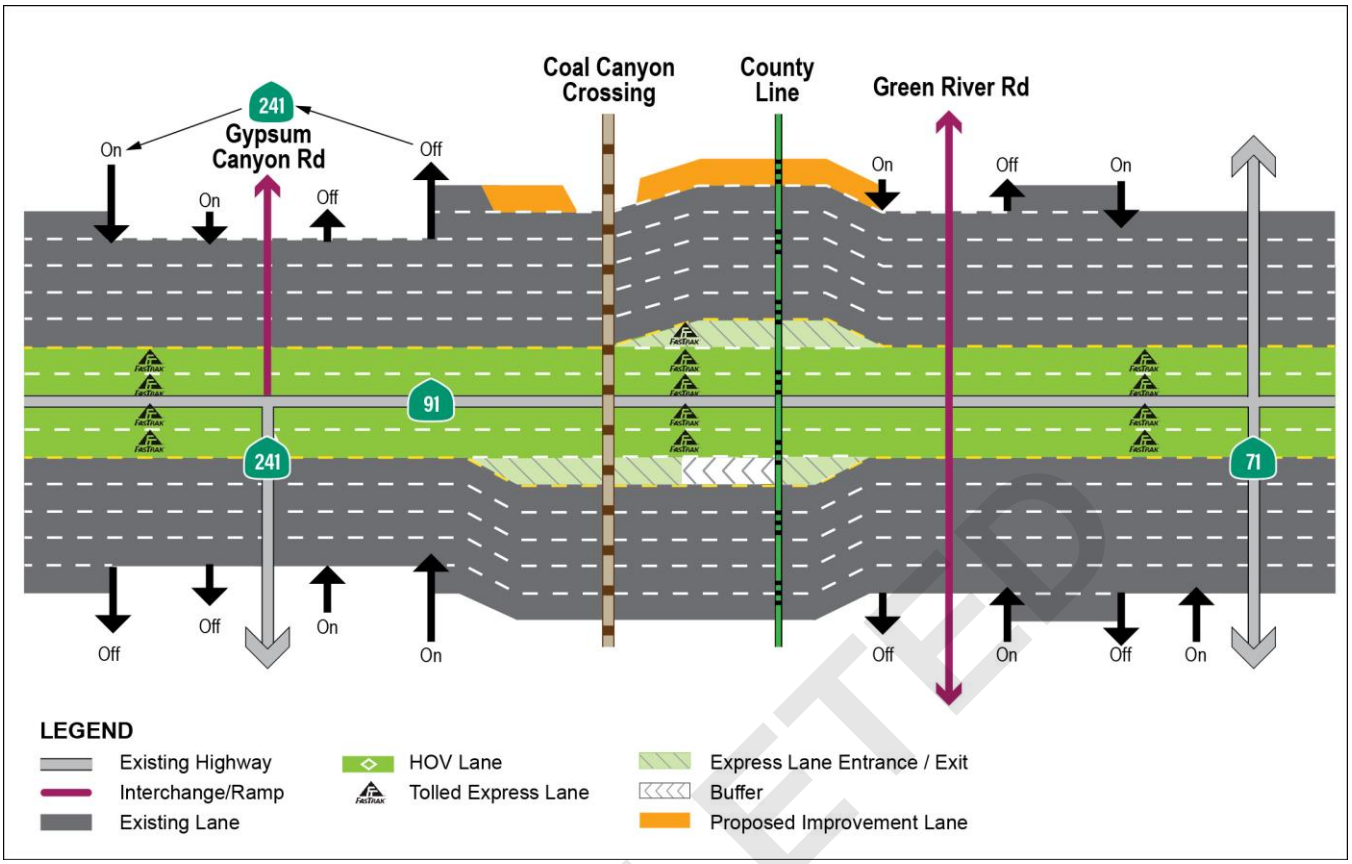
The 496 parking spaces will provide for existing and future demand. The parking lot expansion will provide for ADA parking, RTA express service, commuter rail, and vanpool.

Current Status

Construction and project implementation has begun.

Schedule and Cost

Construction was completed in February 2019. The project cost is estimated to be $6,260,000.



COMPLETED

Project Description

The Riverside County portion of the 91 Express Lanes began operation in March 2017. Throughout the first year of operation, RCTC made minor operational improvements to improve the SR-91 corridor travel between State Route 241 (SR-241) and McKinley Street. In November 2018, RCTC implemented additional striping and signage improvements to westbound SR-91 at the McKinley entrance to the 91 Express Lanes as well as the County Line access location to further enhance efficiency along the westbound SR-91 corridor between McKinley Street and SR-241. In December 2018, the RCTC Commission authorized its staff to proceed with a project to construct an additional westbound lane along SR-91 between Green River Road and SR-241 (the subject of this project). This new project is now known as the SR-91 Corridor Operations Project (91 COP).

Key Considerations

The goal of this project is to implement a substantial operational improvement that is cost effective and timely to address the peak period bottleneck conditions along westbound SR-91 near the County Line. Key considerations include reducing impacts to adjacent land and local streets by the use of retaining walls and minimizing throw-away costs with future projects. Specifically, the project improvements need to be coordinated with the SR-241/SR-91 Tolled Express Connector and the SR-91 Sixth GP Lane Addition projects.

Benefits

The 91 COP will reduce congestion and delays along westbound SR-91 between McKinley Street and SR-241.

Current Status

This project is within the footprint of the SR-91 Sixth GP Lane Addition project that was an element of the SR-91 CIP environmental document approved in 2012. An environmental revalidation for the 91 COP was completed in Spring 2020. Construction began in November 2020.

Schedule and Cost

Construction is planned for completion in 2022. The total project cost is estimated to be $38,000,000.

Appendix C - REFERENCES

The following documents and resources were used in the development of the 2022 Plan. Data was provided by OCTA, RCTC, Caltrans Districts 8 and 12, Transportation Corridor Agencies (TCA), other agencies, and online resources.

Measure M Next 10 Delivery Plan (Next 10 Plan), November 14, 2016

Riverside Transit Agency, Ten-Year Transit Network Plan, January 22, 2015

PSR-PDS on Route 91 Between SR-57 and SR-55, October 2014

PS&E for "Westbound State Route 91 Auxiliary Lane from the NB SR-55/WB SR-91 Connector to the Tustin Avenue Interchange", 2014

PS&E for Initial SR-91 CIP Project, 2014

California Transportation Commission, Corridor Mobility Improvement Account (CMIA), Amended December 2012

M2020 Plan (Measure M), September 2012

PSR-PDS for SR-241/SR-91 Tolled Express Connector, January 2012

Project Report and Environmental Document (EIR/EIS) for SR-91 CIP from SR-241 to Pierce Street Project, October 2012

PS&E "On State Route 91 Between the SR-91/SR-55 Interchange and the SR-91/SR-241 Interchange in Orange County", April 2011

Corridor System Management Plan (CSMP) Orange County SR-91 Corridor Final Report, August 2010

Project Study Report/Project Report "Right of Way Relinquishment on Westbound State Route 91 Between Weir Canyon Road and Coal Canyon", May 2010

SR-91/Fairmont Boulevard Feasibility Study, December 2009

Feasibility Evaluation Report for Irvine-Corona Expressway Tunnels, December 2009

Plans, Specifications and Estimates (PS&E) for Eastbound SR-91 lane addition from SR-241 to SR-71, May 2009

PSR "On State Route 91 Between the SR-91/SR-55 Interchange and the SR-91/SR-241 Interchange in Orange County", April 2009

91 Express Lanes Extension and State Route 241 Connector Feasibility Study, March 2009

PSR/PR "On Gypsum Canyon Road Between the Gypsum Canyon Road/SR-91 Westbound Off-Ramp (PM 16.4) and the Gypsum Canyon Road/SR-91 Eastbound Direct On-Ramp (PM 16.4)", June 2008

Orange County Transportation Authority Renewed Measure M Transportation Investment Plan, November 2006

Riverside County-Orange County Major Investment Study (MIS) – Final Project Report: Locally Preferred Strategy Report, January 2006

California – Nevada Interstate Maglev Project Report, Anaheim-Ontario Segment; California-Nevada Super Speed Train Commission, American Magline Group, August 2003

Route Concept Reports for SR-91, Caltrans Districts 8 and 12

Various Preliminary Drawings and Cross Sections, Caltrans Districts 8 and 12

COMMITTEE TRANSMITTAL

June 13, 2022

To: Members of the Board of Directors

From: Andrea West, Interim Clerk of the Board

Subject: Radio Voice Over Internet Protocol Pilot for Paratransit Vehicles

Transit Committee Meeting of June 9, 2022

Present: Directors Jones, Jung, Nguyen, and Sarmiento
Absent: Directors Do and Harper

Committee Vote

This item was passed by the Members present.

Committee Recommendation

Authorize the Chief Executive Officer to negotiate and execute sole source Agreement No. C-2-2165 between the Orange County Transportation Authority and Conduent Transport Solutions, Inc., in the amount of $250,000, for a one-year term, for an Intelligent Transportation Management System radio voice over internet protocol pilot program for paratransit vehicles.

OCTA

June 9, 2022

To: Transit Committee

From: Darrell E. Johnson, Chief Executive Officer

Subject: Radio Voice Over Internet Protocol Pilot for Paratransit Vehicles

Overview

The Orange County Transportation Authority's existing radio system for the paratransit vehicles will reach the end of its useful life and will need to be replaced in five years. Board of Directors' approval is requested for a pilot program using six paratransit vehicles to test functionality and operation of a new solution to replace the existing radio system.

Recommendation

Authorize the Chief Executive Officer to negotiate and execute sole source Agreement No. C-2-2165 between the Orange County Transportation Authority and Conduent Transport Solutions, Inc., in the amount of $250,000, for a one-year term, for an Intelligent Transportation Management System radio voice over internet protocol pilot program for paratransit vehicles.

Discussion

The Orange County Transportation Authority (OCTA) currently uses L3Harris Technology, Inc. (L3Harris) OpenSky II radio system. This radio system is obsolete and will be declared end-of-life (EOL) at some point this year according to the manufacturer, L3Harris. When L3Harris officially declares OpenSky II radio EOL, the OpenSky II support will terminate five years from the EOL declaration.

OCTA has developed and begun transitioning its fixed-route fleet from OpenSky II radios to a Voice Over Internet Protocol (VOIP) cellular solution, which is provided by Conduent Transport Solutions, Inc. (Conduent), utilizing existing technologies from AT&T FirstNet and Verizon. VOIP technology is proven communication technology that is being adopted to OCTA's fleet. OCTA also employs this technology for its On-Board Video Surveillance System and its electronic fare collection systems on OCTA's fixed-route vehicles. OCTA will

utilize common carrier cellular technologies to transmit voice and data communications over common carrier cellular networks.

A separate pilot program for 12 fixed-route vehicles to test Conduent's VOIP solution has already been completed. OCTA was successful with this pilot and moved forward with outfitting new fixed-route vehicles with VOIP technologies as they are procured and delivered.

To ensure proper integration of the entire fleet into the Intelligent Transportation Management System (ITMS) provided by Conduent, OCTA is seeking to do the same type of pilot with its paratransit vehicles. Conduent has a new all-in-one device that is suitable for smaller paratransit and micro-transit vehicles. The primary aim of this pilot is to fully test and vet this new all-in-one equipment in real time operation to ensure it is suitable for OCTA's paratransit operation. Should the pilot program fail, Conduent would be required to extend the pilot program, at no additional cost to OCTA, to adjust its technology until the system works for OCTA's paratransit operation. Since the ITMS is integrated by Conduent, it is imperative that the new all-in-one device technology works. Otherwise, a new procurement would be needed to refresh the entire system.

Procurement Approach

The procurement was handled in accordance with OCTA's Board of Directors (Board)-approved policies and procedures for a sole source procurement.

Conduent is the exclusive owner of the new all-in-one equipment. Conduent has proprietary rights to its technology and is the sole entity able to market and sell its proprietary technology, as it does not have agreements that allow resale through other vendors. Therefore, Conduent meets OCTA's criteria for a sole source procurement, and based on its technical ability and financial status, the firm is deemed responsible.

Conduent's proposal was reviewed by staff from the Contracts Administration and Materials Management and Information Systems departments to ensure compliance with the contract terms and conditions, as well as the technical requirements.

In accordance with OCTA's sole source procurement procedures, a sole source over $50,000 requires OCTA's Internal Audit Department to conduct a price review of the vendor's proposed pricing. As is common with these types of vendors, Conduent did not provide a detailed cost breakdown in a format that would be required in order to perform a price review. As a result, staff used the

information available, including past contracts, to analyze the reasonableness of the quoted price. Staff determined that the quoted pricing from Conduent is consistent with contract pricing and quotes with other government agencies and OCTA for similar services, which are comparable in scope, requirements, and technical specifications. In addition, the quoted price is lower than the OCTA project manager's independent cost estimate. Therefore, the quoted price is deemed fair and reasonable.

Fiscal Impact

The project was approved in OCTA's Fiscal Year 2021-22 Budget, Finance and Administration, Information Systems Department, Account No. 1288-9028-D1111-0WY, and is funded through Local Transportation Funds.

Summary

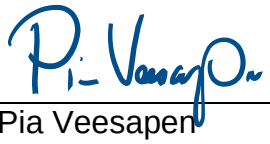
Staff recommends the Board of Directors authorize the Chief Executive Officer to negotiate and execute sole source Agreement No. C-2-2165 between the Orange County Transportation Authority and Conduent Transport Solutions, Inc., in the amount of $250,000, for a one-year term, for a radio Voice Over Internet Protocol pilot for paratransit vehicles.

Attachment

None.

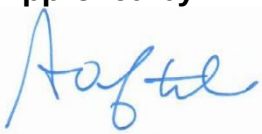
Prepared by:

Michael Beerer
Senior Section Manager, Information Systems
714-560-5352



Pia Veesapen
Director, Contracts Administration and Materials Management
714-560-5619

Approved by:



Andrew Oftelie
Chief Financial Officer
Finance and Administration
714-560-5649

COMMITTEE TRANSMITTAL

June 13, 2022

To: Members of the Board of Directors

From: Andrea West, Interim Clerk of the Board

Subject: Bus Operations Performance Measurements Report for the Third Quarter of Fiscal Year 2021-22

Transit Committee Meeting of June 9, 2022

Present: Directors Jones, Jung, Nguyen, and Sarmiento
Absent: Directors Do and Harper

Committee Vote

This item was passed by the Members present.

Committee Recommendation

Receive and file as an information item.

OCTA

June 9, 2022

To: Transit Committee

From: Darrell E. Johnson, Chief Executive Officer

Subject: Bus Operations Performance Measurements Report for the Third Quarter of Fiscal Year 2021-2022

Overview

The Orange County Transportation Authority operates fixed-route bus and demand-response paratransit service throughout Orange County and into neighboring counties. The established measures of performance for these services assess the safety, courtesy, reliability, and overall quality of the services. This report summarizes the year-to-date performance of these services through the third quarter of fiscal year 2021-22.

Recommendation

Receive and file as an information item.

Background

The Orange County Transportation Authority (OCTA) operates a countywide network of 58 routes, including local, community, rail connector, and express bus routes serving over 5,000 bus stops. Fixed-route bus (OC Bus) service operates in a 798 square-mile area, serving more than three million residents in 34 cities and unincorporated areas, with connections to transit services in Los Angeles, Orange, and Riverside counties. OCTA provides these services through both directly-operated fixed-route (DOFR) and contracted fixed-route (CFR) service. OCTA also provides OC ACCESS, a federally mandated paratransit service, which is a shared-ride program available for people unable to use the OC Bus service because of functional limitations. Performance measures for OC Bus, OC ACCESS, and OC Flex services are summarized and reported quarterly (Attachment A).

In response to a significant decline in ridership as the result of the coronavirus (COVID-19) pandemic, OC Bus service has operated on a significantly reduced schedule, beginning with a Sunday-only schedule, seven days a week, implemented in March 2020. This was followed by the implementation of a Saturday schedule, six days a week, in June 2020. This level of service was sustained through the entirety of fiscal year (FY) 2020-21, ending June 30, 2021. In August 2021 and February 2022, more capacity was added to support the return of students to in-person instruction in fall 2021 and increases in ridership. During this time, OCTA operated 52 of the 58 total OC Bus routes.

Discussion

This report provides an update on the performance of the OC Bus and OC ACCESS services by presenting the current trends and comparisons with OCTA-established performance standards for transit system safety, courtesy, and reliability. OCTA counts preventable vehicle accidents to evaluate system safety, customer complaints to assess courtesy, and uses both on-time performance (OTP) and miles between road calls (MBRC) to measure service reliability.

This report includes performance through the third quarter, including the months of January, February, and March of FY 2021-22. OCTA continues to operate a reduced level of service with the prolonged impact of the COVID-19 pandemic. This is reflected in the performance to be discussed in this report. During this reporting period, increased ridership coupled with driver availability negatively impacted OC Access OTP and courtesy. The ongoing procurement and replacement of OC Access cutaway buses resulted in an improvement in MBRC.

- Safety – DOFR and CFR OC Bus service performed below the accident frequency standard of one preventable accident per 100,000 service miles. OCTA Operations and contracted staff continue to stress safety in the bus loading/unloading zones and vehicle operation that impacts passenger safety inside the vehicle (passenger falls). Training and discussions continue with coach operators emphasizing safety and identifying problem locations where fixed-object strikes frequently occur. Accident prevention is also reinforced during post-accident retraining and during annual refresher training. OC ACCESS exceeded the performance standard.

- Customer Service – Customer service is measured by evaluating the number of valid customer complaints received compared to boardings. Through the third quarter, the DOFR and CFR modes of service performed above the respective standards. OC ACCESS fell below the

standard as increasing ridership and driver shortages resulted in challenges to meet key metrics, including OTP, causing an increase in customer complaints.

- Reliability – Through the third quarter, the OTP for DOFR service met the standard while CFR service also improved but remained below standard. The improvements were a result of the service changes implemented in October 2021. OC ACCESS remained below standard due to increasing demand and driver shortages.

- MBRC – The MBRC for CFR and OC ACCESS improved from the previous quarter and met the standard. DOFR also improved from the previous quarter but was slightly below the standard. Improvements are expected as OCTA continues to replace its OC ACCESS fleet.

The report also includes:

- An assessment of the efficiency of OCTA transit operations based on industry standards for ridership, productivity, farebox recovery, and cost per revenue vehicle hour;

- A review of contractor performance for CFR and OC ACCESS services;

- A route-level performance evaluation that includes subsidy per boarding, revenue per boarding, and resource allocation (buses); and

- A performance assessment of the OC Flex microtransit service and a report on the College Pass Program.

Summary

Through the third quarter of FY 2021-22, the performance of OC Bus service exceeded the performance in the area of courtesy and OTP but is below the performance standard for safety and reliability (MBRC). OC ACCESS exceeded the performance standard for safety and reliability (MBRC) but was below standard for Courtesy and OTP as the contractor had a difficult time with coach operator availability in light of increasing ridership. OCTA staff continues to focus on strategies to improve safety and reliability, track the established key performance indicators, manage the service agreements pursuant to contract requirements, and work to identify other strategies to improve overall system performance.

Attachment

A. Bus Operations Performance Measurements Report, Third Quarter, Fiscal Year 2021-22

Prepared by:

Johnny Dunning, Jr.
Interim Chief Operating Officer,
Operations
(714) 560-5710

ATTACHMENT A

Bus Operations Performance Measurements Report

Third Quarter
Fiscal Year 2021-22

OCTA

About This Report

The Orange County Transportation Authority (OCTA) operates a countywide network of 58 routes, including local, community, rail connector, and express bus routes serving over 5,000 bus stops known as OC Bus. OCTA also operates paratransit service (OC ACCESS), a shared-ride program available for people unable to use the standard OC Bus service because of functional limitations. OC Bus service is provided through both direct operations by OCTA, referred to as directly-operated fixed-route (DOFR), and contracted operations, referred to as contracted fixed-route (CFR) service. The OC ACCESS service is a contract-operated demand-response service required by the Americans with Disabilities Act that is complementary to the fixed-route service and predominately accounts for the overall paratransit services operated by OCTA. These services make up the bus transit system and are evaluated by the performance measurements summarized in this report.

This report tracks bus system safety, as measured by vehicle accidents, courtesy, as measured by customer complaints, and reliability, as measured by on-time performance (OTP) and miles between road calls (MBRC). Along with these metrics, industry-standard measurements are tracked to assess OCTA bus operations; these measurements include ridership, productivity, farebox recovery ratio (FRR), and cost per revenue vehicle hour (RVH). Graphs accompany the details of each indicator showing the standards or goals and the values for the current reporting period. The following sections provide performance information for OC Bus service, DOFR and CFR, and OC ACCESS service.

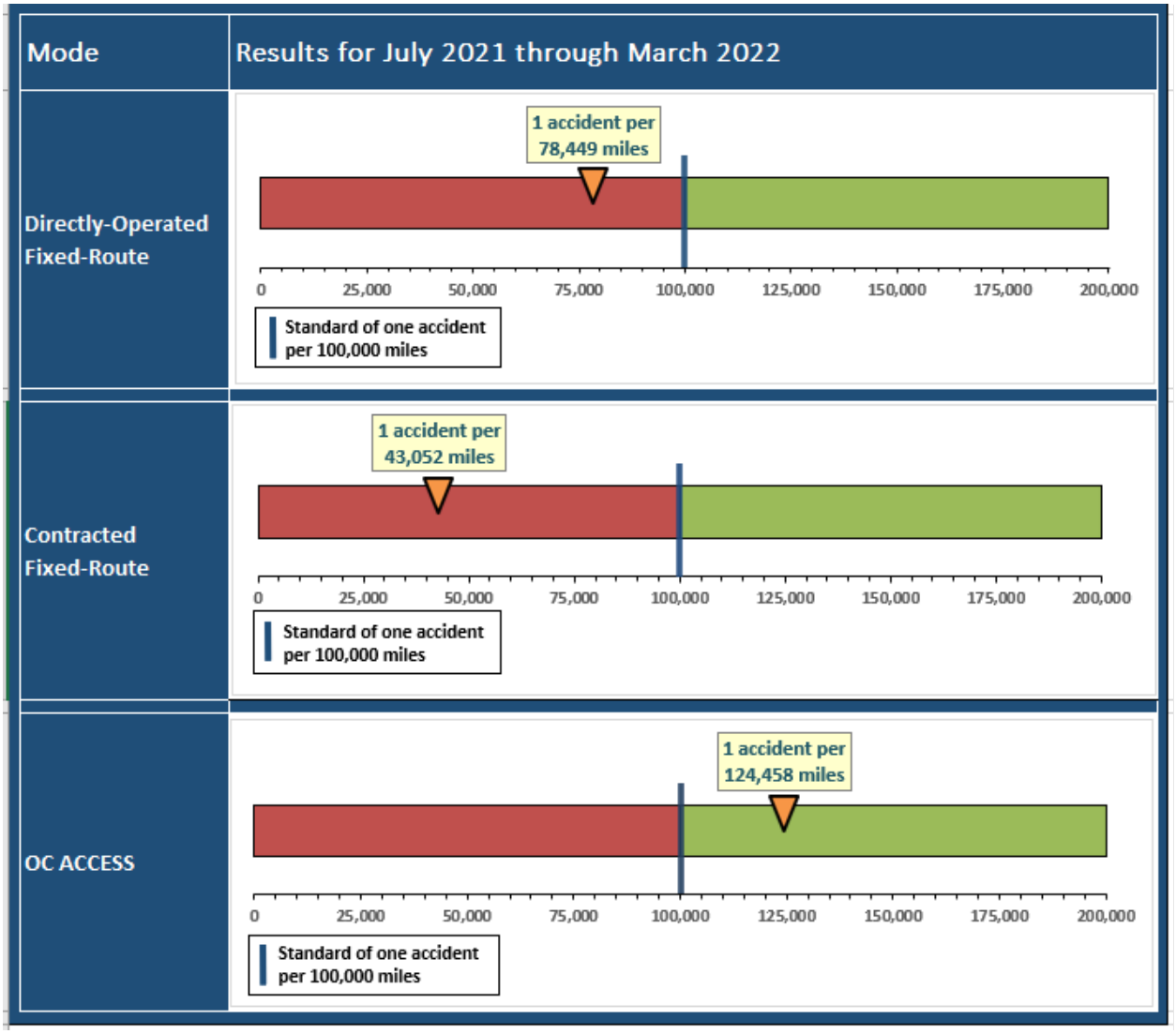
Through March 2022, OCTA continued to operate a reduced level of service through the prolonged impact of the coronavirus (COVID-19) pandemic. This is reflected in the performance to be discussed in this report. During this reporting period, increased ridership coupled with driver availability negatively impacted OC ACCESS OTP and Courtesy metrics. The ongoing procurement and replacement of OC ACCESS cutaway buses resulted in an improvement in MBRC.

FY2021-22 Q3 SUMMARY

- **Safety**:
  - DOFR - ▼
  - CFR - ▼
  - OC ACCESS - ▲
- **Courtesy**:
  - DOFR - ▲
  - CFR - ▲
  - OC ACCESS - ▼
- **OTP**:
  - DOFR - ▲
  - CFR - ▼
  - OC ACCESS - ▼
- **MBRC**:
  - DOFR - ▼
  - CFR - ▲
  - OC ACCESS - ▲

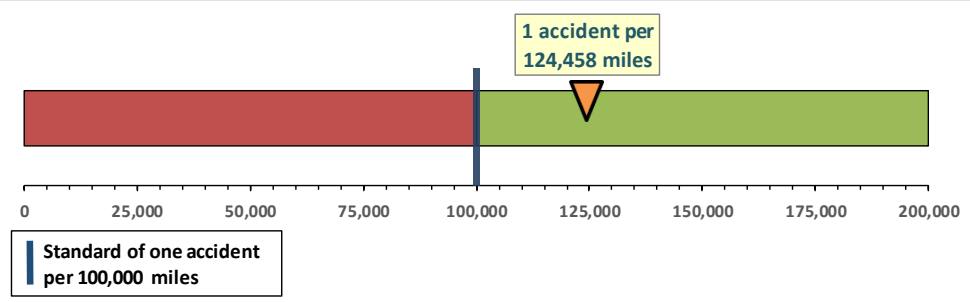
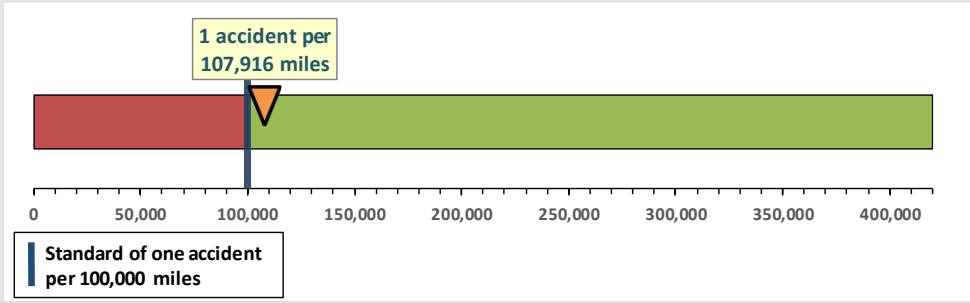
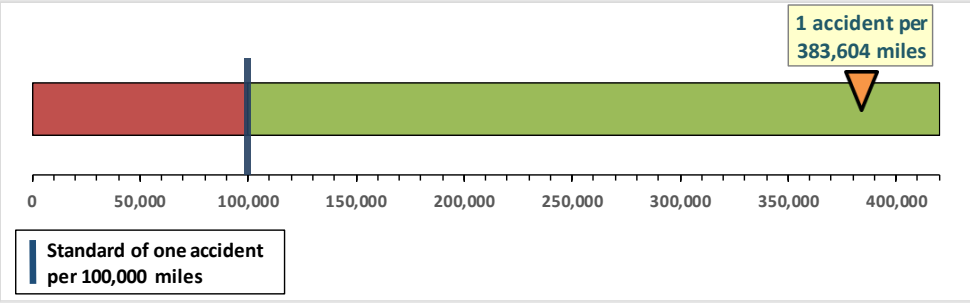
Safety: Preventable Vehicle Accidents

OCTA is committed to the safe delivery of the OC Bus service. The safety standard for DOFR, CFR, and OC ACCESS services is no more than one vehicle accident per 100,000 miles. Preventable vehicle accidents are defined as incidents when physical contact occurs between vehicles used for public transit and other vehicles, objects, or pedestrians, and where a coach operator failed to do everything reasonable to prevent the accident. On-board passenger falls on fixed-route service that are determined to be preventable are also included among these accidents. Through the third quarter (Q3) of fiscal year (FY) 2021-22, DOFR and CFR did not meet the standard of operating more than 100,000 miles between preventable accidents.



DOFR OC Bus continues to perform below the accident frequency standard and OCTA Operations staff continues to focus on and stress the importance of safety, conduct safety-related campaigns, and promote the safe driving award program. Training remains focused on safety with most preventable accidents during the quarter being the result of the operator striking fixed objects and parked cars.

For CFR, the number of miles between preventable accidents continues to be below the performance standard through Q3. The trends by accident type were similar to DOFR, with 60 percent of the preventable accidents being fixed-object strikes (curb, sign, pole, stationary vehicles). Staff continues working with the contractor to improve performance and reduce the current accident trends.

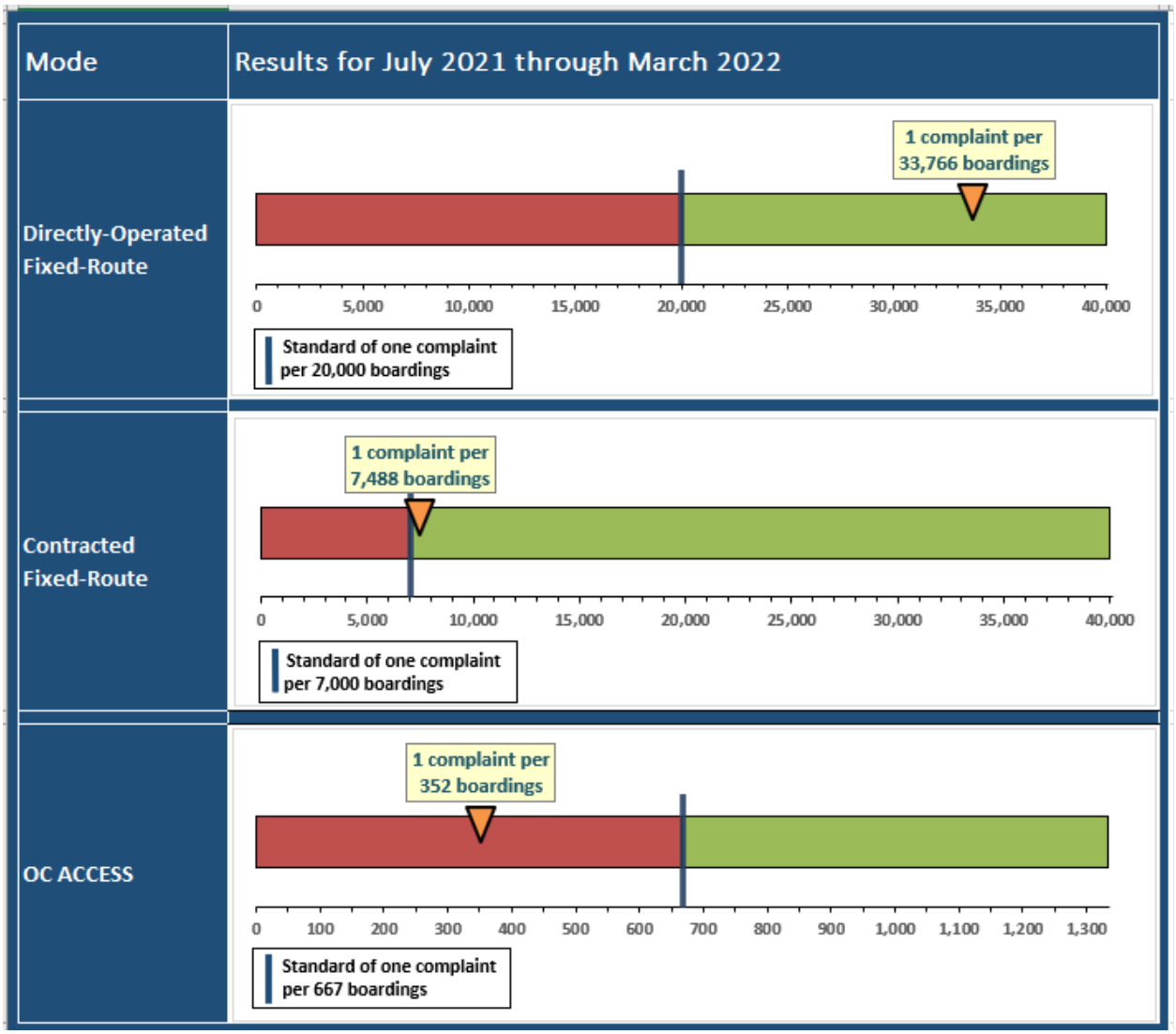
Mode	Results for July 2021 through March 2022
OC ACCESS	
Primary OC ACCESS	
Supplemental OC ACCESS	

Both Primary and Supplemental OC ACCESS performed above the standard for the quarter, an improvement of 38.7 and 46.8 percent from the prior quarter, respectively.

Courtesy: Customer Complaints

OCTA strives to achieve a high level of customer satisfaction in the delivery of OC Bus services. The performance standard for customer satisfaction is courtesy as measured by the number of valid complaints received. Customer complaints are the count of incidents when a rider reports dissatisfaction with the service. The standard adopted by OCTA for DOFR OC Bus is no more than one customer complaint per 20,000 boardings; the standard for CFR OC Bus service is no more than one complaint per 7,000 boardings; and the contractual standard for OC ACCESS is no more than one complaint per 667 boardings.

Through Q3 of FY 2021-22, the DOFR and CFR modes of service continue to perform well, exceeding the courtesy standard with less than one valid complaint per 20,000 and 7,000 boardings, respectively, while OC ACCESS performed well below standard.

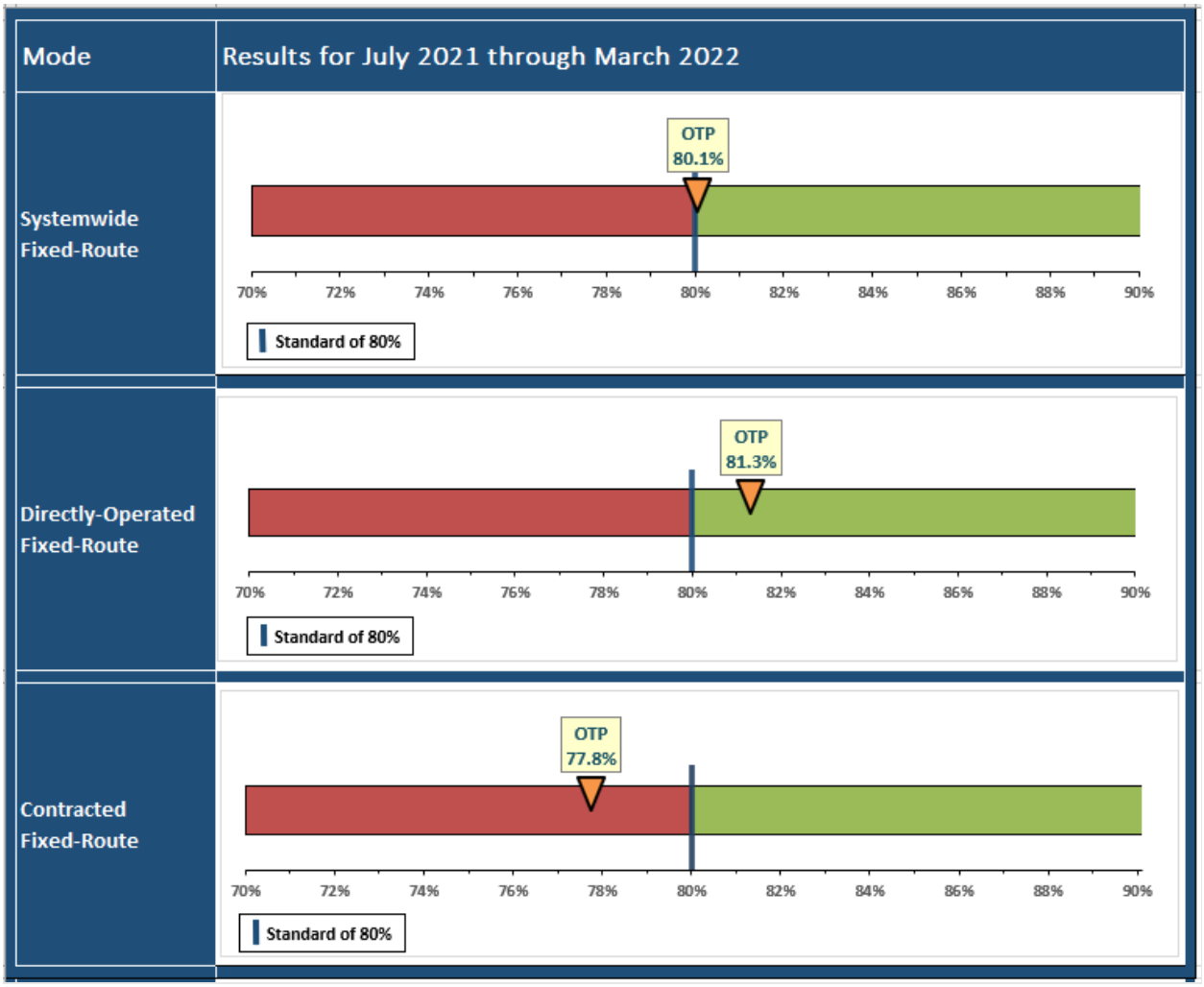


For OC ACCESS, the challenges associated with increasing ridership and operator shortages continued into Q3. As demand returns to pre-pandemic levels, the contractor is actively recruiting employee resources and expanding use of subcontractors to increase capacity and minimize service delays, which was the chief complaint throughout Q3.

Reliability: On-Time Performance

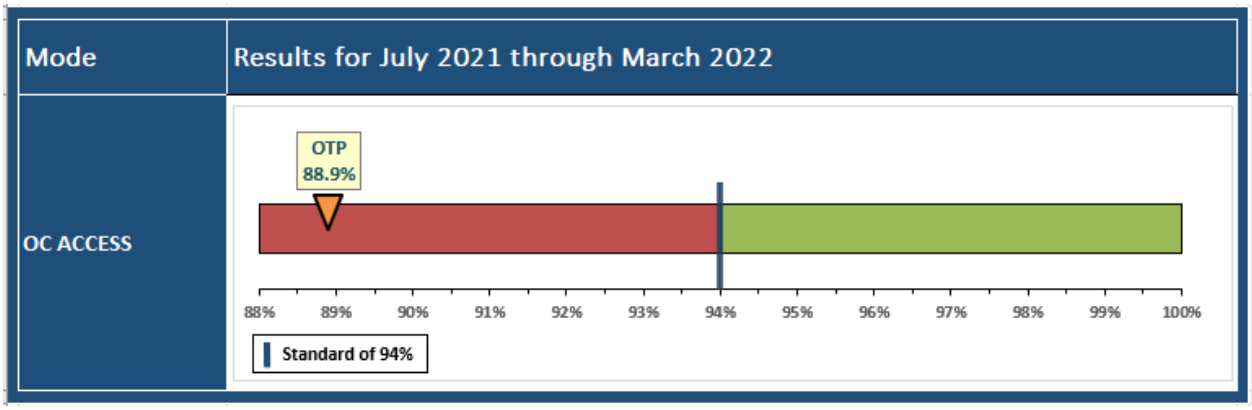
Reliability is vital to a successful transportation network. Reliability for OCTA is measured in part by OTP. OTP is a measure of performance which evaluates the schedule adherence of a bus operating in revenue service according to a published schedule. Schedule adherence is tracked by monitoring the departure of vehicles from time points, which are designated locations on a route used to control vehicle spacing as shown in the published schedule. For OC Bus service, a trip is considered on-time if it departs the scheduled time point from zero minutes before up to no more than five minutes after the time as printed on the bus route schedule. OCTA's fixed-route system standard for OTP is 80 percent. For OC ACCESS service, OTP is a measure of performance evaluating a revenue vehicle's adherence to a scheduled pickup time for transportation on a demand-response trip. A trip is considered on-time if the vehicle arrives within a 30-minute window. The OC ACCESS OTP standard is 94 percent.

Systemwide fixed-route OTP was 80.1 percent, 1.1 percent higher than the prior quarter. The OTP-related service adjustments implemented in October 2021 and February 2022 were the primary reason for the improvement. The OTP for DOFR met the standard operating at a rate of 81.3 percent. OC Bus operated by CFR and OC ACCESS services both fell below the respective standards during Q3 of FY 2021-22.



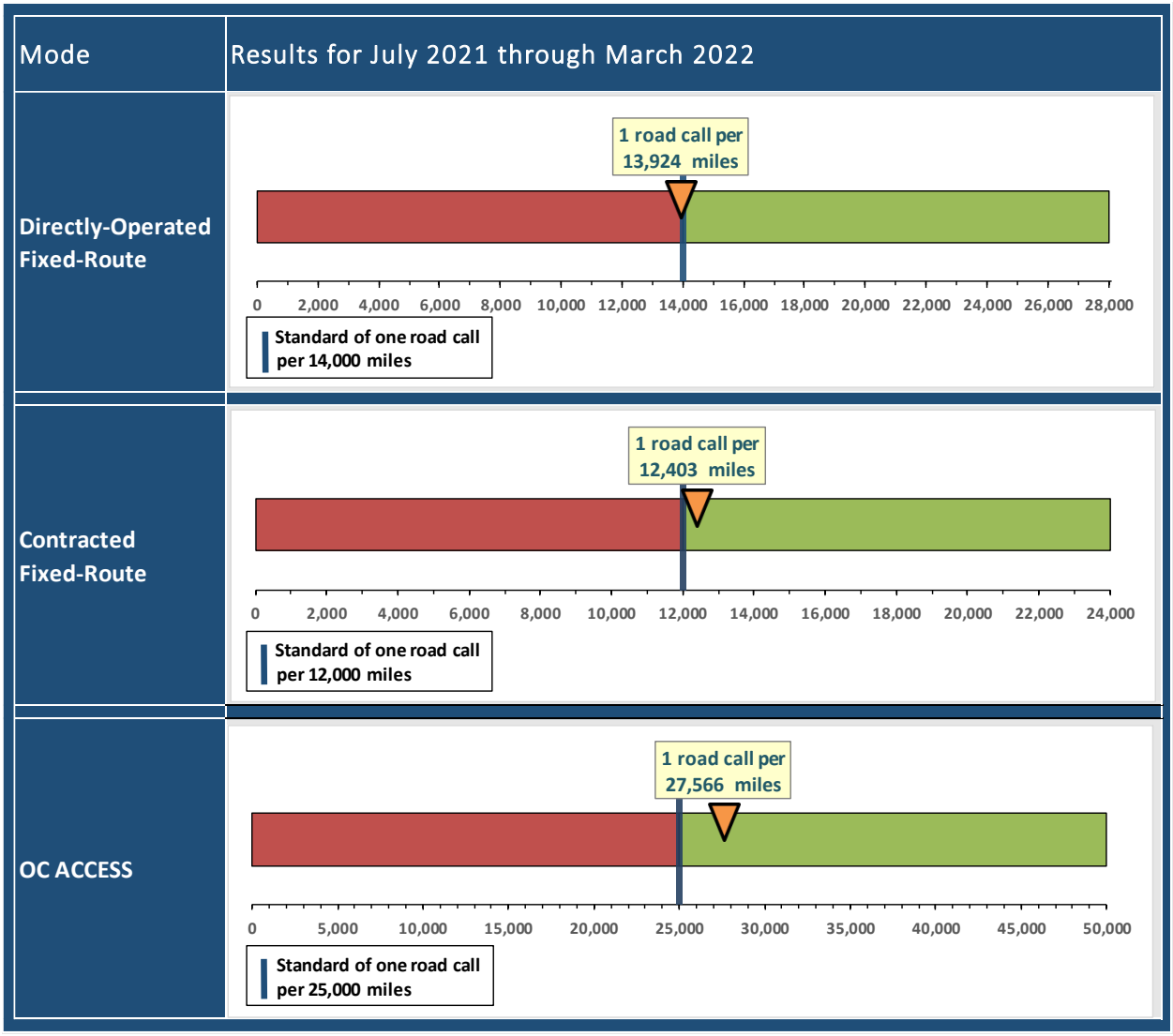
The OTP for CFR service may have suffered due to the substantial number of missed trips due to the surge in COVID cases. Missed trips potentially have cascading impacts on subsequent trips which experience delay due to higher-than-normal trip volumes and longer dwell times.

The OTP for OC ACCESS was below standard with a rate of 88.9 percent, 0.2 percent higher than the rate reported last quarter and 5.1 percent below the standard. The OC ACCESS contractor struggled to meet the OTP standard in Q3 due to significant increases in demand as adult day programs for seniors and individuals with disabilities throughout Orange County resumed operations or expanded their capacity. Staff is working closely with the contractor to ensure appropriate operator resources, both employee and subcontracted, are in place to meet the increasing demand as ridership continues to recover to pre-pandemic levels.



Reliability: Miles Between Road Calls

MBRC is a vehicle reliability performance indicator that measures the average distance in miles that a transit vehicle travels before failure of a vital component forces removal of the vehicle from service. OCTA has adopted standards for the MBRC for DOFR, CFR, and OC ACCESS services. These standards vary to align with the specific type of service being provided and to account for the variability inherent to each of these services including the vehicles assigned. The specific standards as adopted by OCTA are 14,000 MBRC for DOFR OC Bus service, 12,000 MBRC for CFR OC Bus service, and 25,000 MBRC for OC ACCESS.



Through Q3, the MBRC for DOFR was slightly under the performance standard while CFR and OC ACCESS services met the performance standard.

OCTA operates two primary fleets in fixed-route service, 2007/2008 New Flyer compressed natural gas (CNG) Low Floor buses, and 2016 New Flyer Xcelsior CNG buses. The first fleet is now at the end of its designed useful life and is experiencing failures due to long-term wear and tear. A new bus procurement is in effect to replace the 2007/2008 buses over the next year. The 2016 buses are now due for a planned

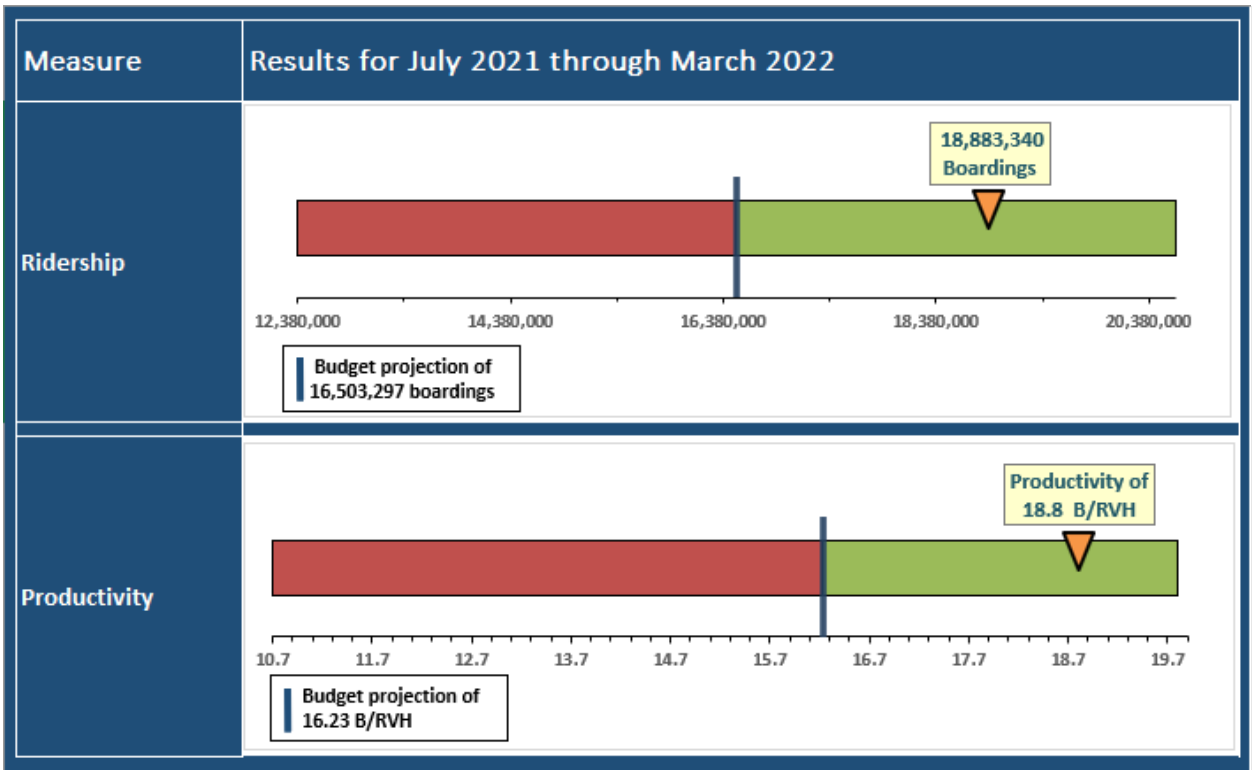
engine mid-life repower. OCTA is currently in the process of replacing the engines in the 2016 fleet with new near-zero emission engines. This will continue for the next 18 months and is expected to improve performance in terms of MBRC. Both CFR and DOFR are experiencing increased failures, including road calls, that can be expected and consistent with the age and current condition of the two fleets.

MBRC for OC ACCESS for Q3 of FY 2021-22 met the performance standard. Performance improved this quarter with the replacement of 82 cutaway buses, which represents 33 percent of the paratransit bus fleet. Improvements are expected to continue as the remaining 35 cutaway buses of a 117-bus procurement are delivered to replace the old buses which will be retired.

Ridership and Productivity – OC Bus

Ridership (or boardings) is the number of rides taken by passengers using public transit and is influenced by the level of service provided, weather, the economy, and seasonal variations in demand. Productivity is an industry measure that counts the average number of boardings for each revenue vehicle hour (RVH) that is operated. An RVH is any 60-minute increment of time that a vehicle is available for passengers within the scheduled hours of service, excluding deadhead (a non-revenue movement of a transit vehicle to position it for service). Boardings per RVH (B/RVH) is calculated by taking the boardings and dividing it by the number of RVH operated.

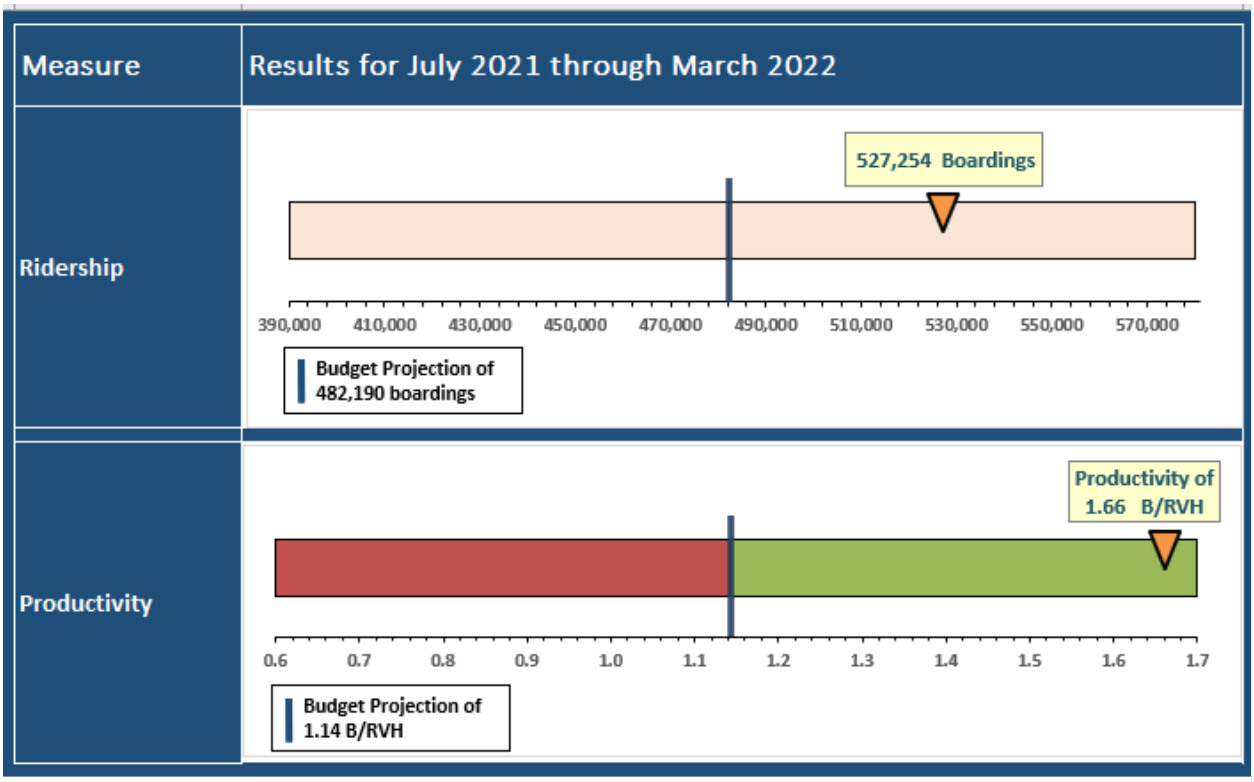
The COVID-19 pandemic continued to have an impact overall on ridership and productivity for all services through Q3. The COVID-19 Omicron variant continued to impact ridership into Q3; ridership began rising in late January as schools returned from winter break. Ridership rose throughout the quarter, averaging over 85,000 on weekdays through March. Through the end of Q3, total ridership is trending at 14.4 percent higher than the budgeted projection. Productivity for OC Bus service was also higher than the budgeted projection, trending at 18.8 boardings per RVH.



Ridership and Productivity – OC ACCESS

(Primary Service Provider and Supplemental Taxi Service)

Through Q3 of FY 2021-22, the total ridership and productivity for OC ACCESS was 9.3 percent and 45.6 percent higher than the budgeted projections, respectively. Travel for eligible riders continued to increase as facilities reopened and adult day programs for seniors and individuals with disabilities resumed operation throughout Orange County.



Contractor Performance: Fixed-Route

Per Agreement No. C-4-1737 between OCTA and First Transit, Inc. (First Transit), additional measures are tracked to ensure the CFR OC Bus service meets specified standards for safety, customer service, and reliability. When the contractor's monthly performance exceeds the standard as set forth in the agreement, financial incentives are paid to First Transit; conversely, when the monthly performance of the contractor is below the standard as set forth in the agreement, penalties are assessed and are paid to OCTA by First Transit.

For Q3 of FY 2021-22, the overall performance of the contracted OC Bus service as determined by the performance categories outlined in the contract was below standard for complaints per boardings, accident reporting, key positions, a California Highway Patrol (CHP) terminal inspection and missed trips.

Table 1 provides the penalties and incentives assessed to the contractor by quarter for FY 2021-22. The incentives paid in Q3 relate to courtesy and accident frequency ratio, which totaled $15,000. The total penalties assessed to First Transit during the quarter was $2,447,246, of which 93 percent was assessed for missed trips. During the reporting period, First Transit missed a significant amount of service due to an inadequate roster, the surge in COVID-19 cases related to the Omicron variant, and the coach operator shortage facing the transit industry across the country. Staff continues to work with First Transit to ensure their person power resources are balanced with the level of service assigned. Overall, the FY-to-date total payment to OCTA to $2,437,475 after the adjustment for waived penalties.

Table 1:	Performance Categories	FY22 Q1	FY22 Q2	FY22 Q3	FY22 Q4	FYTD 22
Penalties	On-Time Performance	$ (3,000)	$ (5,000)	$ -	$ -	$ (8,000)
	Valid Complaints: Per 7,000 boardings	$ -	$ -	$ (7,900)	$ -	$ (7,900)
	Unreported Accident	$ (10,000)	$ -	$ (5,000)	$ -	$ (15,000)
	Accident Frequency Ratio	$ -	$ -	$ -	$ -	$ -
	Key Positions	$ -	$ (28,766)	$ (132,346)	$ -	$ (161,112)
	CHP Terminal Inspections	$ -	$ -	$ (25,000)	$ -	$ (25,000)
	Reports	$ -	$ -	$ -	$ -	$ -
	Preventive Maintenance	$ (1,600)	$ (100)	$ -	$ -	$ (1,700)
	Road Calls	$ (1,700)	$ (400)	$ -	$ -	$ (2,100)
	Vehicle Damage: Per vehicle per day	$ -	$ -	$ -	$ -	$ -
	Missed Trips	$ (20,000)	$ (51,000)	$ (2,277,000)	$ -	$ (2,348,000)
	Total	**$ (36,300)**	**$ (85,266)**	**$ (2,447,246)**	**$ -**	**$ (2,568,812)**
Incentives	On-Time Performance	$ -	$ -	$ -	$ -	$ -
	Valid Complaints: Per 7,000 boardings	$ 6,400	$ 4,500	$ -	$ -	$ 10,900
	Accident Frequency Ratio	$ 15,000	$ 15,000	$ 15,000	$ -	$ 45,000
	Total	**$ 21,400**	**$ 19,500**	**$ 15,000**	**$ -**	**$ 55,900**
Adjustment	Unreported Accident (Prior Period)	$ -	$ -	$ -	$ -	$ -
	Waived Penalties (On-Time Performance	$ 3,000	$ 5,000	$ -	$ -	$ 8,000
	Waived Penalties (Key Position)	$ -	$ -	$ 67,537	$ -	$ 67,537
	Waived Incentives	$ -	$ -	$ -	$ -	$ -
	Road Calls	$ -	$ (100)	$ -	$ -	$ (100)
	Total	**$ 3,000**	**$ 4,900**	**$ 67,537**	**$ -**	**$ 75,437**
All	**Total**	**$ (11,900)**	**$ (60,866)**	**$ (2,364,710)**	**$ -**	**$ (2,437,475)**

Contractor Performance: OC ACCESS

(Primary Service Provider and Supplemental Taxi Service)

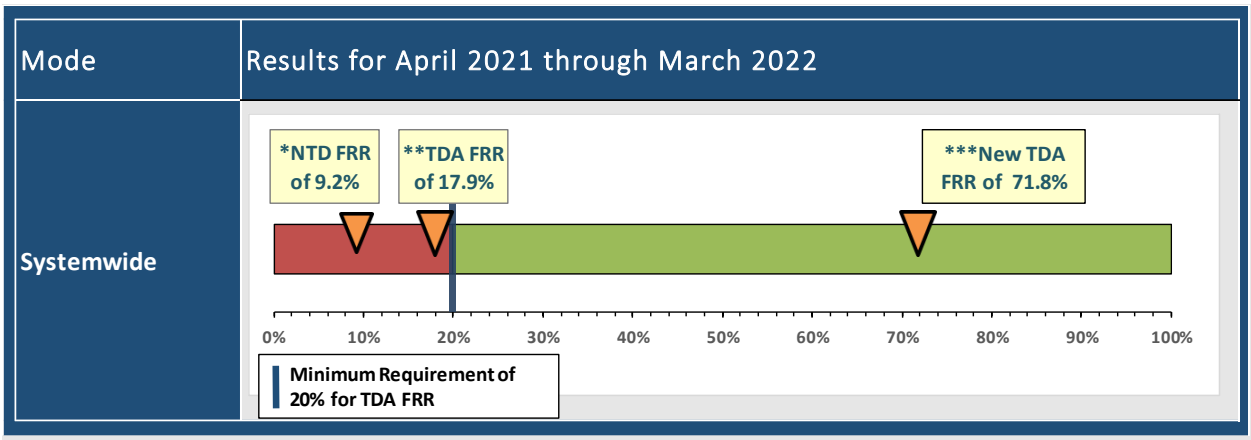
Per Agreement No. C-2-1865 between OCTA and MV Transportation, Incorporated which apply to Q1 and Q2 of FY 2021-22, and Agreement No. C-0-2150 between OCTA and First Transit, which apply to Q3, additional measures are tracked to ensure OC ACCESS meets the standards for safety, customer service, and reliability. Like the contracted fixed-route service, the contractor for OC ACCESS is paid financial incentives and penalties when monthly performance exceeds or comes in below the standard as set forth in the agreement. Financial incentives are paid to the contractor and assessed penalties are paid to OCTA by the contractor.

As presented in this report, the overall performance of the contractor providing OC ACCESS service through Q3 of FY 2021-22 is below standard with respect to courtesy and OTP. Table 2 lists, by quarter, the penalties and incentives assessed to the OC ACCESS contractor as established in the agreement. The penalties identified and under review for Q3 amount to $482,200 for performance in pick up and arrival OTP, customer complaints, call center hold times, excessively early and late trips, missed trips, accident/incident notification, reports, routing efficiency and drug and alcohol audit. A penalty waiver is under consideration for some metrics in Q3 due to impacts to service resulting from the surge in COVID-19 cases experienced in Orange County.

Table 2:	Performance Categories	FY22 Q1	FY22 Q2	FY22 Q3	FY22 Q4	FYTD 22
Penalties	Passenger Productivity	$ (30,000)	$ (30,000)			$ (60,000)
	On-Time Performance	$ (45,000)	$ (95,000)			$ (140,000)
	Pick-Up On-time Performance			$ (50,000)	$ -	$ (50,000)
	Arrival On-Time Performance			$ (109,000)	$ -	$ (109,000)
	Customer Comments	$ (32,900)	$ (30,800)			$ (63,700)
	Customer Complaints			$ (16,700)	$ -	$ (16,700)
	Call Center Hold Times	$ (31,000)	$ (15,000)	$ (12,000)	$ -	$ (58,000)
	Excessively Early Trips			$ (15,000)	$ -	$ (15,000)
	Excessively Late Trips	$ (30,000)	$ (30,000)	$ (25,000)	$ -	$ (85,000)
	Missed Trips	$ (30,000)	$ (30,000)	$ (25,000)	$ -	$ (85,000)
	Unreported Accident	$ (10,000)	$ (10,000)			$ (20,000)
	Accident/ Incident Notification			$ (4,000)	$ -	$ (4,000)
	Preventable Accidents			$ -	$ -	$ -
	Preventable Incidents			$ -	$ -	$ -
	Trip Denial			$ -	$ -	$ -
	Terminal Inspections	$ -	$ -	$ -	$ -	$ -
	Preventive Maintenance	$ (200)	$ (200)	$ -	$ -	$ (400)
	Road calls	$ (300)	$ (500)	$ -	$ -	$ (800)
	Reports	$ -	$ -	$ (193,500)	$ -	$ (193,500)
	Vehicle Damage			$ -	$ -	$ -
	Excessive Travel Time			$ -	$ -	$ -
	Routing Efficiency			$ (17,000)	$ -	$ (17,000)
	Key Positions	$ -	$ -	$ -	$ -	$ -
	Drug and Alcohol Audit			$ (15,000)	$ -	$ (15,000)
	Fare Variance	$ -	$ -	$ -	$ -	$ -
	Total	**$ (209,400)**	**$ (241,500)**	**$ (482,200)**	**$ -**	**$ (933,100)**
Incentives	Arrival On-time Performance			$ -	$ -	$ -
	Pick-Up On-time Performance	$ -	$ -	$ 10,000	$ -	$ 10,000
	Excessively Early Trips			$ -	$ -	$ -
	Excessively Late Trips	$ -	$ -	$ -	$ -	$ -
	Missed Trips	$ -	$ -	$ -	$ -	$ -
	Total	**$ -**	**$ -**	**$ 10,000**	**$ -**	**$ 10,000**
Adjustment	Unreported Accident (Prior Period)	$ -	$ -	$ -	$ -	$ -
	Waived Penalties	$ 30,000	$ 76,700	$ 51,000	$ -	$ 157,700
	Waived Incentives	$ -	$ -	$ -	$ -	$ -
	Total	**$ 30,000**	**$ 76,700**	**$ 51,000**	**$ -**	**$ 157,700**
All	**Total**	**$ (179,400)**	**$ (164,800)**	**$ (421,200)**	**$ -**	**$ (765,400)**

Farebox Recovery Ratio

Farebox Recovery Ratio (FRR) is a measure of the proportion of operating costs recovered by passenger fares, calculated by dividing the farebox revenue by total operating expenses. A minimum FRR of 20 percent for all service is required by the Transportation Development Act (TDA) for transit agencies to receive the state sales tax available for public transit purposes. To normalize seasonal fluctuations, data shown below reflects actuals over the last 12 months from April 2021 through March 2022.



Note:

(*) National Transit Database (NTD) FRR consists of only passenger fares

(**) Transportation Development Act (TDA) FRR includes passenger fares, property tax revenue, advertising revenue and Measure M fare stabilization

(***) New Transportation Development Act (TDA) FRR allows federal funds to be counted and exclusions on ADA paratransit service, demand-response, microtransit operating cost, cost of improving payment and ticketing systems and services, and costs of planning for zero-emission transition

Based on the National Transit Database definition in which only passenger fares are included under revenue, FRR did not meet the 20 percent goal. However, with the passage of SB 508 (Chapter 716, Statutes of 2015), OCTA was able to adjust the FRR to include local funds. SB 508 states, "if fare revenues are insufficient to meet the applicable ratio of fare revenues to operating cost required by this article, an operator may satisfy that requirement by supplementing its fare revenues with local funds. As used in this section, 'local funds' are any non-federal or non-state grant funds or other revenue generated by, earned by, or distributed to an operator."

After incorporating property tax revenue, advertising revenue, and Measure M2 fare stabilization, the adjusted FRR was 17.9 percent, an increase of 4.2 percentage points from the same quarter as last year. Because of statewide impacts on the farebox because of the COVID-19 pandemic, the Governor signed AB 90 (Chapter 17, Statutes of 2020) in 2020, which removed all financial penalties for failing to meet the 20 percent FRR requirement until January 1, 2022. Last year, the Governor signed AB 149 (Chapter 81, Statutes of 2021), which includes an extension of this exemption through the 2022-23 fiscal year. In addition, AB 149 provided additional exemptions from the definition of "operating cost" for purposes of calculating TDA FRR. These exemptions include the:

- Costs of operating ADA paratransit service
- Costs to operate demand-response and microtransit services that expand access to transit service beyond fixed-route corridors
- Costs of security services and public safety contracts
- Any expense greater than the actuarially determined contribution associated with pensions and other post-employment benefits as required by Governmental Accounting Board Statement Numbers 68 and 75
- Costs of funding or improving payment and ticketing systems and services
- Costs of planning for improvements in transit operations, integration with other operators and agencies, zero-emission transition, and compliance with state and federal mandates. For the purposes of calculating the TDA FRR, discount and fare free transit passes are allowed to be counted at their full retail value, and federal funds are allowed to be counted as "local funds."

After applying applicable exemptions and authorization that can be quantified, the estimated new TDA FRR is approximately 71.8 percent.

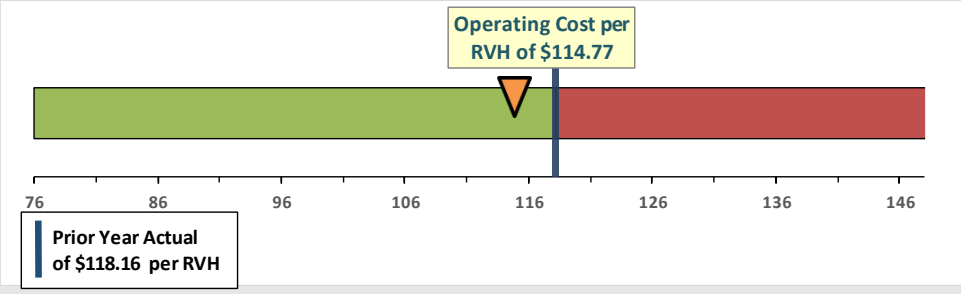
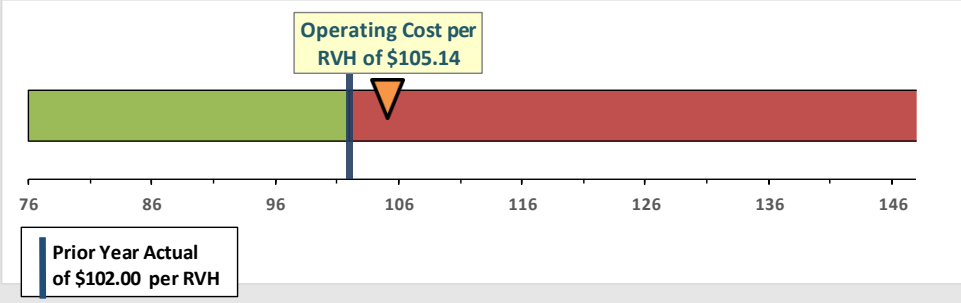
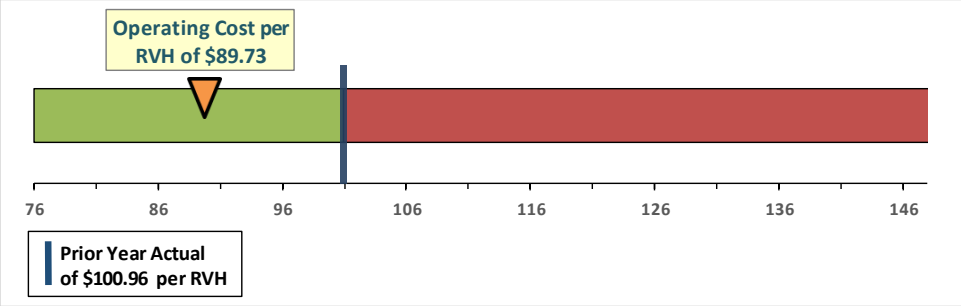
Operating Cost per RVH

Cost per RVH is one of the industry standards used to measure the cost efficiency of transit service. It is derived by dividing actual operating expenses by RVH that is scheduled for the reporting period. To provide a more comparable illustration, all metrics below are calculated based on direct operating cost, which excludes capital, general administrative, and other overhead costs. DOFR cost includes labor costs for coach operators and maintenance employees. It also includes consumables such as replacement parts, fuel, and tires. CFR and OC ACCESS costs includes contracted costs (net of assessed penalties and incentives) and costs incurred by OCTA for maintenance, parts, and fuel for the contracted fleet.

Similar to the FRR, the statistics above depict actuals over the last 12 months. The cost per RVH, when compared to the prior period, dropped by 2.9 percent for DOFR, increased by 3.1 percent for CFR, and decreased by 11.1 percent for OC ACCESS.

During the COVID-19 pandemic, costs were higher due to reduced levels of service, yet maintaining staffing levels to accommodate the service as well as a state of readiness. As service continues to ramp up for both DOFR and OC ACCESS; efficiency increases, thus slightly reducing the cost compared to the prior period.

Furthermore, the decrease in OC ACCESS cost per RVH resulted from service demand restoration from the COVID-19 pandemic with the new tier-structure operating rates based on service demand, which an increase in service from tier to tier would trigger a lower rate. Since the COVID-19 pandemic, the contracted rates for OC ACCESS had moved from tier 1 (highest cost per RVH) to tier 4, with tier 4 being one tier before the pre-pandemic equivalent tier. On the other hand, the increase in cost per RVH for CFR was primarily due to year-over-year contract rate increase resulting from the COVID-19 pandemic.

Mode	Results for April 2021 through March 2022
Directly-Operated Fixed-Route	
Contracted Fixed-Route	
OC ACCESS	

Performance Evaluation by Route

Continuing efforts are underway to better understand, evaluate, and improve route performance. Performance evaluation is important because it provides:

- A better understanding of where resources are being applied;
- A measure of how well services is being delivered;
- A measure of how well these services is used; and
- An objective basis for decisions regarding future service changes and service deployment.

The tables on the following pages summarize route-level performance through the third quarter. The first two tables present the route-level performance sorted by routes with the highest net subsidy per boarding to routes with a lower net subsidy per boarding. The remaining two tables present the same information sorted by routes with the highest boardings to routes with a lower level of boardings.

A route guide listing all the routes and their points of origin and destinations is provided after the route-level performance tables. Route types are grouped by route numbers as follows:

- **Routes 1 to 99:** Local routes include two sub-categories:
  - Major: These routes operate as frequently as every 15 minutes during peak times. Major routes operate seven days a week throughout the day. Together, the Major routes form a grid on arterial streets throughout the highest transit propensity portions of the OC Bus service area, primarily in northern parts of the county.
  - Local: These routes operate on arterials within the grid created by the Major routes but at lower frequencies. Local routes also operate in parts of Orange County with lower transit demand. Most Local routes operate seven days per week; however, some operate on weekdays only.
- **Routes 100 to 199**: Community routes to connect pockets of transit demand with major destinations and offer local circulation. Routes tend to be less direct than Local routes, serving neighborhoods and destinations off the arterial grid. Half of the Community routes operate seven days per week.
- **Routes 200 to 299**: Intra-county express routes operate on weekdays only at peak times and connect riders over long distances to destinations within Orange County, using freeways to access destinations. **(Did not operate during Q1 through Q3 of FY 2021-22)**.
- **Routes 400 to 499:** Stationlink routes are rail feeder services designed to connect Metrolink stations to nearby employment destinations. These routes have short alignments, with schedules tied to Metrolink arrivals and departures. They operate during weekday peak hours only, in the peak direction, from the station to destinations in the morning and the reverse in the evening.
- **Routes 500 to 599**: Bravo! routes are limited-stop services operated with branded vehicles.
- **Routes 600 to 699**: Seasonal or Temporary routes (these are not included on the following charts) such as the OC Fair Express. **(Did not operate during Q1 through Q3 of FY 2021-22)**.
- **Routes 700 to 799**: Inter-county express routes that operate on weekdays only at peak times and connect riders over long distances to destinations outside of Orange County, often using freeways to access destinations. **(Did not operate during Q1 through Q3 of FY 2021-22).**

OCTA Operating Statistics By Route for Local and Community Services (Sorted by Subsidy per Boarding)
Fiscal Year 2021-22

Route	Zone	Farebox	Subsidy per Boarding	Direct Subsidy	Indirect Subsidy	"Capital Subsidy" Per Boarding	Revenue per Boarding	Boardings	CostVSH	Direct CostVSH	CostVSM	BoardVSH	VSH	Bus Count 40 FT	Bus Count 32 FT	Bus Count 60 FT
862	C	2.3%	$ 31.44	$ 17.99	$ 11.68	$ 1.77	$ 0.71	42,014	$ 185.27	$ 113.44	$ 21.11	6.10	6,891	3	-	-
085	S	3.7%	23.10	13.77	7.91	1.42	0.83	39,186	146.12	93.32	11.65	6.49	6,036	2	-	-
178	C	4.8%	19.23	11.56	6.55	1.12	0.91	49,915	145.46	93.10	11.71	7.65	6,527	2	-	-
086	C	5.0%	18.25	10.81	6.21	1.23	0.90	68,276	144.95	92.99	11.42	8.09	8,438	3	-	-
123	N	5.1%	18.12	10.66	6.24	1.22	0.90	106,371	155.14	98.82	11.31	8.71	12,206	6	-	-
087	S	5.1%	17.68	10.44	6.00	1.24	0.88	45,166	147.48	93.86	9.98	8.51	5,307	2	-	-
167	C	5.1%	17.63	10.49	5.95	1.19	0.88	93,961	145.73	93.11	12.14	8.42	11,163	4	-	-
001	S	4.6%	17.46	10.37	6.43	0.66	0.81	266,732	189.64	118.82	11.91	10.77	24,769	6	-	-
153	N	5.7%	15.91	9.64	5.47	0.80	0.91	69,744	144.14	92.78	11.21	9.00	7,748	2	-	-
076	C	5.6%	15.07	8.72	5.40	0.95	0.84	58,595	176.26	108.80	14.98	11.77	4,977	2	-	-
529	C	6.3%	14.44	7.91	4.90	1.63	0.87	28,554	204.01	121.45	17.74	14.91	1,915	5	-	-
177	S	6.8%	14.02	8.32	4.71	0.99	0.95	56,658	143.44	92.73	11.25	10.26	5,523	2	-	-
083	C	5.8%	13.99	8.25	5.11	0.63	0.82	309,632	186.11	116.38	10.30	13.13	23,582	8	-	-
091	S	7.3%	13.82	8.22	4.72	0.88	1.02	211,667	146.75	93.26	10.57	10.51	20,142	7	-	-
143	N	6.4%	13.25	8.03	4.55	0.67	0.86	97,629	146.17	92.98	12.08	10.87	8,978	3	-	-
090	S	7.3%	13.01	7.86	4.52	0.63	0.97	147,123	146.46	92.99	10.18	10.97	13,414	4	-	-
129	N	7.5%	12.95	7.78	4.41	0.76	0.98	109,501	147.28	93.42	12.43	11.19	9,789	3	-	-
056	N	6.5%	12.60	7.29	4.52	0.79	0.83	212,624	178.07	109.73	15.31	14.09	15,085	6	-	-
150	C	7.4%	11.61	6.54	3.87	1.20	0.83	92,989	162.07	97.77	16.47	14.43	6,445	4	-	-
059	C	8.2%	11.17	6.70	3.85	0.62	0.95	211,759	145.38	92.16	13.86	12.65	16,744	5	-	-
072	C	7.6%	11.15	6.58	4.08	0.49	0.87	244,495	177.70	109.74	14.59	15.41	15,866	5	-	-
079	C	7.9%	10.88	6.51	3.74	0.63	0.88	176,994	145.95	92.99	12.82	13.12	13,487	6	-	-
560	C	8.0%	10.69	6.10	3.78	0.81	0.86	276,923	185.40	113.16	15.95	17.27	16,037	8	-	-
082	S	9.2%	10.63	6.05	3.48	1.10	0.96	42,490	152.60	94.93	10.72	14.55	2,920	2	-	-
026	N	8.2%	10.60	6.33	3.63	0.64	0.89	188,390	145.80	92.60	12.86	13.44	14,013	5	-	-
025	N	8.2%	10.50	6.31	3.62	0.57	0.88	164,555	146.43	92.98	11.88	13.54	12,156	4	-	-
033	N	7.6%	10.04	5.96	3.43	0.65	0.77	114,377	144.55	92.38	11.55	14.22	8,042	4	-	-
050	N	7.8%	9.61	5.66	3.51	0.44	0.77	719,387	180.78	111.83	15.26	18.19	39,544	12	-	-
037	N	8.4%	9.39	5.55	3.44	0.40	0.82	485,250	185.97	114.65	16.20	18.96	25,598	7	-	-
089	S	10.3%	9.32	5.57	3.20	0.55	1.01	167,997	146.94	92.84	11.61	15.04	11,172	4	-	-
071	N	9.2%	9.29	5.59	3.21	0.49	0.89	306,033	145.69	93.15	11.38	15.03	20,361	6	-	-
070	C	9.2%	9.21	5.48	3.14	0.59	0.87	444,417	146.19	93.20	12.76	15.41	28,848	9	-	-
055	C	9.8%	9.03	5.36	3.32	0.35	0.94	687,170	178.72	110.22	16.17	18.58	36,991	10	-	-
046	N	9.2%	8.40	5.08	2.92	0.40	0.81	231,393	144.82	92.78	12.83	16.42	14,090	4	-	-
054	N	9.5%	8.33	4.85	3.00	0.48	0.82	543,645	180.49	111.40	15.61	20.81	26,118	9	-	-
053	C	9.7%	8.10	4.76	2.95	0.39	0.83	981,747	185.72	114.13	19.03	21.75	45,138	15	-	-
030	N	10.0%	8.09	4.80	2.76	0.53	0.84	245,380	145.68	92.91	11.23	17.34	14,150	5	-	-
543	N	9.6%	8.09	4.72	2.92	0.45	0.81	435,666	177.67	109.27	17.27	21.02	20,726	7	-	-
035	N	9.5%	7.96	4.78	2.74	0.44	0.79	356,917	147.68	93.02	13.22	17.76	20,097	6	-	-
047	C	11.0%	7.72	4.52	2.80	0.40	0.91	1,128,737	185.30	114.38	16.22	22.52	50,118	14	-	2
038	N	10.8%	7.60	4.42	2.54	0.64	0.84	520,033	148.62	93.71	11.52	19.05	27,296	12	-	-
029	N	10.6%	7.45	4.36	2.70	0.39	0.83	1,144,450	181.48	112.29	15.75	22.97	49,820	5	-	7
043	N	11.5%	6.85	4.05	2.51	0.29	0.85	1,162,780	179.13	110.23	18.35	24.16	48,122	13	-	-
057	C	11.8%	6.80	3.95	2.45	0.40	0.86	1,584,120	184.31	113.70	17.43	25.41	62,339	-	-	17
060	C	10.8%	6.60	3.94	2.44	0.22	0.77	1,091,729	182.67	113.44	15.24	25.53	42,757	10	-	-
042	N	11.1%	6.56	3.90	2.24	0.42	0.77	736,171	147.44	93.38	13.20	21.36	34,459	13	-	-
064	C	12.5%	5.78	3.36	2.08	0.34	0.78	1,194,289	177.08	108.96	18.54	28.44	41,999	15	-	-
066	C	14.0%	5.71	3.31	2.05	0.35	0.87	1,130,484	183.53	113.10	17.19	29.47	38,365	15	-	-

(1) Total bus count (346) is based on PM weekday equipment requirements.
(2) C under Zone is Central County, N is North County and S is South County.

OCTA Operating Statistics By Route for Stationlink Service (Sorted by Subsidy per Boarding)
Fiscal Year 2021-22

Route	Zone	Farebox	Subsidy per Boarding	Direct Subsidy	Indirect Subsidy	"Capital Subsidy" Per Boarding	Revenue per Boarding	Boardings	CostVSH	Direct CostVSH	CostVSM	BoardVSH	VSH	Bus Count 40 FT	Bus Count 32 FT	Bus Count 60 FT
463	C	1.9%	$ 57.63	$ 24.40	$ 20.78	$ 12.45	$ 0.89	9,716	$ 189.10	$ 103.32	$ 18.85	4.10	2,367	5	-	-
480	C	3.4%	33.17	14.06	11.97	7.14	0.91	7,821	195.41	104.92	15.51	7.25	1,078	2	-	-
453	N	2.8%	31.00	12.70	10.81	7.49	0.69	9,935	205.23	106.69	31.15	8.48	1,172	3	-	-
472	C	4.5%	23.97	9.51	8.10	6.36	0.84	13,176	180.85	101.48	15.47	9.80	1,344	3	-	-
473	C	6.3%	18.40	7.50	6.39	4.51	0.94	18,577	195.76	104.04	18.07	13.20	1,407	3	-	-

(1) Total bus count (346) is based on PM weekday equipment requirements.
(2) C under Zone is Central County, N is North County and S is South County.

OCTA Operating Statistics By Route for Local and Community Services (Sorted by Boardings)
Fiscal Year 2021-22

Route	Zone	Farebox	Subsidy per Boarding	Direct Subsidy	Indirect Subsidy	"Capital Subsidy" Per Boarding	Revenue per Boarding	Boardings	CostVSH	Direct CostVSH	CostVSM	BoardVSH	VSH	Bus Count 40 FT	Bus Count 32 FT	Bus Count 60 FT
057	C	11.8%	$ 6.80	$ 3.95	$ 2.45	$ 0.40	$ 0.86	1,584,120	$ 184.31	$ 113.70	$ 17.43	25.41	62,339	-	-	17
064	C	12.5%	5.78	3.36	2.08	0.34	0.78	1,194,289	177.08	108.96	18.54	28.44	41,999	15	-	-
043	N	11.5%	6.85	4.05	2.51	0.29	0.85	1,162,780	179.13	110.23	18.35	24.16	48,122	13	-	-
029	N	10.6%	7.45	4.36	2.70	0.39	0.83	1,144,450	181.48	112.29	15.75	22.97	49,820	5	-	7
066	C	14.0%	5.71	3.31	2.05	0.35	0.87	1,130,484	183.53	113.10	17.19	29.47	38,365	15	-	-
047	C	11.0%	7.72	4.52	2.80	0.40	0.91	1,128,737	185.30	114.38	16.22	22.52	50,118	14	-	2
060	C	10.8%	6.60	3.94	2.44	0.22	0.77	1,091,729	182.67	113.44	15.24	25.53	42,757	10	-	-
053	C	9.7%	8.10	4.76	2.95	0.39	0.83	981,747	185.72	114.13	19.03	21.75	45,138	15	-	-
042	N	11.1%	6.56	3.90	2.24	0.42	0.77	736,171	147.44	93.38	13.20	21.36	34,459	13	-	-
050	N	7.8%	9.61	5.66	3.51	0.44	0.77	719,387	180.78	111.83	15.26	18.19	39,544	12	-	-
055	C	9.8%	9.03	5.36	3.32	0.35	0.94	687,170	178.72	110.22	16.17	18.58	36,991	10	-	-
054	N	9.5%	8.33	4.85	3.00	0.48	0.82	543,645	180.49	111.40	15.61	20.81	26,118	9	-	-
038	N	10.8%	7.60	4.42	2.54	0.64	0.84	520,033	148.62	93.71	11.52	19.05	27,296	12	-	-
037	N	8.4%	9.39	5.55	3.44	0.40	0.82	485,250	185.97	114.65	16.20	18.96	25,598	7	-	-
070	C	9.2%	9.21	5.48	3.14	0.59	0.87	444,417	146.19	93.20	12.76	15.41	28,848	9	-	-
543	N	9.6%	8.09	4.72	2.92	0.45	0.81	435,666	177.67	109.27	17.27	21.02	20,726	7	-	-
035	N	9.5%	7.96	4.78	2.74	0.44	0.79	356,917	147.68	93.02	13.22	17.76	20,097	6	-	-
083	C	5.8%	13.99	8.25	5.11	0.63	0.82	309,632	186.11	116.38	10.30	13.13	23,582	8	-	-
071	N	9.2%	9.29	5.59	3.21	0.49	0.89	306,033	145.69	93.15	11.38	15.03	20,361	6	-	-
560	C	8.0%	10.69	6.10	3.78	0.81	0.86	276,923	185.40	113.16	15.95	17.27	16,037	8	-	-
001	S	4.6%	17.46	10.37	6.43	0.66	0.81	266,732	189.64	118.82	11.91	10.77	24,769	6	-	-
030	N	10.0%	8.09	4.80	2.76	0.53	0.84	245,380	145.68	92.91	11.23	17.34	14,150	5	-	-
072	C	7.6%	11.15	6.58	4.08	0.49	0.87	244,495	177.70	109.74	14.59	15.41	15,866	5	-	-
046	N	9.2%	8.40	5.08	2.92	0.40	0.81	231,393	144.82	92.78	12.83	16.42	14,090	4	-	-
056	N	6.5%	12.60	7.29	4.52	0.79	0.83	212,624	178.07	109.73	15.31	14.09	15,085	6	-	-
059	C	8.2%	11.17	6.70	3.85	0.62	0.95	211,759	145.38	92.16	13.86	12.65	16,744	5	-	-
091	S	7.3%	13.82	8.22	4.72	0.88	1.02	211,667	146.75	93.26	10.57	10.51	20,142	7	-	-
026	N	8.2%	10.60	6.33	3.63	0.64	0.89	188,390	145.80	92.60	12.86	13.44	14,013	5	-	-
079	C	7.9%	10.88	6.51	3.74	0.63	0.88	176,994	145.95	92.99	12.82	13.12	13,487	6	-	-
089	S	10.3%	9.32	5.57	3.20	0.55	1.01	167,997	146.94	92.84	11.61	15.04	11,172	4	-	-
025	N	8.2%	10.50	6.31	3.62	0.57	0.88	164,555	146.43	92.98	11.88	13.54	12,156	4	-	-
090	S	7.3%	13.01	7.86	4.52	0.63	0.97	147,123	146.46	92.99	10.18	10.97	13,414	4	-	-
033	N	7.6%	10.04	5.96	3.43	0.65	0.77	114,377	144.55	92.38	11.55	14.22	8,042	4	-	-
129	N	7.5%	12.95	7.78	4.41	0.76	0.98	109,501	147.28	93.42	12.43	11.19	9,789	3	-	-
123	N	5.1%	18.12	10.66	6.24	1.22	0.90	106,371	155.14	98.82	11.31	8.71	12,206	6	-	-
143	N	6.4%	13.25	8.03	4.55	0.67	0.86	97,629	146.17	92.98	12.08	10.87	8,978	3	-	-
167	C	5.1%	17.63	10.49	5.95	1.19	0.88	93,961	145.73	93.11	12.14	8.42	11,163	4	-	-
150	C	7.4%	11.61	6.54	3.87	1.20	0.83	92,989	162.07	97.77	16.47	14.43	6,445	4	-	-
153	N	5.7%	15.91	9.64	5.47	0.80	0.91	69,744	144.14	92.78	11.21	9.00	7,748	2	-	-
086	C	5.0%	18.25	10.81	6.21	1.23	0.90	68,276	144.95	92.99	11.42	8.09	8,438	3	-	-
076	C	5.6%	15.07	8.72	5.40	0.95	0.84	58,595	176.26	108.80	14.98	11.77	4,977	2	-	-
177	S	6.8%	14.02	8.32	4.71	0.99	0.95	56,658	143.44	92.73	11.25	10.26	5,523	2	-	-
178	C	4.8%	19.23	11.56	6.55	1.12	0.91	49,915	145.46	93.10	11.71	7.65	6,527	2	-	-
087	S	5.1%	17.68	10.44	6.00	1.24	0.88	45,166	147.48	93.86	9.98	8.51	5,307	2	-	-
082	S	9.2%	10.63	6.05	3.48	1.10	0.96	42,490	152.60	94.93	10.72	14.55	2,920	2	-	-
862	C	2.3%	31.44	17.99	11.68	1.77	0.71	42,014	185.27	113.44	21.11	6.10	6,891	3	-	-
085	S	3.7%	23.10	13.77	7.91	1.42	0.83	39,186	146.12	93.32	11.65	6.49	6,036	2	-	-
529	C	6.3%	14.44	7.91	4.90	1.63	0.87	28,554	204.01	121.45	17.74	14.91	1,915	5	-	-

(1) Total bus count (346) is based on PM weekday equipment requirements.
(2) C under Zone is Central County, N is North County and S is South County.

OCTA Operating Statistics By Route for Stationlink Service (Sorted by Boardings)

Fiscal Year 2021-22

Route	Zone	Farebox	Subsidy per Boarding	Direct Subsidy	Indirect Subsidy	"Capital Subsidy" Per Boarding	Revenue per Boarding	Boardings	CostVSH	Direct CostVSH	CostVSM	BoardVSH	VSH	Bus Count 40 FT	Bus Count 32 FT	Bus Count 60 FT
473	C	6.3%	$ 18.40	$ 7.50	$ 6.39	$ 4.51	$ 0.94	18,577	$ 195.76	$ 104.04	$ 18.07	13.20	1,407	3	-	-
472	C	4.5%	23.97	9.51	8.10	6.36	0.84	13,176	180.85	101.48	15.47	9.80	1,344	3	-	-
453	N	2.8%	31.00	12.70	10.81	7.49	0.69	9,935	205.23	106.69	31.15	8.48	1,172	3	-	-
463	C	1.9%	57.63	24.40	20.78	12.45	0.89	9,716	189.10	103.32	18.85	4.10	2,367	5	-	-
480	C	3.4%	33.17	14.06	11.97	7.14	0.91	7,821	195.41	104.92	15.51	7.25	1,078	2	-	-

(1) Total bus count (346) is based on PM weekday equipment requirements.
(2) C under Zone is Central County, N is North County and S is South County.

Route Reference Table

Route	Route Description	Main Street	Route Category
1	Long Beach - San Clemente	via Pacific Coast Hwy	LOCAL
25	Fullerton - Huntington Beach	via Knott Ave/ Goldenwest St	LOCAL
26	Fullerton - Yorba Linda	via Commonwealth Ave/ Yorba Linda Blvd	LOCAL
29	La Habra - Huntington Beach	via Beach Blvd	LOCAL
30	Cerritos - Anaheim	via Orangethorpe Ave	LOCAL
33	Fullerton - Huntington Beach	via Magnolia St	LOCAL
35	Fullerton - Costa Mesa	via Brookhurst St	LOCAL
37	La Habra - Fountain Valley	via Euclid St	LOCAL
38	Lakewood - Anaheim Hills	via Del Amo Blvd/ La Palma Ave	LOCAL
42	Seal Beach - Orange	via Seal Beach Blvd/ Los Alamitos Blvd/ Lincoln Ave	LOCAL
43	Fullerton - Costa Mesa	via Harbor Blvd	LOCAL
46	Long Beach - Orange	via Ball Road/ Taft Ave	LOCAL
47	Fullerton - Balboa	via Anaheim Blvd/ Fairview St	LOCAL
50	Long Beach - Orange	via Katella Ave	LOCAL
53	Anaheim - Irvine	via Main St	LOCAL
54	Garden Grove - Orange	via Chapman Ave	LOCAL
55	Santa Ana - Newport Beach	via Standard Ave/ Bristol St/ Fairview St/ 17th St	LOCAL
56	Garden Grove - Orange	via Garden Grove Blvd	LOCAL
57	Brea - Newport Beach	via State College Blvd/ Bristol St	LOCAL
59	Anaheim - Irvine	via Kraemer Blvd/ Glassell St/ Grand Ave/ Von Karman Ave	LOCAL
60	Long Beach - Tustin	via Westminster Ave/ 17th St	LOCAL
64	Huntington Beach - Tustin	via Bolsa Ave/ 1st St	LOCAL
66	Huntington Beach - Irvine	via McFadden Ave/ Walnut Ave	LOCAL
70	Sunset Beach - Tustin	via Edinger Ave	LOCAL
71	Yorba Linda - Newport Beach	via Tustin Ave/ Red Hill Ave/ Newport Blvd	LOCAL
72	Sunset Beach - Tustin	via Warner Ave	LOCAL
76	Huntington Beach - John Wayne Airport	via Talbert Ave/ MacArthur Blvd	LOCAL
79	Tustin - Newport Beach	via Bryan Ave/ Culver Dr/ University Ave	LOCAL
82	Foothill Ranch - Rancho Santa Margarita	via Portola Pkwy/ Santa Margarita Pkwy	LOCAL
83	Anaheim - Laguna Hills	via 5 Fwy/ Main St	LOCAL
85	Mission Viejo - Laguna Niguel	via Marguerite Pkwy/ Crown Valley Pkwy	LOCAL
86	Costa Mesa - Mission Viejo	via Alton Pkwy/ Jeronimo Rd	LOCAL
87	Rancho Santa Margarita - Laguna Niguel	via Alicia Pkwy	LOCAL
89	Mission Viejo - Laguna Beach	via El Toro Rd/ Laguna Canyon Rd	LOCAL
90	Tustin - Dana Point	via Irvine Center Dr/ Moulton Pkwy/ Golden Lantern St	LOCAL
91	Laguna Hills - San Clemente	via Paseo de Valencia/ Camino Capistrano/ Del Obispo St	LOCAL
123	Anaheim - Huntington Beach	via Malvern Ave/ Valley View/ Bolsa Chica	COMMUNITY
129	La Habra - Anaheim	via La Habra Blvd/ Brea Blvd/ Birch St/ Kraemer Blvd	COMMUNITY
143	La Habra - Brea	via Whittier Blvd/ Harbor Blvd/ Brea Blvd/ Birch St	COMMUNITY
150	Santa Ana - Costa Mesa	via Fairview St/ Flower St	COMMUNITY
153	Brea - Anaheim	via Placentia Ave	COMMUNITY
167	Orange - Irvine	via Irvine Ave/ Hewes St/ Jeffrey Rd	COMMUNITY
177	Foothill Ranch - Laguna Hills	via Lake Forest Dr/ Muirlands Blvd/ Los Alisos Blvd	COMMUNITY
178	Huntington Beach - Irvine	via Adams Ave/ Birch St/ Campus Dr	COMMUNITY
453	Orange Transportation Center - St. Joseph's Hospital	via Chapman Ave/ Main St/ La Veta Ave	STATIONLINK
463	Santa Ana Regional transportation Center - Hutton Centre	via Grand Ave	STATIONLINK
472	Tustin Metrolink Station - Irvine Business Complex	via Edinger Ave/ Red Hill Ave/ Campus Dr/ Jamboree Rd	STATIONLINK
473	Tustin Metrolink Station - U.C.I.	via Edinger Ave/ Harvard Ave	STATIONLINK
480	Irvine Metrolink Station - Lake Forest	via Alton Pkwy/ Bake Pkwy/ Lake Forest Dr	STATIONLINK
529	Fullerton to Huntington Beach	via Beach Blvd	BRAVO
543	Fullerton Transportation Center - Santa Ana	via Harbor Blvd	BRAVO
560	Santa Ana - Long Beach	via 17th St / Westminster Ave	BRAVO
862	Downtown Santa Ana Shuttle	via Civic Center Dr	COMMUNITY

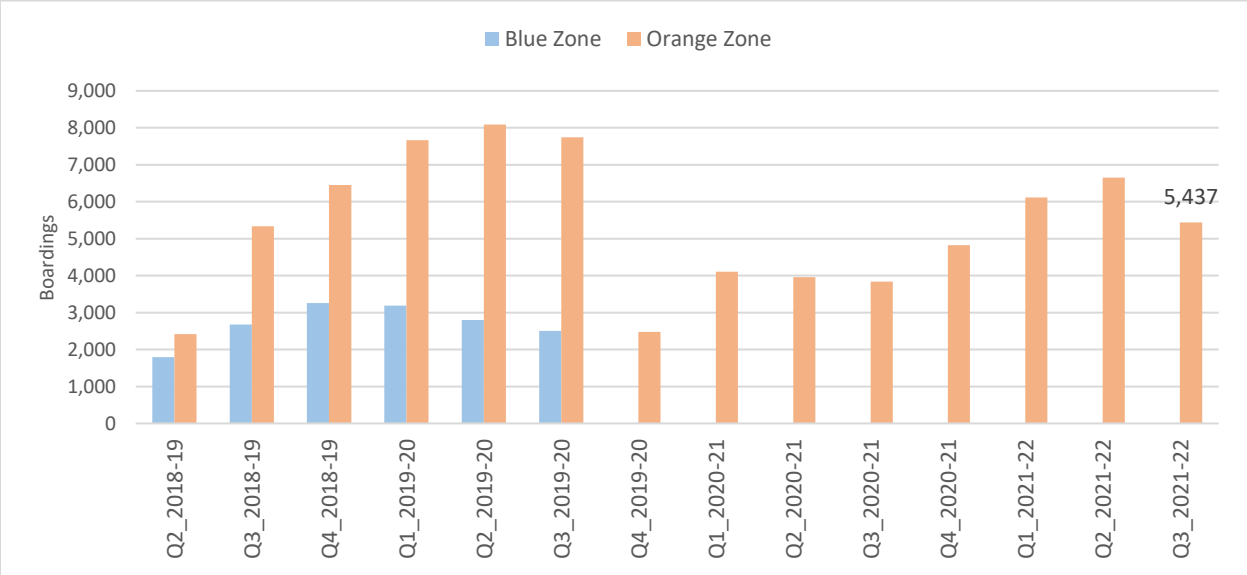
OC Flex

OC Flex Program

OC Flex service launched in October 2018 in two zones under a pilot program. The Board approved five primary goals and performance metrics to evaluate the pilot program. Upon approval of the pilot program, the Board directed staff to provide updates on the performance metrics as part of a quarterly Bus Operations Performance Measurements Report.

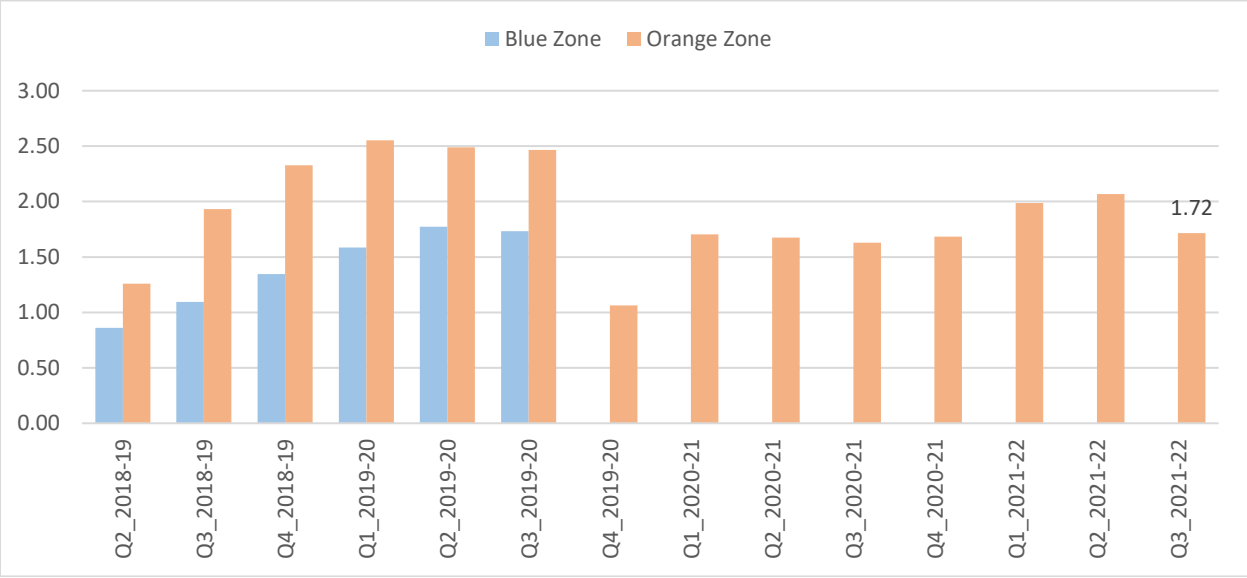
For Q3 of FY 2021-22, ridership in the Orange Zone remained comparable to the previous two quarters despite the introduction of the new OC Flex application, which required riders to download and create a new account, and the effects of the January 2022 COVID-19 surge in Orange County. Other metrics remained stable, and in some cases, the rate of shared rides and connecting trips increased compared to the previous two quarters. The subsidy rate per boarding increased in Q3 due to the new contract rate, beginning January 2022, and increased fuel costs.

Quarterly OC Flex Ridership – Through Q3-FY 2021-22



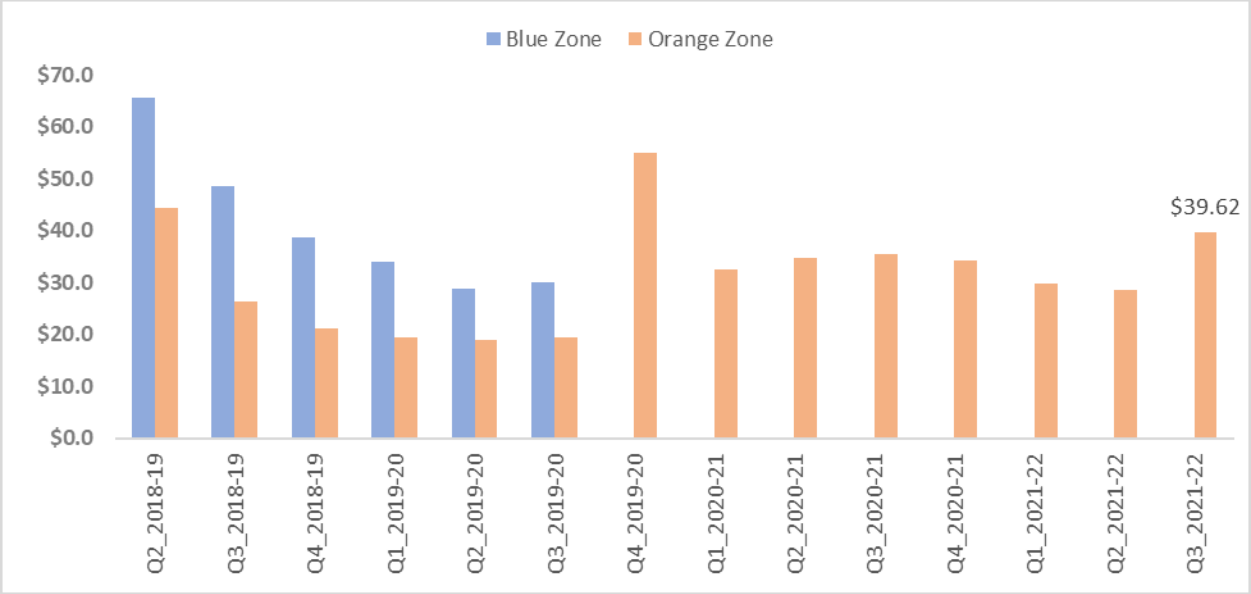
OC Flex Productivity (Boarding/RVH) – Through Q3-FY 2021-22

Target: Productivity – 6 B/RVH



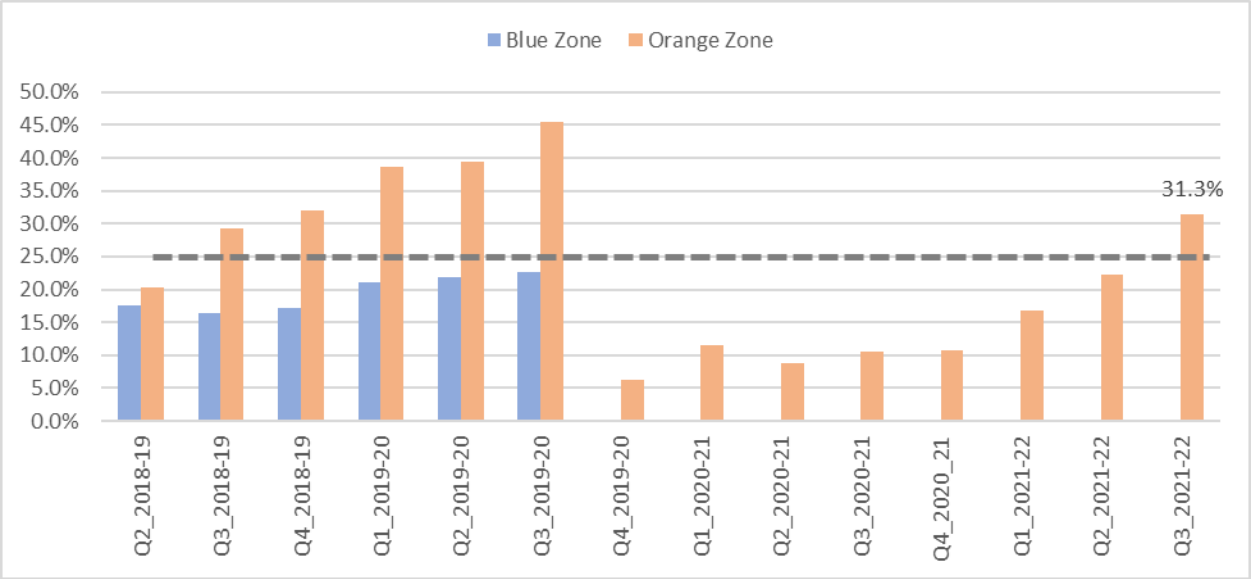
Quarterly OC Flex Direct Subsidy per Boarding – Through Q3-FY 2021-22

Target: Direct Subsidy per Boarding - $9 per Boarding



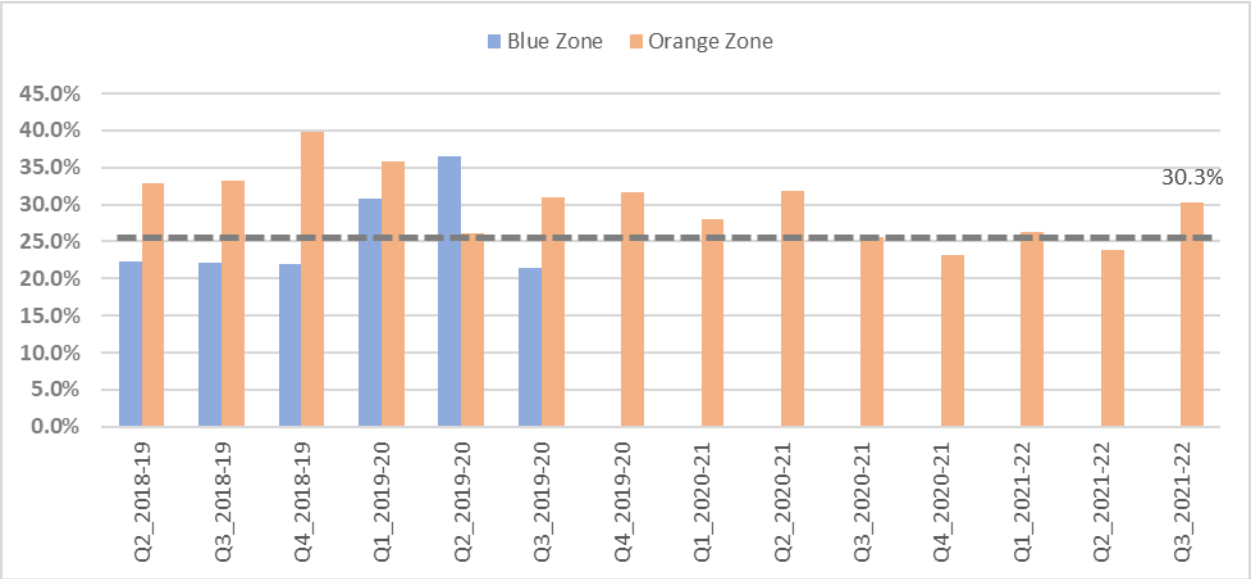
OC Flex Shared Trips – Through Q3-FY 2021-22

Target: 25 Percent of Booked Trips Sharing a Vehicle



OC Flex Connecting Trips (Transfers) – Through Q3-FY 2021-22

Target: 25 Percent of Trips Transfer to OC Bus or Metrolink Service



College Pass Program

In 2017, OCTA introduced community college students to the convenience and affordability of public transit with a shared-cost program that allows all participating students to travel free on any fixed-route OC Bus route. Since then, OCTA has built on the success of the program, which has helped increase ridership, introduced new riders to public transit, removed barriers to higher education for students, and helped take vehicles off the road. Despite the COVID-19 pandemic, which resulted in remote learning for most of the students, colleges have continued to stay in the program to help meet the essential travel needs of students. During this reporting period, Coastline College became the eighth college to join the College Pass Program.

During this reporting period, which is within the Spring semester of 2022, all colleges implemented a full return to campus while also offering remote online classes for about 30 percent of the curriculum. Amid many changes, such as hybrid in-person and virtual learning and declining enrollment across all colleges, the College Pass Program continues to be of great interest to both colleges and students. As of this reporting period, we have seen bus ridership from the College Pass Program climb back to 30 percent of the pre-pandemic level.

Staff continued working with several colleges to extend their existing agreements or establish new ones, including the last remaining college in Orange County, the Orange Coast College, which is planning to get on board in the fall of 2022.

COMMITTEE TRANSMITTAL

June 13, 2022

To: Members of the Board of Directors

From: Andrea West, Interim Clerk of the Board

Subject: Cooperative Agreement with the California Department of Transportation for the Interstate 5 Improvement Project Between Yale Avenue and State Route 55 and Authority to Acquire Right-of- Way

Regional Planning and Highways Committee Meeting of June 6, 2022

Present: Directors Chaffee, Delgleize, Foley, Harper, Muller, and Murphy
Absent: Director Bartlett

Committee Vote

This item was passed by the Members present.

Committee Recommendations

A. Authorize the Chief Executive Officer to negotiate and execute Cooperative Agreement No. C-2-2232 between the Orange County Transportation Authority and the California Department of Transportation, in the amount of $1,230,000, to perform right-of-way services for the Interstate 5 Improvement Project between Yale Avenue and State Route 55.

B. Authorize the use of up to $22,706,000 in federal Surface Transportation Block Grant and Measure M2 funding for right-of-way capital and right-of-way services for the Interstate 5 Improvement Project between Yale Avenue and State Route 55.

C. Authorize staff to process all necessary amendments to the federal Transportation Improvement Program and execute or amend all necessary agreements to facilitate the above actions.

D. Authorize the Chief Executive Officer to initiate discussions with property owners and utility owners, make offers, and execute agreements for the acquisition of all necessary real property interests and necessary utility relocations.

OCTA

June 6, 2022

To: Regional Planning and Highways Committee

From: Darrell E. Johnson, Chief Executive Officer

Subject: Cooperative Agreement with the California Department of Transportation for the Interstate 5 Improvement Project Between Yale Avenue and State Route 55 and Authority to Acquire Right-of-Way

Overview

The Orange County Transportation Authority proposes to enter into a cooperative agreement with the California Department of Transportation to define roles, responsibilities, and funding obligations for right-of-way support services, right-of-way engineering, right-of-way acquisition, and utility relocation for the Interstate 5 Improvement Project between Yale Avenue and State Route 55.

Recommendations

A. Authorize the Chief Executive Officer to negotiate and execute Cooperative Agreement No. C-2-2232 between the Orange County Transportation Authority and the California Department of Transportation, in the amount of $1,230,000, to perform right-of-way services for the Interstate 5 Improvement Project between Yale Avenue and State Route 55.

B. Authorize the use of up to $22,706,000 in federal Surface Transportation Block Grant and Measure M2 funding for right-of-way capital and right-of-way services for the Interstate 5 Improvement Project between Yale Avenue and State Route 55.

C. Authorize staff to process all necessary amendments to the Federal Transportation Improvement Program and execute or amend all necessary agreements to facilitate the above actions.

D. Authorize the Chief Executive Officer to initiate discussions with property owners and utility owners, make offers, and execute agreements for the acquisition of all necessary real property interests and necessary utility relocations.

Discussion

The Interstate 5 (I-5) Improvement Project between Interstate 405 (I-405) and State Route 55 (SR-55) (Project) is Project B in the Measure M2 (M2) freeway program and is included in the updated Next 10 Delivery Plan adopted by the Orange County Transportation Authority (OCTA) Board of Directors (Board) in December 2021.

The Project will add one general purpose lane in both directions on the I-5 freeway between I-405 and SR-55. The Project will reestablish existing auxiliary lanes and provide new auxiliary lanes where necessary, and provide continuous access to the high-occupancy vehicle lanes. The final environmental document was signed on January 7, 2020, and build alternative 2B was identified as the preferred alternative by the Project development team. The Project is being developed as two separate design and construction projects to enhance the participation and competitive bidding of consultants and contractors, with the following Project limits:

- Segment 1 extends from I-405 to Yale Avenue
- Segment 2 extends from Yale Avenue to SR-55

On June 8, 2020, the Board authorized Cooperative Agreement No. C-0-2317 with the California Department of Transportation (Caltrans) to provide oversight of the plans, specifications, and estimates, and to advertise and award the construction contract for Segment 2 of the Project. An additional cooperative agreement with Caltrans is now needed to initiate the right-of-way (ROW) phase for Segment 2.

OCTA proposes to enter into a cooperative agreement with Caltrans to define the roles and responsibilities of both agencies. OCTA will be the lead agency implementing ROW activities, which shall include property acquisitions, relocation assistance for displacees if necessary, and coordination of utility relocations for the Project. OCTA will also be the lead agency for eminent domain proceedings, which shall include OCTA Board resolutions of necessity if needed. Caltrans will be the lead agency for ROW engineering activities for

Segment 2, which shall include mapping, surveying and monumentation as directly reimbursed work. Caltrans' direct work will be funded by federal Surface Transportation Block Grant (STBG) funds, in the amount of $1,230,000. Caltrans' oversight of other ROW activities will be at no cost to OCTA. ROW activities are anticipated to commence in summer 2022 before submittal of 65 percent design as final ROW requirements are being determined. The Project is estimated to impact a total of 12 properties, both privately and publicly-owned, and seven utility conflicts. The current list of impacted properties has land uses, which include vacant, commercial/industrial, multifamily residential, residential, and public (Attachment A). The real property requirements are comprised of a combination of partial fee acquisitions, permanent easements, utility easements, and temporary construction easements. There are no anticipated full fee acquisitions. The needed property rights are required to implement the Project scope as defined in the final environmental document. Consistent with Recommendation D above and the Project schedule, the Chief Executive Officer (CEO) will initiate discussions with property owners and utility owners upon Board approval of this item.

OCTA shall follow the Caltrans Right of Way Manual (RWM) and the OCTA Real Property Policies and Procedures Manual (RPPPM) to handle the acquisition of property rights, in compliance with requirements set by the Uniform Relocation Assistance and Real Property Acquisition Policies Act (Uniform Act). The Uniform Act was enacted by the federal government to ensure real property is acquired, and that displacees are relocated in an equitable, consistent, and equal manner. The Caltrans RWM and OCTA RPPPM also incorporate State of California laws and regulations enacted to provide benefits and safeguards to property owners. Statutory offers for the purchase of property will be made for an amount established as just compensation, which shall be determined through an independent appraisal process. Efforts will be made to reach a negotiated settlement with property owners or businesses; however, when an impasse is reached, as an act of last resort, staff, through a separate Board action, may request the Board to adopt a resolution of necessity to initiate eminent domain proceedings to obtain the necessary interests in real property.

The Project does not intend to require the permanent relocation or displacement of any residences or businesses as a result of property acquisitions. In the event of a need to displace any individual or business as a result of the Project, relocation assistance will be provided in accordance with the Caltrans RWM and OCTA RPPPM.

OCTA and Caltrans staff will continue to evaluate the need for property through the design phase. If any modifications to the ROW requirements are necessary, OCTA staff will appropriately justify and document the need to secure such property to construct the Project in accordance with procedural requirements. Any need for additional ROW requirements will be addressed within the parameters of the California Environmental Quality Act and National Environmental Policy Act.

Fiscal Impact

As part of this cooperative agreement, funding for Caltrans services for ROW support is included in OCTA's proposed Fiscal Year 2022-23 Budget, Capital Programs Division, Account No. 0017-7514-FB103-1OD, and will be funded through STBG funds.

While the cooperative agreement with Caltrans represents a portion of the ROW cost, OCTA is requesting Board approval to program funds for ROW based on the current estimated cost for ROW capital and support, which will be funded through a combination of STBG and M2 funds.

Summary

Staff requests Board approval for the CEO to negotiate and execute Cooperative Agreement No. C-2-2232 between OCTA and Caltrans, in the amount of $1,230,000, to perform ROW services for the I-5 Improvement Project between Yale Avenue and State Route 55, to provide oversight at no cost, and to certify the ROW for the Project. In addition, staff requests approval to use up to $22,706,000 in STBG and M2 funds for the ROW phase for Project B, Segment 2, for a total of $23,936,000. Finally, staff requests the Board authorize the CEO to make offers and execute agreements with property owners and utility owners for the acquisition of all necessary interests in real property and necessary utility relocations for the Project.

Attachment

A. Interstate 5 Improvement Project Between Yale Avenue and State Route 55 Right-of-Way Needs Summary

Prepared by:

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Approved by:

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Executive Director, Capital Programs
(714) 560-5646

ATTACHMENT A

Interstate 5 Improvement Project Between Yale Avenue and State Route 55 Right-of-Way Needs Summary

Yale Avenue to SR-55 (PM 25.8 – 30.3)

Contract No. C-2-2232 - EA 12-0K6721, EFIS 1220000035

June 1, 2022

Location No.	TCE	Fee Take	Owner	APN	General Location	Comment
1	1	1	City of Irvine	529-282-04	Along Sound Wall No. 4.1 south of Culver Drive	
2	1	0	City of Irvine	529-241-04	Along Sound Wall No. 4.1 south of Culver Drive	
3	1	0	Orange County Flood Control District	528-012-29	Along northound (NB) on-ramp from Culver Drive	Need Title Report to determine ownership
4	1	0	Orange County Flood Control District	528-012-22	Along Interstate 5 (I-5) NB at Peters Canyon Channel	Also needs temporary access to temporary construction easement (TCE) area
5	1	0	Orange County Flood Control District	449-012-53	Along I-5 southbound (SB) at Peters Canyon Channel	Also needs temporary access to TCE area
6	1	1	Marketplace Business Center	528-012-40	Along NB off-ramp to Jamboree Rd	
7	1	1	Irvine Company	449-012-63	Along SB on-ramp from Jamboree Road	
8	1	1	Irvine Company	500-291-25	Along NB on-ramp from Jamboree Road	
9	1	0	Orange County Flood Control District	500-291-15	Along I-5 NB at El Modena Irvine Channel	Also needs temporary access to TCE area
10	1	0	Irvine Company	432-391-36	Along I-5 SB and SB off-ramp to Jamboree Road	
11	1	1	Irvine Company	432-391-59	Along SB on-ramp from Tustin Ranch Road	
12	1	1	City of Tustin	N/A	Along NB off-ramp to Red Hill Avenue and El Camino Real	
Total	12	6				

COMMITTEE TRANSMITTAL

June 13, 2022

To: Members of the Board of Directors

From: Andrea West, Interim Clerk of the Board

Subject: Amendment to Cooperative Agreement with the California Department of Transportation for the Interstate 5 Improvement Project from Oso Parkway to Alicia Parkway

Regional Planning and Highways Committee Meeting of June 6, 2022

Present: Directors Chaffee, Delgleize, Foley, Harper, Muller, and Murphy
Absent: Director Bartlett

Committee Vote

This item was passed by the Members present.

Committee Recommendation

Authorize the Chief Executive Officer to negotiate and execute Amendment No. 3 to Cooperative Agreement No. C-8-1426 between Orange County Transportation Authority and the California Department of Transportation, in the amount of $1,000,000, for additional construction support services for the Interstate 5 Improvement Project from Oso Parkway to Alicia Parkway. This will increase the maximum cumulative obligation of the cooperative agreement to a total contract value of $172,796,000.

OCTA

June 6, 2022

To: Regional Planning and Highways Committee

From: Darrell E. Johnson, Chief Executive Officer

Subject: Amendment to Cooperative Agreement with the California Department of Transportation for the Interstate 5 Improvement Project from Oso Parkway to Alicia Parkway

Overview

On February 12, 2018, the Orange County Transportation Authority Board of Directors approved a cooperative agreement between Orange County Transportation Authority and the California Department of Transportation to provide construction capital and construction management services for the Interstate 5 Improvement Project from Oso Parkway to Alicia Parkway as part of the Interstate 5 Improvement Project between State Route 73 and El Toro Road. Board of Directors' approval is requested to amend the cooperative agreement for additional funding for construction support services.

Recommendation

Authorize the Chief Executive Officer to negotiate and execute Amendment No. 3 to Cooperative Agreement No. C-8-1426 between the Orange County Transportation Authority and the California Department of Transportation, in the amount of $1,000,000, for additional construction support services for the Interstate 5 Improvement Project from Oso Parkway to Alicia Parkway. This will increase the maximum cumulative obligation of the cooperative agreement to a total contract value of $172,796,000.

Discussion

The Orange County Transportation Authority (OCTA), in cooperation with the California Department of Transportation (Caltrans), is implementing the Interstate 5 (I-5) Improvement Project between State Route 73 (SR-73) and El Toro Road (Project). The Project is part of projects C and D in the Measure M2 (M2) freeway program and is being advanced through the updated Next 10 Delivery Plan approved by the OCTA Board of Directors (Board) in December 2021.

The Project will add one general purpose lane in each direction on I-5 between Avery Parkway and Alicia Parkway, extend the second high-occupancy vehicle lane from El Toro Road to Alicia Parkway, re-establish auxiliary lanes, and construct new auxiliary lanes at various locations. In addition, the Project will reconstruct the Avery Parkway and La Paz Road interchanges, improve several existing on- and off-ramps, and convert existing and proposed carpool lanes to continous access.

Construction is underway in three segments with the following Project limits:

- Segment 1 extends from SR-73 to south of Oso Parkway
- Segment 2 extends from south of Oso Parkway to south of Alicia Parkway
- Segment 3 extends from south of Alicia Parkway to El Toro Road

On February 12, 2018, the Board authorized Cooperative Agreement No. C-8-1426 with Caltrans to provide the construction capital and construction management support services for Segment 2, between Oso Parkway and Alicia Parkway.

Caltrans, as the construction phase implementing agency, is providing the resident engineer and structures representative and other field personnel, along with construction administrative support and environmental and paleontology monitoring of the Project, at an estimated cost of $11,889,000. This cost is fully funded with federal State Transportation Block Grant (STBG) funds and Caltrans is drawing down these STBG funds directly. Other services include coordination and communications between the contractor and all other Project participants, processing, collecting, and maintaining Project communications and records, managing the recommendation of contractor progress payments, and processing of change orders and claims.

Additional construction support services are needed above the originally estimated level of effort due to different site conditions within the limits of the Project than what was known during the design phase based on standard investigations and as-built information. Different site conditions like these are often encountered during construction. The effects of the different site conditions may potentially impact the contractor's construction completion date. These impacts are being monitored with the intent to minimize delay to the completion date. The following describes the specific efforts needed:

- Additional construction support due to the presence of previously unknown contaminated soil. This contaminated soil was not identified in the construction contract documents and required testing, handling, and offsite disposal.

- Additional construction support due to soil caving at the location of Retaining Wall 110. Analysis and recommendation for additional soil nails was approved so that this work could proceed without delay to the Project.

- Additional construction support due to inadequate existing concrete mainline pavement and asphalt shoulders (not shown on as-built plans) to handle additional traffic as part of the traffic staging for the Project.

- Additional construction support due to existing crash wall barriers in the railroad (Southern California Regional Rail Authority) right-of-way. The foundations of the crash wall barriers were not included in the construction contract documents and required partial demolition, removal, and reconstruction of new crash wall barrier foundations as part of the mainline and northbound La Paz Road off-ramp reconstruction.

- Additional construction support due to the lack of access to the railroad area which was required for construction. The construction management team had considerable coordination efforts to ensure a temporary crossing was approved for construction and operation while work was being performed in this vicinity.

Fiscal Impact

The Project is included in OCTA's proposed Fiscal Year 2022-23 Budget, Capital Programs Division, Account No. 0017-9084-FC105-06W. Funding for this amendment will be with federal STBG funding as specified in the Capital Programming Update (CPU) concurrent Board item. Additional details regarding project funding are also included in the CPU.

Summary

Staff requests Board of Directors' approval to authorize the Chief Executive Officer to negotiate and execute Amendment No. 3 to Cooperative Agreement No. C-8-1426 between the Orange County Transportation Authority and the California Department of Transportation, in the amount of $1,000,000, for additional construction support services for the Interstate 5 Improvement Project from Oso Parkway to Alicia Parkway. This will increase the maximum obligation of the cooperative agreement to a total contract value of $172,796,000, comprised of a construction capital share of $148,232,000 and a construction support share of $24,564,000.

Attachment

A. California Department of Transportation, Cooperative Agreement No. C-8-1426 Fact Sheet

Prepared by:

Niall Barrett, P.E.
Program Manager
(714) 560-5879

Pia Veesapen
Director, Contracts Administration and Materials Management
(714) 560-5619

Approved by:

James G. Beil, P.E.
Executive Director, Capital Programs
(714) 560-5646

ATTACHMENT A

California Department of Transportation
Cooperative Agreement No. C-8-1426 Fact Sheet

1. February 12, 2018, Cooperative Agreement No. C-8-1426, $147,584,000, approved by the Board of Directors (Board).

   - Define the terms, conditions, and funding responsibilities between the Orange County Transportation Authority and California Department of Transportation (Caltrans) and to provide construction capital and construction management services.

2. June 11, 2018, Amendment No. 1 to Cooperative Agreement No. C-8-1426, $24,212,000, approved by the Board.

   - Additional funding approved for the project through the Capital Programming Update staff report.
   - To add $6,077,000 in federal State Transportation Block Grant (STBG) funds for construction capital.
   - To add $18,135,000 in Measure M2 (M2) funds for construction capital.

3. September 10, 2018, Amendment No. 2 to Cooperative Agreement No. C-8-1426, $0, approved by the Chief Executive Officer.

   - To allow use of M2 funds to support advanced construction activities throughout the project until the federal funds are obligated and to reinstate standard funding articles.

4. June 13, 2022, Amendment No. 3 to Cooperative Agreement No. C-8-1426, $1,000,000, pending Board approval.

   - To add $1,000,000 in federal STBG funds for additional construction support services.

Total committed to Caltrans after approval of Amendment No. 3 to Cooperative Agreement No. C-8-1426: $172,796,000.

COMMITTEE TRANSMITTAL

June 13, 2022

To: Members of the Board of Directors

From: Andrea West, Interim Clerk of the Board

Subject: Resolution to Establish the Orange County Local Transportation Authority/Measure M2 Appropriations Limit for Fiscal Year 2022-23

Finance and Administration Committee Meeting of June 8, 2022

Present: Directors Goodell, Harper, Hennessey, Jones, and Muller
Absent: Directors Hernandez and Sarmiento

Committee Vote

This item was passed by the Members present.

Committee Recommendation

Adopt Orange County Local Transportation Authority/Measure M2 Resolution No. 2022-029 to establish the Orange County Local Transportation Authority/Measure M2 appropriations limit at $2,126,550,391, for fiscal year 2022-23.

OCTA

June 8, 2022

To: Finance and Administration Committee

From: Darrell E. Johnson, Chief Executive Officer

Subject: Resolution to Establish the Orange County Local Transportation Authority/Measure M2 Appropriations Limit for Fiscal Year 2022-23

Overview

The State Constitution requires that each year the governing body of each local jurisdiction shall, by resolution, establish its appropriations limit for the following year pursuant to Article XIIIB.

Recommendation

Adopt Orange County Local Transportation Authority/Measure M2 Resolution No. 2022-029 to establish the Orange County Local Transportation Authority/Measure M2 appropriations limit at $2,126,550,391, for fiscal year 2022-23.

Background

In November 1979, the voters of the State of California approved Proposition 4, commonly known as the Gann Initiative. The proposition created Article XIIIB of the California Constitution, which is also known as the Gann Appropriations Limit.

Both the Article XIIIB appropriations limit and its implementing legislation were modified by Proposition 111, approved by voters in 1990. The law specifies that the appropriations of revenues, “proceeds of taxes” by state and local governments, may only increase annually by a limit based on a factor comprised of the change in population and the change in California per capita personal income. The appropriation limit includes any interest earned from the investment of the proceeds of taxes and must be reviewed during the annual financial audit.

Discussion

In accordance with the requirements of Article XIIIB, a resolution has been prepared and is attached for review and approval (Attachment A). The resolution establishes the Orange County Local Transportation Authority (LTA)/Measure M2 (M2) appropriations limit for fiscal year (FY) 2022-23 at $2,126,550,391, excluding federal grant funds and other funds to be received from sources not subject to the appropriations limit.

Attachment B shows the calculation of the FY 2022-23 Orange County LTA/M2 appropriations limit. Appropriations subject to limits do not include appropriations for debt service, costs of complying with the mandates of the courts, federal government, or capital outlay projects. The change in population and change in California per capita personal income rates were obtained from the State of California, Department of Finance.

Summary

Staff recommends adoption of the Orange County Local Transportation Authority/Measure M2 Resolution No. 2022-029, which will establish the fiscal year 2022-23 appropriation limit at $2,126,550,391, for the Orange County Local Transportation Authority.

Attachments

A. Resolution No. 2022-029 of the Orange County Local Transportation Authority/Measure M2 Establishing Appropriations Limit for Fiscal Year 2022-23
B. Orange County Local Transportation Authority/Measure M2 GANN Appropriations Limit Calculation for Fiscal Year 2022-23

Prepared by:

Sam Kaur
Department Manager,
Revenue Administration
(714) 560-5889

Approved by:

Andrew Oftelie
Chief Financial Officer,
Finance and Administration
(714) 560-5649

ATTACHMENT A

RESOLUTION No. 2022-029 OF THE ORANGE COUNTY LOCAL TRANSPORTATION AUTHORITY/MEASURE M2 ESTABLISHING APPROPRIATIONS LIMIT FOR FISCAL YEAR 2022-23

WHEREAS, Article XIIIB of the California constitution and Sections 7900 through 7913 of the California Government Code require the establishment of an appropriations limit; and

WHEREAS, appropriations limits are applicable to funds received from the proceeds of taxes and interest earned on such proceeds.

NOW, THEREFORE, BE IT RESOLVED as follows:

1. The Orange County Local Transportation Authority/Measure M2 hereby determines that pursuant to Section 7902b of the California Government Code, the appropriations limit for the Orange County Local Transportation Authority/Measure M2 for fiscal year 2022-23 is $2,126,550,391.

2. The total amount authorized to be expended by the Orange County Local Transportation Authority/Measure M2 during the Fiscal Year 2022-23 from the proceeds of taxes, including interest earned from the investment of the proceeds of taxes, is $426,023,007.

3. The appropriations limit for fiscal year 2022-23 exceeds proceeds of taxes for fiscal year 2022-23 by $1,700,527,384.

ADOPTED SIGNED AND APPROVED this 13th day of June 2022.

AYES:

NOES:

ABSENT:

ATTEST:

Andrea West Interim Clerk of the Board	Mark A. Murphy, Chairman Orange County Local Transportation Authority

ATTACHMENT B

Orange County Local Transportation Authority/Measure M2
GANN Appropriations Limit Calculation for
Fiscal Year 2022-23

GANN FACTOR

PER CAPITA CHANGE[1]	**%**		**RATIO**		**GANN FACTOR**
California per capita personal income change	7.55%		1.0755		
POPULATION CHANGE[2]					
County of Orange	-0.23%		0.9977		
GANN FACTOR	1.0755	x	0.9977	=	1.0730

Fiscal year (FY) 2022-23 APPROPRIATION LIMIT

Prior Year Appropriations Limit	$	1,981,873,617
GANN Factor (Rounded)	x	1.0730
	$	**2,126,550,391**

ITEMS SUBJECT TO GANN LIMIT[3]

Line Item		***Amount***
1/2 cent sales tax (Measure M2)	$	413,065,831
CDTFA Fees	$	4,130,658
Interest Revenue	$	8,826,518
	$	**426,023,007**

FY 2022-23 APPROPRIATION LIMIT

		Amount
FY 2022-23 Appropriations Limit	$	2,126,550,391
Less Items Subject to GANN Limit		(426,023,007)
Appropriation Limit that exceeds the proceeds of taxes:	**$**	**1,700,527,384**

Note:
CDTFA - California Department of Tax and Fee Administration
[1,2]Price Factor and Population Information provided by the Department of Finance.
[3]Items subject to GANN Limit provided from proposed FY 2022-23 budget

COMMITTEE TRANSMITTAL

June 13, 2022

To: Members of the Board of Directors

From: Andrea West, Interim Clerk of the Board

Subject: Environmental Mitigation Program Endowment Fund Investment Report for March 31, 2022

Finance and Administration Committee Meeting of June 8, 2022

Present: Directors Goodell, Harper, Hennessey, Jones, and Muller
Absent: Directors Hernandez and Sarmiento

Committee Vote

This item was passed by the Members present.

Committee Recommendation

Receive and file as an information item.

OCTA

June 8, 2022

To: Finance and Administration Committee

From: Darrell E. Johnson, Chief Executive Officer

Subject: Environmental Mitigation Program Endowment Fund Investment Report for March 31, 2022

Overview

The Orange County Transportation Authority has developed a Natural Community Conservation Plan/Habitat Conservation Plan, acquired conservation properties, and funded habitat restoration projects to mitigate the impacts of Measure M2 freeway programs. The California Community Foundation manages the non-wasting endowment required to fund the long-term management of the conservation properties. Each quarter, the California Community Foundation publishes a comprehensive report detailing the composition of the pool and its performance.

Recommendation

Receive and file as an information item.

Background

On September 26, 2016, the Board of Directors approved the selection of the California Community Foundation (CCF) as an endowment fund manager for the Measure M2 Freeway Environmental Mitigation Program. Annually, approximately $2.9 million will be deposited in the endowment. These annual deposits are expected over a ten-to-twelve-year period, or until the fund totals approximately $46.2 million. As of March 31, 2022, the Orange County Transportation Authority (OCTA) has made six deposits to the CCF Endowment Pool, each in the amount of $2,877,000.

Discussion

Per Attachment A, as of March 31, 2022, total pool assets in the CCF Endowment Pool were $1.30 billion. Total foundation assets were $2.54 billion. Performance for the CCF Endowment Pool was below the benchmark in the short-term horizon of up to five years. Over the longer time frame, the CCF Endowment Pool has matched or exceeded the benchmark in the ten-to-twenty-year time periods. Based on CCF's performance to date, OCTA remains on track to meet the endowment target of $46.2 million in fiscal year (FY) 2027-28.

Per Attachment B, the balance as of March 31, 2022, was $21,042,295. The balance is above the FY 2021-22 target of $20,076,431. United States economic conditions weakened throughout the quarter, highlighted by rising interest rates, surging inflation pressures, ongoing supply-chain issues, and the Russia-Ukraine war. Fixed income performance for the quarter was strongly down, and, despite a strong rally in March, equity markets faced a turbulent quarter, also ending down for the quarter. Diversification, asset allocation, and appropriate sizing of underlying investments in the endowment portfolio are the main methods to protect the portfolio from outsized volatility.

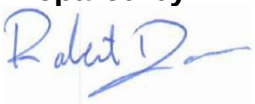
Summary

The Orange County Transportation Authority is submitting a copy of the California Community Foundation Investment Report to the Board of Directors. The report is for the quarter ending March 31, 2022.

Attachments

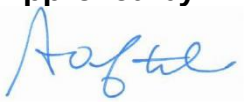
A. California Community Foundation Endowment Pool Investments – March 2022
B. California Community Foundation Fund Statement – 1/1/2022 – 3/31/2022

Prepared by:



Robert Davis
Department Manager,
Treasury and Public Finance
714-560-5675

Approved by:



Andrew Oftelie
Chief Financial Officer
Finance and Administration
714-560-5649

California COMMUNITY Foundation

Endowment Pool
March 31, 2022

INVESTMENTS

Total Pool Assets

$1.30 billion (Endowment Pool), $2.54 billion (total foundation assets) as of March 31, 2022.

Pool Objective

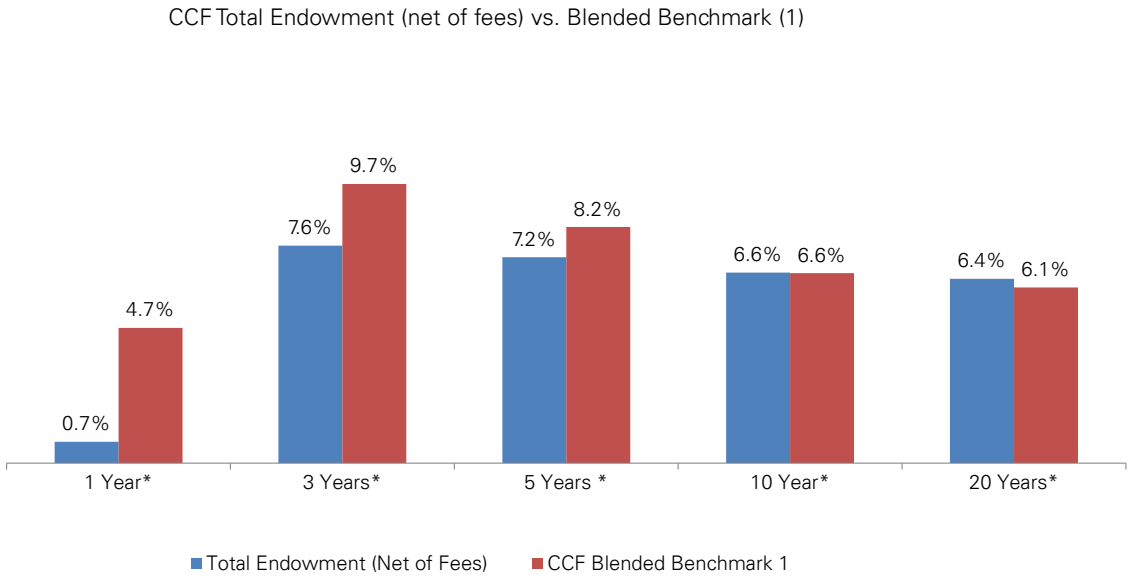
Prudent investment of funds to provide real growth of the assets over time while protecting the value of the assets from undue volatility or risk of loss. Managed on a total return basis (i.e., yield plus capital appreciation) while taking into account the level of liquidity required to meet withdrawals from the pool - mainly expenses and grants to external organizations. While the Investment Committee recognizes the importance of the preservation of capital, they also adhere to the principle that varying degrees of risk are generally rewarded with commensurate returns over full market cycles (5-10 years).

Outsource CIO

Hall Capital Partners

Performance & Asset Allocation

Preliminary performance for March 2022 was -0.8% (2,5)



Asset Class	Balance ($m)	% of Port	Long-Term Target Range (4)
Cash & Equivalent (3)	$60	5%	0 - 5%
Fixed Income	$170	13%	10 -20%
Public Equities	$650	50%	40 - 60%
Alternative Assets	$175	14%	10 - 25%
Private Investments	$103	8%	10 - 20%
Real Assets	$138	11%	5 - 10%
Total Endowment Assets	$1,297	100%	

* Represents Annualized Returns.

Footnotes:

1 – Total benchmark intended to roughly match CCF portfolio asset allocation with relevant constituent benchmarks. Current blended benchmark effective since 7/1/21. Current blend: ML Treasury 1-3 (2%), Barclays Agg. Bond Index (18%), MSCI ACWI (50%), Hedge Fund Blend (7.5% BofA ML High Yield, 3.75% ML 3-Month T- bills, 3.75% MSCI ACWI), Cambridge PE Index (3.5%), Cambridge VC Index (1.5%), Cambridge RE Index (7%), S&P Infrastructure Index (3%). Contact CCF for benchmark blends prior to 7/1/21

2 – Performance is preliminary and at times estimated pending final reporting from all investments. Managers often report on substantial lags, particularly private illiquid investments. In the instances where we do not have actual or estimated performance for a manager, we default to a 0% performance. Investment performance is presented net of investment expenses, including fund manager incentive fees

3 – Includes cash in transit to or from investments. For example, 2/28 cash could include money that is being sent to an investment on 3/1

4 – Current portfolio allocations may be outside of strategic ranges as it can take substantial time to adjust investments to meet range goals. This is particularly true for private illiquid investments that call capital into strategies over time and typically necessitate multi-year periods to gain exposure for appropriate vintage diversification

5 – Investment expense ratio approximates weighted-average 0.95% excluding fund manager incentive fees

ATTACHMENT B

California COMMUNITY Foundation

Fund Name	OCTA - Measure M2 Environmental Mitigation Program Fund
Fund Start Date	2/28/2017
Investment Pool(s)	Endowment Pool

FUND STATEMENT

OCTA - Measure M2 Environmental Mitigation Program Fund (V398)

1/1/2022 - 3/31/2022

Fund Summary

	Report Period 1/1/2022 - 3/31/2022	Calendar YTD 1/1/2022 - 3/31/2022
Opening Fund Balance	$22,634,538.09	$22,634,538.09
Contributions	0.00	0.00
Investment Activity, net	(1,533,969.48)	(1,533,969.48)
Administration & Grant Management Fees	(58,273.89)	(58,273.89)
Net Changes to Fund	(1,592,243.37)	(1,592,243.37)
Ending Balance	**$21,042,294.72**	**$21,042,294.72**

Investment Pool Performance as of 3/31/2022

	This Qtr.	1-Year	3-Years	5-Years	10-Years
Endowment Pool	-6.8%	0.7%	7.6%	7.2%	6.6%
Social Impact Endowment Pool	-6.0%	6.8%	12.8%	10.4%	8.5%
Conservative Balanced Pool	-4.1%	0.8%	5.9%	5.5%	n/a
Short Duration Bond Pool	-3.5%	-3.8%	1.1%	1.4%	n/a
Capital Preservation Pool	-0.1%	-0.1%	0.8%	1.1%	0.7%

Endowment Pool - invested for long-term growth and appreciation while providing a relatively predictable stream of distributions that keeps pace with inflation over time. The target asset allocation is 50% public equity, 15% hedge funds, 20% fixed income, 10% real assets and 5% private equity & venture capital. Investment management fees are approximately 95 basis points.

Social Impact Endowment Pool - invested in a diversified pool aiming for capital growth for long-term grantmaking; underlying instruments undergo rigorous environmental and social analysis, with an asset allocation of approximately 65% equity (Vanguard FTSE Social Index Fund) and 35% fixed income (30% CCM CRA Qualified Fund & 5% Vanguard Short-Term Bond Index Fund). Investment management fees are 22 basis points.

Conservative Balanced Pool - designed to aim for moderate growth and to offer diversified exposure to the U.S. equity market and to investment grade fixed income with maturities from one to five years and an asset allocation of 70% fixed income and 30% equities investments. Investment management fees are 5 basis points.

Short Duration Bond Pool - invested to offer diversified exposure to investment grade fixed income with maturities from one to five years for the purposes of grants over a near-term one to four year horizon. Investment management fees are 5 basis points.

Capital Preservation Pool - designed to preserve principal and provide liquidity for present grantmaking needs through investment in short-term fixed income and cash instruments. Investment management fees are 12 basis points.

COMMITTEE TRANSMITTAL

June 13, 2022

To: Members of the Board of Directors

From: Andrea West, Interim Clerk of the Board

Subject: Measure M2 Quarterly Progress Report for the Period of January 2022 Through March 2022

Executive Committee Meeting of June 6, 2022

Present: Chairman Murphy, Directors Bartlett, Do, Hennessey, Jones, and Muller
Absent: Vice Chairman Hernandez

Committee Vote

This item was declared passed by the Members present.

Committee Recommendation

Receive and file as an information item.

June 6, 2022

To: Executive Committee

From: Darrell E. Johnson, Chief Executive Officer

Subject: Measure M2 Quarterly Progress Report for the Period of January 2022 Through March 2022

Overview

Staff has prepared the Measure M2 Quarterly Progress Report for the third quarter of fiscal year 2021-22 as information for the Orange County Transportation Authority Board of Directors. This report highlights progress on Measure M2 projects and programs and is available to the public via the Orange County Transportation Authority website.

Recommendation

Receive and file as an information item.

Background

On November 7, 2006, Orange County voters, by nearly 70 percent, approved the Renewed Measure M Transportation Investment Plan (Plan) for the Measure M2 (M2) one half-cent sales tax for transportation improvements. The Plan provides a 30-year revenue stream for a broad range of transportation and environmental improvements, as well as a governing ordinance, which defines the requirements for implementing the Plan. Ordinance No. 3 (M2 Ordinance) designates the Orange County Transportation Authority (OCTA) as responsible for administering the Plan and ensuring that OCTA's contract with the voters is followed.

OCTA is committed to fulfilling the promises made in M2. This means not only completing the projects described in the Plan but also adhering to numerous specific requirements and high standards of quality called for in the measure, as identified in the M2 Ordinance. The M2 Ordinance requires that quarterly status reports regarding the major projects detailed in the Plan be brought to the Board of Directors (Board). The Board is also provided with individual project staff reports and overall reports on the status of various capital projects by the Capital Programs Division.

Discussion

This quarterly report reflects current activities and progress across all M2 programs for the period of January 1, 2022, through March 31, 2022 (Attachment A). The report includes project budget and schedule information as provided and reported in the Capital Action Plan. Information on the Local Fair Share and Senior Mobility Program (SMP) payments made to cities during the quarter is also included.

Additionally, Attachment A includes a summary of the Program Management Office activities, of which two areas are highlighted below.

Ordinance Safeguards

To evaluate OCTA's efficiency and effectiveness in the delivery of M2, the M2 Ordinance requires a performance assessment to be conducted at least once every three years. Four prior performance assessments have been completed to date. Efforts for the fifth performance assessment covering the period between fiscal year (FY) 2018-19 through FY 2020-21 were initiated in July 2021. During the quarter, the consultant incorporated additional clarifying information based on staff input and finalized the report. The final report was presented to the Executive Committee on April 4, 2022, and the Board on April 25, 2022. The consultant's report reflects a positive assessment of OCTA's efficiency and effectiveness in the delivery of M2 projects and programs. While there were no significant findings, recommendations for enhancements were made. These recommendations will be addressed as appropriate and progress updates will be provided in future M2 quarterly reports.

In addition, the Program Management Office annually updates a compliance matrix to ensure the numerous requirements in the M2 Ordinance are met. The matrix details the status of each requirement and includes links to supporting documentation. This quarter, the annual update was completed and was presented to the Taxpayer Oversight Committee on April 12, 2022, as a resource for committee members.

Market Conditions Key Indicators Analysis and Forecast

At the Board's direction, OCTA contracts with two local economists to monitor and analyze key early warning indicators affecting the construction market. The information is incorporated into a cost pressure index model to identify potential cost risk factors on M2 project delivery. The results of the fall analysis were presented to the Board on October 11, 2021, which forecasted that OCTA may experience a high inflation cost environment from 2022 through 2024, due to more volatile market conditions.

During the quarter, the consultant team completed the spring update of the construction cost pressure index model. The report forecasts the highest inflationary cost environment (ranging 11 percent to 40 percent) for the remainder of 2022, and maintains a high inflation cost environment in 2023 and 2024 (ranging from six percent to 11 percent). Major drivers of the cost pressures include an increase in requests for building materials, and by correlation, the cost of materials as well as lower unemployment rates and higher construction salaries. While the economy has shown signs of improving, strong inflationary pressures and supply chain disruptions continue to offset benefits. Staff will continue to monitor market conditions and provide updates to the Board as appropriate.

Progress Update

The following provides an overview of M2 accomplishments to date by mode, as well as highlights of activities that occurred during the third quarter of FY 2021-22.

Freeway Program

The M2 Freeway Program consists of 30 project segments to be delivered by 2041. To date, 13 project segments are complete, four are in construction, and another nine are in or nearing final design. The remaining four project segments are in various stages of project development as described below.

- Interstate 5 (I-5) between State Route 73 (SR-73) and El Toro Road – A project update on construction activities was provided to the Regional Planning and Highways (RPH) Committee on March 7, 2022, and to the Board on March 28, 2022.This project is comprised of three segments and includes two interchange improvements at Avery Parkway and La Paz Road. The project is anticipated to be completed by late 2024. (Project C and Project D)

- State Route 55 (SR-55) between Interstate 405 (I-405) and I-5 – The project was advertised for construction on December 6, 2021, and the bid opening was held on March 10, 2022. The California Department of Transportation is reviewing the apparent low bid (approximately 0.8 percent below the engineer's estimate) for conformance with all bidding, subcontracting, and security bonding requirements. Construction is anticipated to begin in summer of 2022. (Project F)

- SR-55 between I-5 and State Route 91– On February 14, 2022, the Board approved the consultant selection to prepare plans, specifications, and estimate. Design efforts are anticipated to begin in summer of 2022. (Project F)

- I-405 between SR-73 and Interstate 605 – Construction on the project is proceeding and a quarterly project update was provided to the RPH Committee on February 7, 2022, and to the Board on February 14, 2022. During the quarter, the first half of the Brookhurst Street bridge was completed and opened to traffic; the full bridge is anticipated to be completed in summer of 2023. The project is approximately 78 percent complete. (Project K)

Streets and Roads

Since 2011, more than $1 billion, which includes nearly $53.9 million in leveraged external funds, has been allocated to local jurisdictions for transportation improvements through the streets and roads competitive and formula funding programs. To date, 437 project phases have been allocated through M2 competitive streets and roads funding programs, of which 313 phases, equating to approximately 72 percent, have been completed. Additionally, M2 provided $152.6 million, a portion of the $666.5 million total program cost, to grade separate seven streets and rail crossings, leveraging the majority of the funds ($513.9 million) from local, state, and federal sources.

An update to the countywide signal synchronization plan was presented to the RPH Committee on March 7, 2022, and to the Board on March 14, 2022. Staff evaluated the 2009 Traffic Signal Synchronization Master Plan and the M2 Regional Traffic Signal Synchronization Program (RTSSP) and identified opportunities for enhancements, such as transitioning from a corridor-based synchronization to a zone-based synchronization approach that is retimed on a regular basis and continuing to offer annual calls for projects (call) that balance funds between synchronization and capital improvements. OCTA will initiate a baseline countywide signal synchronization effort using external funding. Staff also plans to return to the Board in summer 2022 with recommended guideline updates for the 2023 RTSSP call. (Project P)

Transit

The M2 transit mode includes several programs designed to provide additional transportation options. M2 is the primary funding source for Metrolink commuter rail service in Orange County and includes funding for rail station improvements and transit connections to extend the reach of the services. Due to the coronavirus (COVID-19) pandemic, Metrolink implemented temporary service reductions. On April 4, 2022, Metrolink partially restored some services in response to customer feedback and demand for more train trips to accommodate ridership recovery efforts. The three lines serving Orange County now operate 45 weekday trains, a 17 percent reduction from 54 weekday trains. During the quarter, ridership recovery continued to trend positively, as total boardings on the Orange County Line increased on average by approximately 102 percent

compared to the same quarter last year; however, full recovery of ridership could take over 24 months. As ridership continues to recover, Metrolink and OCTA will continue to reassess the service needs in Orange County.

Since 2011, M2 has provided competitive multi-year transit funding commitments for bus and station van extension services connecting to Metrolink ($483,133 to date), local community-based transit circulators and planning studies ($40.0 million to date), and bus stop improvements ($2.9 million to date). In parallel, M2 provides a set amount of funding to support three programs intended to expand mobility choices for seniors and persons with disabilities ($100.9 million[1] to date). A few transit highlights during the quarter are noted below.

- OC Streetcar – A quarterly update was presented to the Transit Committee on January 13, 2022, and to the Board on January 24, 2022, providing information on the status of construction activities, vehicle manufacturing, and public outreach. During the quarter, construction activities continued with placement of the first embedded track-slab concrete on Fourth Street, installation of ballasted track between the Westminster and Santa Ana River bridges, and installation of the first steel structures for the Maintenance and Storage Facility. (Project S)

- A ridership report was provided to the Transit Committee on January 13, 2022, and to the Board on January 24, 2022. Impacts from the pandemic have eased as additional grant-funded services were reinitiated by local agencies. Of the 35 projects awarded, 17 are currently active, nine have been cancelled (primarily due to low ridership), six are currently suspended (or not initiated) due to COVID-19, and three have been completed. (Project V)

Environmental Programs

The M2 Program includes two innovative programs, the Environmental Cleanup Program (ECP) and the Environmental Mitigation Program (EMP). The ECP improves water quality by addressing transportation-related pollutants, while the EMP offsets the biological impacts of M2 freeway projects.

Since 2011, the ECP has allocated approximately $54.1 million to local jurisdictions for 188 projects for trash removal devices (Tier 1), and 18 projects for large-scale water quality best management practices projects (Tier 2). It is estimated that nearly 45.3 million gallons of trash have been captured since the

[1] Only includes disbursed funds. On October 12, 2020, the Board approved a temporary exception to the SMP Guidelines, which allows for OCTA to hold allocations in reserve for agencies with suspended services due to the COVID-19 pandemic. The funds will be held until the State lifts the State of Emergency or transportation services resume, whichever occurs first.

inception of the program, which is the equivalent of filling nearly 105 football fields with one foot deep of trash.

- The 12th Tier 1 call was released on March 14, 2022, for approximately $3 million. Applications are due on June 16, 2022, and programming recommendations are anticipated to be presented to the Board in the fall of 2022. (Project X)

Additionally, the Board has authorized $55 million for the EMP to acquire conservation lands and fund habitat restoration projects. OCTA has acquired more than 1,300 acres (Preserves) and funded 12 projects to restore habitat on 350 acres of open space across Orange County to fulfill the necessary M2 freeway program mitigation needs.

The wildlife and habitat on the acquired lands are protected in perpetuity, and long-term management of the properties will be funded by an established endowment. The performance of the fund may affect the timeframe for full funding of the endowment. As of March 31, 2022, the balance of the endowment was $21,042,295, which is above the FY 2021-22 target amount of $20,076,431. Current projections indicate that OCTA remains on track to meet the endowment target of $46.2 million in FY 2027-28.

Challenges

As with all major programs, challenges arise and need to be monitored and addressed. A few key challenges are highlighted below.

- The spring update of the market conditions key indicators analysis and forecast report anticipates a high inflationary cost environment through 2024 due to volatile market conditions. Additionally, contractors have reported continued escalation of material and equipment pricing due to supply shortages, which could affect the ability to order, as well as affect delivery schedules from suppliers. Staff will continue to monitor market pricing trends and material availability, along with the impacts on construction in the region.

- Recently introduced state bills (AB 2237 [Friedman, D-Burbank] and AB 2438 [Friedman, D-Burbank]), could impact the delivery of M2 projects. These would significantly change the administration and use of external funding for M2 projects (in the future as well as funds that have already been programmed) and would also undermine OCTA's ability to deliver a project regardless of funding source if a project is found inconsistent with state goals. On April 25, 2022, the Board adopted oppose positions on both AB 2237 and AB 2438. Staff will continue to

remain engaged on these issues and provide updates to the Board as appropriate.

- The OC Streetcar Project has faced many challenges, such as unforeseen utility conflicts and conditions, contaminated materials, construction quality control and compliance, added oversight and approvals, and several change requests. Recent community concerns regarding construction along Fourth Street in the City of Santa Ana have been shared with the Board.

- COVID-19 has affected many elements of M2, such as sales tax revenue forecast, traffic patterns, transit ridership, and administrative processes. To provide flexibility and help local jurisdictions manage the impacts of the pandemic, the Board has approved multiple adjustments including M2 Ordinance amendments and guideline exceptions. While recent updates indicate recovery of ridership and revenues, continued tracking of COVID-19 impacts to M2 are prudent.

Staff will continue to monitor all COVID-19 impacts and program challenges closely to ensure M2 remains deliverable as promised to voters.

Summary

A quarterly report covering activities from January 2022 through March 2022, is provided to update progress in implementing the Plan. The above information and the attached details indicate significant progress on the overall M2 Program despite facing challenges. To be cost-effective and to facilitate accessibility and transparency of information available to stakeholders and the public, the M2 Quarterly Progress Report is made available through the OCTA website. Hard copies are available by mail upon request.

Attachment

A. Measure M2 Quarterly Progress Report, Third Quarter of Fiscal Year 2021-22, January 1, 2022 through March 31, 2022

Prepared by:

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Approved by:

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ATTACHMENT A

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MEASURE M2 QUARTERLY PROGRESS REPORT

Third Quarter of Fiscal Year 2021 – 22
January 1, 2022 through March 31, 2022

Third Quarter Highlights:

- Freeway Projects
- Streets and Roads
- Environmental Cleanup & Water Quality
- Freeway Mitigation Program
- Finance Matters
- Program Management Office
- Summary

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MEASURE M2 PROGRESS REPORT

SUMMARY

On November 7, 2006, Orange County voters, by a margin of nearly 70 percent, approved the Renewed Measure M Transportation Investment Plan (Plan) for the Measure M2 (M2) one-half cent sales tax for transportation improvements. Voters originally endorsed Measure M in 1990 with a sunset in 2011. The renewal of Measure M continues the investment of local tax dollars in Orange County's transportation infrastructure for another 30 years to 2041.

As required by Ordinance No. 3 (M2 Ordinance), a quarterly report covering activities from January 1, 2022, through March 31, 2022, is provided to update progress in implementing the Plan. On September 25, 2017, the Board of Directors (Board) approved externally rebranding M2 as OC Go to promote Orange County Transportation Authority's (OCTA) Measure M awareness and to avoid confusion with Measure M in Los Angeles County.

To be cost-effective and to facilitate accessibility and transparency of information to stakeholders and the public, M2 progress reports are available on the OCTA website. Hard copies are mailed upon request.

The cover photo shows a fully installed drainage inlet filter used to capture trash, debris, and other pollutants in the City of Lake Forest. This project was funded by a Tier 1 grant through the M2 Environmental Cleanup Program. On March 14, 2022, the Board authorized the released of the 12th Tier 1 call for projects (call) to make approximately $3 million available. Staff estimates that over 45.3 million gallons of trash has been captured as a result of the installation of Tier 1 water quality improvement devices since 2011. This is equivalent to filling 105 football fields with one-foot deep of trash.

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MEASURE M2 PROGRESS REPORT

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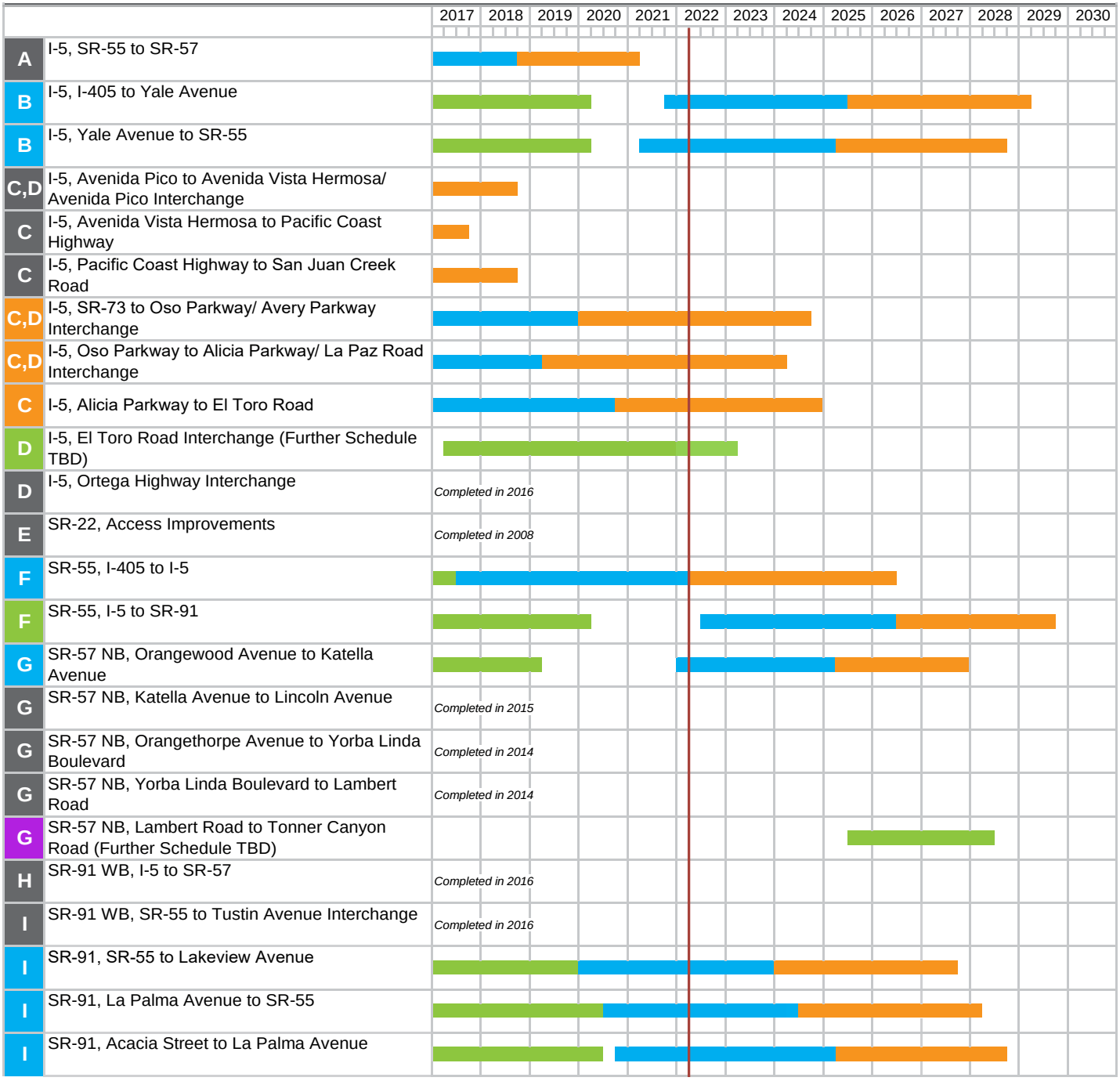
MEASURE M2 PROJECT SCHEDULES

Conceptual | Environmental | Design, Advertise, & Award | Design-Build | Construction | Complete



Project schedules are based on phase start dates. Shown schedules are subject to change.

[1] Projects managed by local agencies

For full project schedules, see https://octa.net/About-OC-Go/Projects-and-Programs/#/schedule

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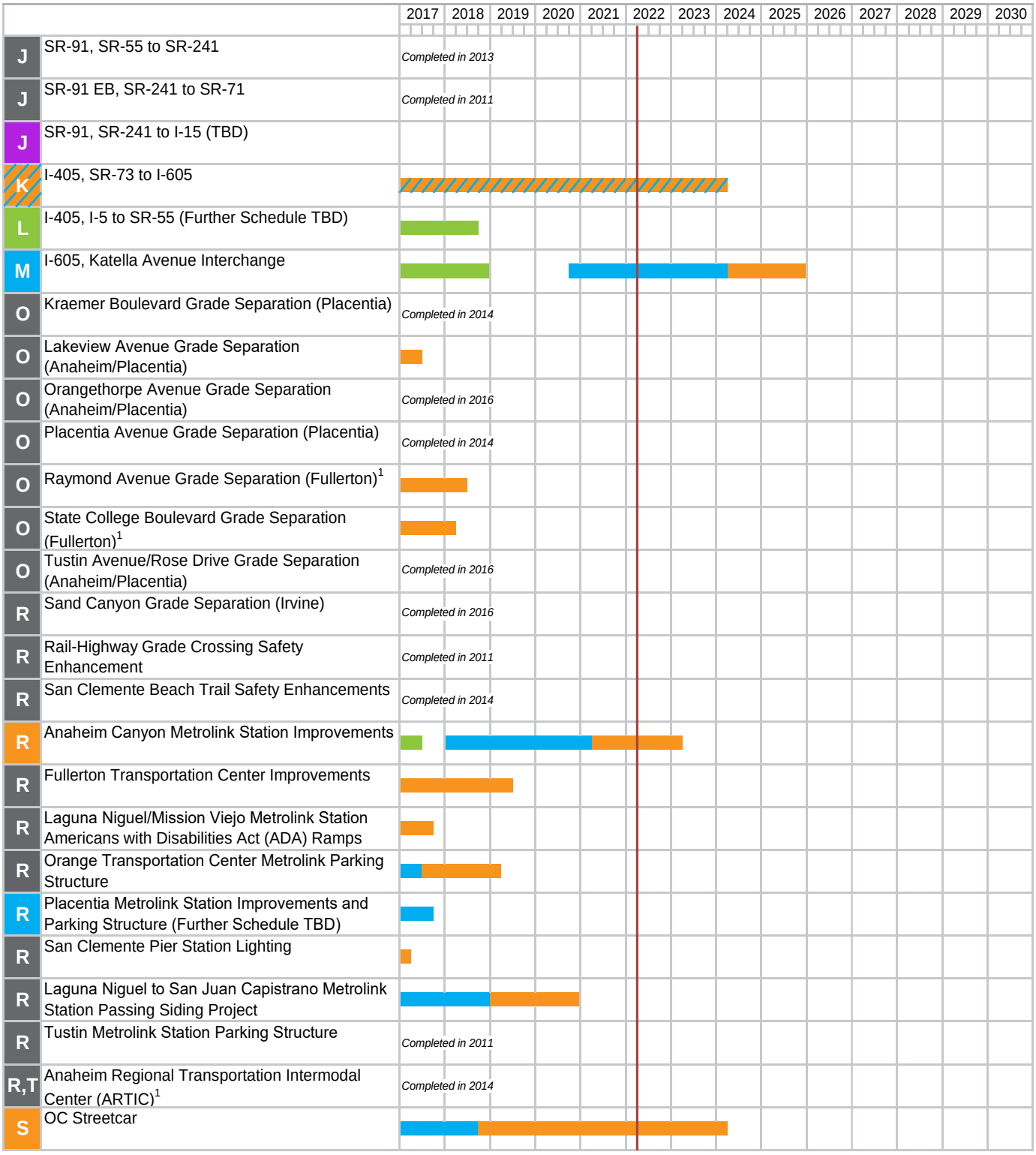
MEASURE M2 PROJECT SCHEDULES



Project schedules are based on phase start dates. Shown schedules are subject to change.

[1] Projects managed by local agencies

For full project schedules, see https://octa.net/About-OC-Go/Projects-and-Programs/#/schedule

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Local Tax Dollars at Work

MEASURE M2 PROGRESS REPORT

M2 DELIVERY RISK UPDATE

This section discusses the risks and challenges related to Measure M2 and the updated Next 10 Delivery Plan (Next 10 Plan) that the M2 Program Management Office (PMO) is monitoring with associated explanations and proposed actions.

Delivery Risk		Explanation	Proposed Action
Financial			
1	The 2021 M2 revenue forecast is $13.2 billion, which is a $1.6 billion (13.8 percent) year-over-year increase from the 2020 forecast. While this is good news, it is still $200 million less than the pre-pandemic 2019 M2 sales tax forecast. Major swings in future revenue projections may challenge delivery.	Sales tax revenues were impacted by the Great Recession, COVID-19, and changes in consumer spending habits. The 2018 Wayfair decision has alleviated some impacts due to the ability to collect sales tax on out-of-state purchases.	Staff will continue to monitor sales tax revenue actuals and annually review the M2 cash flow to ensure that M2 is delivered as promised to voters.
2	Reduced external funding opportunities for the M2 freeway program.	State and federal priorities continue to shift and favor projects that reduce automobile travel, which limit future external funding opportunities for the M2 freeway projects.	Current external funding commitments are assumed in the M2 cash flow for the 2021 Next 10 Plan, but prospects of future revenues for highway projects are low.
3	Potential for an environment of increasing cost as M2 capital projects are readied for construction.	The spring 2022 update of the Next 10 Plan Market Conditions Forecast and Risk Analysis reflects the highest inflationary environment for the remainder of 2022, followed by a high inflationary environment for 2023 and 2024. This is driven by increases in construction wages, building permits, construction materials, and supply chain disruptions.	To further protect against potential cost increases in the M2 freeway program, an 11 percent program level expense line item was incorporated in the 2021 M2 cash flow for an economic uncertainty allowance. The Next 10 Plan Market Conditions Forecast and Risk Analysis report is updated biannually and provides a three-year look ahead. OCTA will continue to monitor bid results and market conditions affecting project costs.
4	Inability to scale the M2 Freeway Program to available revenue and still deliver the M2 commitments.	The M2 Freeway Program includes set project scopes leaving limited flexibility in what is delivered.	OCTA will work closely with the California Department of Transportation (Caltrans) to apply value engineering strategies on projects to manage costs.

On Track One to Watch

Delivery Risk		Explanation	Proposed Action
5	Schedule and scope changes on capital projects that impact delivery and project costs.	Changes as a result of updated highway standards or issues identified in the field regularly impact scope, schedule, and costs.	OCTA will work closely with project partners and project contractors to limit changes in scope, schedule, and costs.
6	Sustain Metrolink train service as an attractive alternative to driving in Orange County within the limits of available revenue.	Operational cost of Metrolink service continues to grow as the system ages, track-sharing arrangements with BNSF Railway Company (BNSF) are revised, and new air quality requirements are implemented. COVID-19 has introduced new risks as ridership and revenue have been greatly impacted in Orange County.	In September 2020, Metrolink adopted a Recovery Plan Framework to ensure the safety of passengers and employees and restore service in a post-COVID-19 environment. Metrolink received $64.6 million in one-time federal funds through the Coronavirus Aid, Relief and Economic Security Act, $4.7 million in Coronavirus Response and Relief Supplemental Appropriations Act funding, and $22.7 million in American Rescue Plan Act funding which alleviates some concerns in the near-term. OCTA will continue to work closely with Metrolink and member agencies to ensure cost increases are minimized, while continuing to seek external revenue.
Resource			
7	Low unemployment and substantial work underway in the region has resulted in significant demand for professional and skilled labor which may impact delivery given the volume of the M2 capital program.	External demand for key talent creates shortages which drive up delivery costs. If shortages continue, project delivery costs could rise but if additional labor resources are available, it may temper costs and reduce delivery risk.	Expert and timely coordination between OCTA and project partners is imperative to manage this risk.
8	New operational responsibilities with the OC Streetcar.	With the implementation of the OC Streetcar service, OCTA will be increasing its overall role in operations.	To ensure success of the OC Streetcar, OCTA hired a streetcar operations manager with proven start-up experience to oversee start-up and daily operations. A contractor with extensive experience in operations of rail systems was selected to handle the startup and revenue operation phases.

On Track One to Watch

Delivery Risk		Explanation	Proposed Action
Regulatory			
9	Changing federal and state directives could affect M2 freeway project approvals.	Current state planning and project approval policies place great emphasis on reducing travel by automobile and encourage project alternatives that promote short trips where possible, travel by transit, bicycling or walking, and use of zero-emission vehicles. These requirements will affect the project environmental review process.	The majority of M2 freeway projects, where this risk would manifest itself, have obtained the necessary approvals. If the approvals require a review or revision, these new requirements could impact delivery.

Next 10 Delivery Plan

Contact: Francesca Ching, PMO Manager • (714) 560-5625

On November 14, 2016, the Board approved the Next 10 Plan, providing guidance to staff on the delivery of M2 projects and programs. Annually, staff reviews the Board-adopted commitments in the Next 10 Plan to ensure it remains deliverable with updated revenues and project costs.

On December 13, 2021, the Board adopted the 2021 updated Next 10 Plan, which covers fiscal year (FY) 2020-21 through FY 2029-30. The update incorporated the $13.2 billion sales tax revenue forecast, revised project estimate and schedules, as well as the fall market conditions forecast and risk analysis. As a result of OCTA's strategic planning to date, the 2021 Next 10 Plan continues to demonstrate that the Plan remains deliverable.

Next 10 Plan Deliverables

Significant progress continues with projects completing construction, projects in and advancing towards construction, as well as regular funding allocations to local jurisdictions through local programs.

1. Deliver 14 freeway improvement projects through construction (Projects A-M).

The M2 Freeway Program is currently made up of 30 projects/project segments. This deliverable includes 14 projects to be delivered through construction by FY 2029-30. These projects would bring the total number of completed projects to 26, which equates to approximately 87 percent of the M2 Freeway Program. Of the 14 projects to be delivered, one project has been completed, four are in construction, and nine are in or nearing design. For more details, see pages i-ii (Project Schedules) and the project updates contained in their respective sections.

Upcoming activities:

- SR-55, I-405 to I-5 - Award construction contract

2. Prepare remaining freeway improvement projects for delivery (Projects A-M).

The four remaining projects (of the 30 total) are environmentally cleared or on track to be environmentally cleared by FY 2029-30, making them shelf-ready for further advancement. The remaining projects include Project D (I-5, El Toro Road Interchange), Project G (SR-57 northbound from Lambert Road to Tonner Canyon Road), Project J (SR-91 between SR-241 and I-15), and Project L (I-405 between I-5 and SR-55). These projects will continue to be reevaluated annually as part of the Next 10 Plan review. The next review of the Next 10 Plan is anticipated in fall 2022. For more details, see pages i-ii (Project Schedules) and the project updates contained in their respective sections.

3. Provide annual competitive funding opportunities for local jurisdictions to address bottlenecks and gaps in the street system, synchronize signals (Project O and P), and continue flexible funding to local jurisdictions to preserve the quality of streets or for use on other transportation needs, as appropriate (Project Q).

As of March 2022, OCTA has awarded approximately $455.6 million in competitive funding through the Regional Capacity Program (RCP) (Project O) and Regional Traffic Signal Synchronization Program (RTSSP) (Project P) through annual calls. Additionally, approximately $561.4 million in Local Fair Share (LFS) (Project Q) funds have been distributed to local jurisdictions.

On August 9, 2021, the Board authorized the 12th call providing up to $40 million for Project O and Project P in available M2 funds. Applications were received on October 21, 2021. Based upon project selection criteria as specified in the Comprehensive Transportation Funding Programs (CTFP) guidelines, final programming recommendations are anticipated to be presented to the Board for consideration in May 2022. For more details, see the project updates on page 20.

Upcoming activities:

- Project O and P - Programming recommendations for the 12th call

4. Maintain Metrolink service and complete rail station improvements (Project R).

In March 2020, all Metrolink services were impacted by the statewide enforcement of stay-at-home orders that resulted from the COVID-19 pandemic. Metrolink implemented temporary service reductions in March and November 2020 due to the decline in ridership. The three lines serving Orange County (Orange County, Inland Empire-Orange County, and the 91/Perris Valley lines) now operate 41 trains, which is down from the 54 daily trains operated prior to COVID-19. Metrolink is planning to partially restore services in April 2022 in response to customer feedback and to aid in ridership recovery efforts. Metrolink and OCTA will continue to assess service needs in Orange County and reinstate trains as appropriate.

Within this program, funding is provided for rail corridor and station improvements to accommodate increased passenger train service including station upgrades, parking expansions, and safety enhancements, such as the Anaheim Canyon Metrolink Station Improvement Project, which began construction in May 2021.

A recent impact to Metrolink in Orange County is the railroad track stabilization effort in the City of San Clemente. In September 2021, tidal surges along with a failing slope severely degraded the railroad track structure. OCTA owns the railroad right-of-way (ROW) in the affected area. Metrolink has performed the majority of the emergency repair work with contract forces on behalf of OCTA. These repairs are being funded from the commuter rail fund. More enduring treatments are in the early stage of planning to ensure the stability of the tracks in this area. Future updates to the Next 10 Plan will need to consider the financial implications of the additional track improvement needs. For more details, see the project updates on page 25.

5. Complete construction, secure vehicles, begin operating the OC Streetcar, and work with local jurisdictions to consider recommendations from planning studies to guide the development of future high-quality transit connections (Project S).

OC Streetcar

The 4.15-mile OC Streetcar will serve the Santa Ana Regional Transportation Center (SARTC) through Downtown Santa Ana and the Civic Center to Harbor Boulevard in the City of Garden Grove. Activities this quarter included placement of the first embedded track-slab concrete on Fourth Street, installation of ballasted track between the Westminster and Santa Ana River bridges, and erecting the first steel structures for the Maintenance and Storage Facility (MSF). The first seven cars are in the final stages of equipping with installation of the last remaining vehicle components. The eighth car is in final assembly and preparations are underway to commence static and dynamic testing. For more details, see the project updates on page 29.

Bristol Street Transit Corridor Study

The study focused on developing options to improve the flow of traffic and public transit along Bristol Street between West 17th Street and Sunflower Avenue (South Coast Metro) and connections to John Wayne Airport and the SARTC. The consultant team submitted the final report to OCTA in June 2021, and the results of the study is anticipated to be presented to the Board and made available to the public later this year.

6. Support expanded mobility choices for seniors and persons with disabilities (Project U).

Project U is comprised of three programs: the Senior Mobility Program (SMP), the Senior Non-Emergency Medical Transportation (SNEMT) Program, and the Fare Stabilization Program. Since inception, more than $100.9 million[1] has been provided to these three programs. The SMP provides funding to participating cities to design and implement transit service that best fits the needs of seniors (60 and above) in their communities. The SNEMT Program provides funding to the County of Orange Office on Aging for senior transportation to and from medical appointments, dentists, therapies, exercise programs, testing, and other health-related trips at a low cost to the rider than would otherwise be available. For more details, see the program updates on page 31.

[1] *Only includes disbursed funds. On October 12, 2020, the Board approved a temporary exception to the SMP guidelines, which allows for OCTA to hold allocations in reserve for agencies with suspended services due to the COVID-19 pandemic. The funds will be held until the State lifts the State of Emergency or transportation services resume, whichever occurs first.*

7. Work with local agencies to maintain successful community circulator projects and potentially provide grant opportunities for expanded or new local transit services (Project V).

Since inception, OCTA has approved 35 projects and ten planning studies totaling approximately $52 million through four calls. OCTA receives ridership reports from local agencies on a regular basis to monitor the success of awarded services against performance measures adopted by the Board.

As of March 2022, 17 projects are active, nine have been cancelled (primarily due to low ridership), six are suspended (or not initiated) due to the COVID-19 pandemic, and three have been completed. Staff continues to work with local agencies through letters of interest requests, workshops, CTFP guidelines revisions, calls, and cooperative agreement amendments to fine-tune this program and facilitate successful project implementation. For more details, see the program updates on page 32.

8. Continue to improve the top 100 busiest transit stops to enhance the customer experience (Project W).

Through three calls, the Board has approved $3.1 million to improve 122 city-initiated improvement projects at the busiest OCTA transit stops. The program is designed to ease transfers between bus lines and provide improvements such as the installation of bus benches or seating, shelters, improved lighting, and other passenger-related amenities. To date, construction for 49 improvements has been completed, ten improvements are anticipated to be completed by summer 2022, 53 improvements are in various stages of implementation, and ten improvements have been cancelled by the awarded agency. For more details, see the program updates on page 33.

9. Ensure the ongoing preservation of purchased open space, which provides comprehensive mitigation of the environmental impacts of freeway improvements and higher-value environmental benefits in exchange for streamlined project approvals (Projects A-M).

The M2 freeway Environmental Mitigation Program (EMP) includes seven conservation properties (Preserves) totaling more than 1,300 acres and 12 restoration projects covering nearly 350 acres. In 2017, OCTA received biological resource permits after completing a state and federal Natural Community Conservation Plan/ Habitat Conservation Plan (Conservation Plan) for the EMP, allowing streamlined project approvals for the M2 freeway improvement projects. The Conservation Plan also includes a streamlined process for coordination of streambed alteration agreements. In 2018, OCTA secured programmatic permits and assurances for federal and state clean water permitting requirements. Receipt of these permits represents the culmination of years of collaboration and support by the Board, environmental community, and regulatory agencies.

To protect the Preserves in perpetuity, a non-wasting endowment was established. OCTA makes annual deposits of approximately $2.9 million. While the performance of the endowment fund will affect the time frame for full funding, current projections indicate that OCTA is on track to meet the target of $46.2 million in FY 2027-28. As of March 31, 2022, the balance of the endowment was $ 21,042,295. For more details, see the program updates on page 34.

10. Work with the Environmental Cleanup Allocation Committee (ECAC) to develop the next tiers of water quality programs to prevent the flow of trash, pollutants, and debris into waterways from transportation facilities. In addition, focus on improving water quality on a regional scale that encourages partnerships among the local agencies as part of the Environmental Cleanup Program (ECP) (Project X).

In May 2010, the Board approved a two-tier approach to funding Project X. Tier 1 consists of funding equipment purchases and upgrades to existing catch basins and related best management practices, such as screens and other low-flow diversion devices. Tier 2 consists of funding regional, potentially multi-jurisdictional, and capital-intensive projects. Since 2011, the Board has approved over $30 million in funding for 199 Tier 1 projects through 11 calls and $27.9 million for 22 Tier 2 projects through two calls. To date, of the 199 Tier 1 projects, construction on 171 have been completed, 17 are in various stages of implementation, and 11 have been cancelled. Of the 22 Tier 2 projects, 18 projects have been constructed and four have been cancelled by the awarded agency.

The 12th Tier 1 call was released on March 14, 2022, providing up to $3 million in available M2 funds to support projects that protect beaches and waterways throughout Orange County. Applications for the call are due on June 16, 2022. Based upon project selection criteria as specified in the CTFP guidelines, programming recommendations are anticipated to be presented to the Board for consideration in fall 2022. Staff will continue to analyze revenues for future calls and is currently assessing the timing of a future Tier 2 call. For more details, see the program updates on page 34.

Upcoming activities:

- Project X – Programming recommendations for the 12th call

FREEWAYS

INTERSTATE 5 (I-5) PROJECTS

PROJECT A

Segment: **I-5, SR-55 to SR-57**

Status: **PROJECT COMPLETE**

Contact: Rose Casey, Capital Projects • (714) 560-5729

Summary: This project added a second high-occupancy vehicle (HOV) lane (approximately three miles) in both directions along I-5 between SR-55 and SR-57 in the City of Santa Ana. The final Environmental Document (ED) and Project Report (PR) were approved on April 27, 2015. Construction began on December 27, 2019, and the improvements opened to traffic on August 24, 2020. The project was officially completed three months ahead of schedule on January 6, 2021, and plant establishment was completed on May 24, 2021.

I-5, I-405 to SR-55 is one project broken into two segments. The final ED and PR were approved on January 7, 2020.

PROJECT B

Segment: **I-5, I-405 to Yale Avenue**

Status: Design Phase Underway – Ten Percent Complete

Contact: Rose Casey, Capital Projects • (714) 560-5729

Summary: This project will add an additional general purpose lane (approximately 4.5 miles) in both directions of I-5 between I-405 and Yale Avenue, improve interchanges, and replace and add new auxiliary lanes in the City of Irvine. The design of this project was initiated on October 22, 2021. This quarter, the design consultant finalized the project schedule, obtained Caltrans encroachment permits for surveying and geotechnical activities, and continued to refine geometric enhancements to reduce overall costs associated with ROW and utility relocations. In addition, utility notification letters for upcoming relocation work were prepared for distribution. Coordination relating to locations of soundwalls, overhead signage, landscaping is ongoing.

Segment: **I-5, Yale Avenue to SR-55**

Status: Design Phase Underway - 40 Percent Complete

Contact: Rose Casey, Capital Projects • (714) 560-5729

Summary: This project will add an additional general purpose lane (approximately 4.5 miles) in both directions of I-5 between Yale Avenue and SR-55, improve interchanges, replace, and add new auxiliary lanes in the cities of Irvine and Tustin. The design of this project was initiated on May 6, 2021. This quarter, the design consultant continued limited surveying of existing facilities and obtaining as-builts from various agencies, and worked on addressing comments from Caltrans on the 35 percent design package. Coordination relating to the locations of soundwalls, overhead signage, landscaping, staging, and drainage is ongoing. Due to potential schedule delays during the ROW phase, this project is marked as a cost/schedule risk in the Capital Action Plan (CAP).

FREEWAYS

PROJECT C AND PART OF PROJECT D

I-5, Avenida Pico to San Juan Creek Road is one project broken into three segments. The final ED and PR were approved on October 26, 2011. All three segments were completed, and the improvements opened to traffic on March 13, 2019.

Segment: **I-5, Avenida Pico to Avenida Vista Hermosa/Avenida Pico Interchange**

Status: **PROJECT COMPLETE**

Contact: Rose Casey, Capital Projects • (714) 560-5729

Summary: This project added a carpool lane (approximately 0.7 miles) in both directions of I-5 between Avenida Pico and Avenida Vista Hermosa in the City of San Clemente, included major improvements through reconstruction of the Avenida Pico Interchange (part of Project D), and added bicycle lanes in both directions on Avenida Pico. Construction began on December 22, 2014, and was officially completed on August 23, 2018. Plant establishment was completed in May 2019.

Segment: **I-5, Avenida Vista Hermosa to Pacific Coast Highway**

Status: **PROJECT COMPLETE**

Contact: Rose Casey, Capital Projects • (714) 560-5729

Summary: This project added a carpool lane (approximately 2.5 miles) in both directions of I-5 between Avenida Vista Hermosa and Pacific Coast Highway (PCH) in the City of San Clemente and reconstructed on- and off-ramps at Avenida Vista Hermosa and Camino de Estrella. Construction began on July 3, 2014, and was officially completed on July 31, 2017. Plant establishment was completed in May 2018.

Segment: **I-5, Pacific Coast Highway to San Juan Creek Road**

Status: **PROJECT COMPLETE**

Contact: Rose Casey, Capital Projects • (714) 560-5729

Summary: This project added a carpool lane (approximately 2.5 miles) in both directions of I-5 between PCH and San Juan Creek Road in the cities of Dana Point, San Clemente, and San Juan Capistrano and reconstructed the on- and off-ramps at PCH/Camino Las Ramblas. Construction began on December 20, 2013, and was officially completed on July 3, 2018. Plant establishment was completed in March 2019.

FREEWAYS

I-5, SR-73 to El Toro Road is one project broken into three segments. The final ED and PR for all three segments were approved on May 6, 2014. With a cost estimate of $557.11 million, the project was above the $500 million threshold for a "Major Project" designation, as determined by the Federal Highway Administration (FHWA). Major projects require a Cost Estimate Review (CER) workshop. A CER was conducted by the FHWA, Caltrans, and OCTA in February 2018 and resulted in an estimated project cost of $612.6 million. The OCTA cost estimate for the three segments is currently $577.1 million.

Segment: **I-5, SR-73 to Oso Parkway/Avery Parkway Interchange**

Status: Construction Underway - 56 Percent Complete

Contact: Rose Casey, Capital Projects • (714) 560-5729

Summary: This project will add a general purpose lane (approximately 2.2 miles) in both directions of I-5 between Avery Parkway and Oso Parkway and reconstruct the Avery Parkway Interchange (part of Project D) in the cities of Laguna Hills, Laguna Niguel, and Mission Viejo. The construction contract was awarded on December 19, 2019, and construction began on January 15, 2020. This quarter, the contractor completed construction of various drainage systems in preparation for northbound and southbound freeway widenings, several retaining walls in both directions, and guard rail systems throughout the project. In addition, Caltrans and OCTA continued coordinating utility work with San Diego Gas and Electric.

Segment: **I-5, Oso Parkway to Alicia Parkway/La Paz Road Interchange**

Status: Construction Underway - 68 Percent Complete

Contact: Rose Casey, Capital Projects • (714) 560-5729

Summary: This project will add a general purpose lane (approximately 2.6 miles) in both directions along I-5 between Oso Parkway and Alicia Parkway and reconstruct the La Paz Road Interchange (part of Project D) in the cities of Laguna Hills and Mission Viejo. The construction contract was awarded on March 5, 2019, and construction began on April 4, 2019. This quarter, the contractor opened two northbound I-5 on-ramps at La Paz Road, continued construction of several retaining walls in both directions, graded slopes on northbound I-5, and continued installation of the bridge over the Oso Creek in both directions. The contractor also jacked and repaired the mainline I-5 where existing bearings supporting the bridge over the railroad had failed and completed the closure pour between the widened and existing bridge. Staff continued coordination of the service contract with Metrolink.

Segment: **I-5, Alicia Parkway to El Toro Road**

Status: Construction Underway - 31 Percent Complete

Contact: Rose Casey, Capital Projects • (714) 560-5729

Summary: This project will add a general purpose lane in the southbound direction (approximately 1.7 miles) and extend the second HOV lane (approximately one mile) in both directions along I-5 between Alicia Parkway to El Toro Road in the cities of Laguna Hills, Laguna Woods, Lake Forest, and Mission Viejo. The construction

contract was awarded on September 23, 2020, and construction began on October 13, 2020. This quarter, the contractor installed columns and bent cap falsework for the Los Alisos overcrossing bridge, continued work on several retaining walls, completed the demolition of a soundwall near the El Toro Road off-ramp, and installed pile foundations on the new northbound on-ramp over El Toro Road. Staff also continued coordination with Southern California Edison for the relocation of existing facilities and with Caltrans on ROW and utility relocations.

PROJECT D

This project will update and improve key I-5 interchanges at Avenida Pico, Ortega Highway, Avery Parkway, La Paz, and El Toro Road. Three interchange improvements at La Paz Road, Avery Parkway, and Avenida Pico are included and discussed as part of the respective segments in Project C.

Segment: **I-5, Ortega Highway Interchange**

Status: **PROJECT COMPLETE**

Contact: Rose Casey, Capital Projects • (714) 560-5729

Summary: This project widened and reconstructed the SR-74 Ortega Highway bridge over I-5 and improved local traffic flow along SR-74 and Del Obispo Street in the City of San Juan Capistrano. The final ED and PR were approved on June 1, 2009. Construction began on September 18, 2012, and all lanes on the new bridge opened to traffic on September 4, 2015. The project was officially completed on January 15, 2016.

Segment: **I-5, El Toro Road Interchange**

Status: Environmental Phase In Review

Contact: Rose Casey, Capital Projects • (714) 560-5729

Summary: Caltrans is the lead in the environmental phase of this project. The project area includes the cities of Laguna Hills, Laguna Woods, and Lake Forest, which are direct stakeholders of the project improvements. The study began in April 2017 and the draft Initial Study/Environmental Assessment was completed in March 2019. The three stakeholder cities were not in consensus on a preferred alternative, and costs identified for the remaining alternatives were significantly higher than the assumed cost in the Next 10 Plan, which created additional challenges. The environmental phase was anticipated to be completed in late 2019; however, without the cities' consensus, OCTA does not support the finalization of the document. OCTA requested Caltrans put completion of the ED on hold until a consultant, retained by OCTA, provides a further assessment of the alternatives to help facilitate reaching an agreement. The assessment kick-off meeting was held on September 16, 2020, and the draft final assessment study was completed in October 2021. This quarter, OCTA continued coordination with Caltrans and the cities to determine which build alternatives to include in the environmental process. A project update is anticipated to be presented to the Board in May 2022, followed by project updates to the three cities. Staff is anticipated to return to the Board in summer 2022 with feedback from the cities on the proposed alternatives. Due to the dependency on acquiring consensus from all three cities, this project is marked as a cost/schedule risk in the CAP.

FREEWAYS

STATE ROUTE 22 (SR-22) PROJECTS

PROJECT E

Segment: **SR-22 Access Improvements**

Status: **PROJECT COMPLETE**

Contact: Rose Casey, Capital Projects • (714) 560-5729

Summary: Completed in 2008, this project made improvements at three key SR-22 interchanges (Brookhurst Street, Euclid Street, and Harbor Boulevard) in the City of Garden Grove to reduce freeway and street congestion. This M2 project was completed early as a “bonus project” provided by the original Measure M (M1).

STATE ROUTE 55 (SR-55) PROJECTS

PROJECT F

Segment: **SR-55, I-405 to I-5**

Status: Design Phase Complete; Construction Contract Award Underway

Contact: Rose Casey, Capital Projects • (714) 560-5729

Summary: This project will add a general purpose lane (approximately four miles) and a second HOV lane (approximately four miles) in both directions between I-405 and I-5 in the cities of Irvine, Santa Ana, and Tustin. Auxiliary lanes will be added and extended in some segments within the project limits. The final ED and PR were approved on August 31, 2017. The design of this project was initiated on September 15, 2017, and the final design was submitted on June 1, 2021. ROW certification and ready-to-list status were obtained on September 2, 2021. The project was advertised on December 6, 2021, and the bid opening was held on March 10, 2022. The apparent low bid is 0.8 percent below the engineer’s estimate. Bid results are currently under review and construction is anticipated to begin in mid-2022. Due to complex ROW activities, this project is marked as a cost/schedule risk in the CAP.

Segment: **SR-55, I-5 to SR-91**

Status: Environmental Phase Complete; Design Contract Awarded

Contact: Rose Casey, Capital Projects • (714) 560-5729

Summary: This project studied the addition of a general purpose lane (approximately two miles) in both directions between I-5 and SR-22 and operational improvements between SR-22 and SR-91 in the cities of Anaheim, Orange, Santa Ana, and Tustin. The project limits span approximately 7.5 miles. The final ED and PR were approved on March 30, 2020. The Board approved the release of the RFP for the preparation of plans, specifications, and estimates (PS&E) on September 13, 2021, and awarded the contract on February 14, 2022. Final design services are anticipated to begin in mid-2022.

FREEWAYS

STATE ROUTE 57 (SR-57) PROJECTS

PROJECT G

Segment: **SR-57 Northbound, Orangewood Avenue to Katella Avenue**

Status: Design Phase Underway

Contact: Rose Casey, Capital Projects • (714) 560-5729

Summary: This project studied the addition of a new northbound general purpose lane (approximately one mile) on SR-57 from Orangewood Avenue to Katella Avenue in the cities of Anaheim and Orange. The new northbound general purpose lane will join the completed Project G segments between Katella Avenue and Lambert Road, which opened to traffic in 2014. The final ED and PR were approved on March 29, 2019. The Board approved the release of the RFP for the preparation of PS&E on March 8, 2021, and awarded the contract on July 12, 2021. The design of this project was initiated on March 28, 2022.

Segment: **SR-57 Northbound, Katella Avenue to Lincoln Avenue**

Status: **PROJECT COMPLETE**

Contact: Rose Casey, Capital Projects • (714) 560-5729

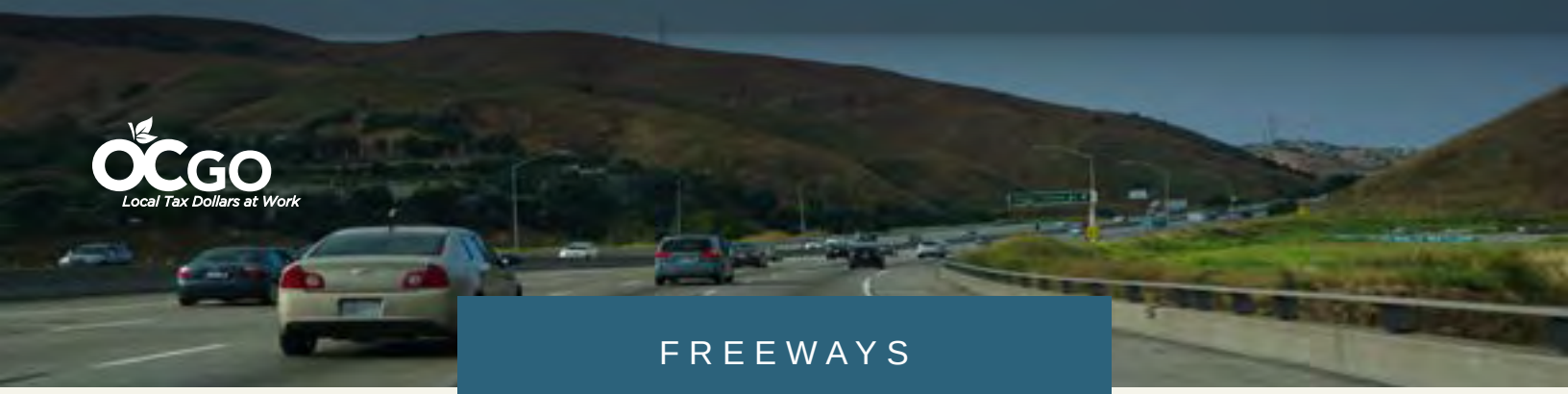
Summary: This project increased capacity by adding a new general purpose lane (approximately 2.8 miles) and improved on- and off-ramps and soundwall improvements on northbound SR-57 between Katella Avenue and Lincoln Avenue in the City of Anaheim. Bridges at Katella Avenue and Douglas Road were also widened in the northbound direction. The final ED was approved on September 30, 2009, and the final PR was approved on November 25, 2009. Construction began on November 17, 2011, and the improvements opened to traffic on November 19, 2014. The project was officially completed on April 21, 2015.

Segment: **SR-57 Northbound, Orangethorpe Avenue to Yorba Linda Boulevard**

Status: **PROJECT COMPLETE**

Contact: Rose Casey, Capital Projects • (714) 560-5729

Summary: This project increased capacity by adding a northbound general purpose lane (approximately 2.4 miles) between Orangethorpe Avenue in the City of Placentia to Yorba Linda Boulevard in the City of Fullerton and improved operations with the reconstruction of northbound on- and off-ramps, widening of seven bridges, and the addition of soundwalls. The final ED and PR were approved on November 30, 2007. Construction began on October 26, 2010, and the improvements opened to traffic on April 28, 2014. The project was officially completed on November 6, 2014.



FREEWAYS

Segment: **SR-57 Northbound, Yorba Linda Boulevard to Lambert Road**

Status: **PROJECT COMPLETE**

Contact: Rose Casey, Capital Projects • (714) 560-5729

Summary: This project improved capacity, operations, and traffic flow on SR-57 with the addition of a new northbound general purpose lane (approximately 2.5 miles) between Yorba Linda Boulevard in the City of Fullerton and Lambert Road in the City of Brea. Additional project benefits included on- and off-ramp improvements, the widening and seismic retrofit (as required) of six bridges in the northbound direction, and the addition of soundwalls. Existing lanes and shoulders were also widened to standard widths, enhancing safety for motorists. The final ED and PR were approved on November 30, 2007. Construction began on November 2, 2010, and the improvements opened to traffic on September 23, 2013. The project was officially completed on May 2, 2014.

Segment: **SR-57 Northbound, Lambert Road to Tonner Canyon Road**

Status: Schedule TBD

Contact: Rose Casey, Capital Projects • (714) 560-5729

Summary: Caltrans previously completed a Project Study Report/Project Development Support document to add a northbound truck-climbing lane (approximately 2.5 miles) from Lambert Road to Tonner Canyon Road in the City of Brea. This project requires coordination with Los Angeles County Metropolitan Transportation Authority (LA Metro) on planned improvements or related work across the Orange County/Los Angeles County Line. The mainline project includes interchange and ramp improvements at Lambert Road. Through the SB 1 (Chapter 5, Statutes of 2017) Trade Corridor Enhancement Program, funds were allocated to initiate the construction phase for interchange improvements at Lambert Road, which will complement and serve as a first phase to the freeway improvement project. Construction began in mid-2019 and is anticipated to be completed in summer 2022. Phase two, which is the mainline improvement, was initially approved for State Transportation Investment Program (STIP) funding in March 2018 to initiate the environmental phase. However, due to the 2019 STIP reduction, funding was shifted to cover projects already underway. To ensure coordination with other projects planned for construction and to avoid unreasonable impacts to the public, this project is currently scheduled to be constructed beyond the Next 10 Plan timeframe.

FREEWAYS

STATE ROUTE 91 (SR-91) PROJECTS

PROJECT H

Segment: **SR-91 Westbound, I-5 to SR-57**

Status: **PROJECT COMPLETE**

Contact: Rose Casey, Capital Projects • (714) 560-5729

Summary: This project increased capacity by adding a general purpose lane (approximately 4.5 miles) in the westbound direction between the cities of Anaheim and Fullerton and provided operational improvements at on- and off-ramps between Brookhurst Street and State College Boulevard. The final ED was approved on May 20, 2010, and the final PR was approved on June 16, 2010. Construction began on February 6, 2013, and the improvements opened to traffic on March 7, 2016. The project was officially completed on June 23, 2016.

PROJECT I

Segment: **SR-91, SR-55 to Tustin Avenue Interchange**

Status: **PROJECT COMPLETE**

Contact: Rose Casey, Capital Projects • (714) 560-5729

Summary: This project improved traffic flow at the SR-55/SR-91 interchange by adding a westbound auxiliary lane (approximately two miles) beginning at northbound SR-55 to the westbound SR-91 connector through the Tustin Avenue interchange in the City of Anaheim. The project reduced weaving congestion in the area and included reconstruction of the westbound side of the Santa Ana River Bridge to accommodate the additional lane. The final ED was approved on May 11, 2011, and the final PR was approved on May 19, 2011. Construction began on November 1, 2013, and the improvements opened to traffic on May 14, 2016. The project was officially completed on July 15, 2016.

SR-91, between SR-57 and SR-55 is one project broken into three segments. To augment the decrease in projected M2 revenues, on September 12, 2016, the Board approved the use of 91 Express Lanes excess revenue to fund this project. The final ED and PR were approved on June 22, 2020.

Segment: **SR-91, SR-55 to Lakeview Avenue**

Status: Design Phase Underway - 85 Percent Complete

Contact: Rose Casey, Capital Projects • (714) 560-5729

Summary: This project will provide westbound operational improvements (approximately 1.4 miles), which includes the realignment of the existing westbound SR-91 on- and off-ramps, the addition of a new on-ramp from the Lakeview Avenue overcrossing bridge to connect directly to southbound SR-55, and construction of a barrier to separate westbound SR-91 from SR-55. With the proposed improvements, the existing Lakeview Avenue overcrossing bridge is anticipated to be replaced with a new bridge. The design of this project was initiated on March 30, 2020. This quarter, the design team obtained and addressed comments on the 95 percent design submittal and initiated the right-of-way appraisal process.

FREEWAYS

Segment: **SR-91, La Palma Avenue to SR-55**

Status: Design Phase Underway - 38 Percent Complete

Contact: Rose Casey, Capital Projects • (714) 560-5729

Summary: This project will provide an additional eastbound general purpose lane (approximately 2.7 miles), replace the eastbound shoulder, and restore auxiliary lanes as needed throughout the project limits. With the proposed improvements, the existing Kraemer Boulevard and Tustin Avenue overcrossing bridges are anticipated to be replaced with new bridges. The design of this project was initiated on June 17, 2020. This quarter, the design team submitted the 65 percent roadway design package to Caltrans for review and continued utility coordination.

Segment: **SR-91, Acacia Street to La Palma Avenue**

Status: Design Phase Underway - 32 Percent Complete

Contact: Rose Casey, Capital Projects • (714) 560-5729

Summary: This project will provide westbound operational improvements (approximately 1.7 miles) by adding a fourth general purpose lane along westbound SR-91 from the northbound SR-57 to the westbound SR-91 connector, extending the southbound SR-57 to westbound SR-91 connector auxiliary lane through the State College Boulevard interchange, tying into the existing westbound SR-91 auxiliary lane west of State College Boulevard, and reconfiguring the westbound SR-91 to SR-57 connector to provide dedicated exits to SR-57. With the proposed improvements, the existing La Palma Avenue overcrossing bridge will be replaced with a new bridge. The design of this project was initiated on November 30, 2020. This quarter, the design team continued work on the 65 percent roadway design package and utility coordination.

Segment: **SR-91, SR-55 to SR-241**

Status: **PROJECT COMPLETE**

Contact: Rose Casey, Capital Projects • (714) 560-5729

PROJECT J

Summary: This project added a general purpose lane (approximately six miles) in both directions of SR-91 between SR-55 and SR-241 in the cities of Anaheim and Yorba Linda. In addition to adding 12 lane miles to SR-91, the project also delivered a second eastbound exit lane at Lakeview Avenue, Imperial Highway, and Yorba Linda Boulevard/Weir Canyon Road off-ramps. Beyond these capital improvements, crews completed work on safety barriers, lane striping, and soundwalls. The final ED and PR were approved on April 24, 2009. Construction began on May 27, 2011, and opened to traffic in December 2012. The project was officially completed on March 5, 2013.

FREEWAYS

Segment: **SR-91 Eastbound, SR-241 to SR-71**

Status: **PROJECT COMPLETE**

Contact: Rose Casey, Capital Projects • (714) 560-5729

Summary: This project improved mobility and operations by adding an eastbound lane (approximately six miles) through a key stretch of SR-91 between Orange County's SR-241 and Riverside County's SR-71, widened existing eastbound lanes and shoulders, and reduced traffic weaving as a result of traffic exiting at SR-71 and Green River Road. The final ED and PR were approved on December 28, 2007. Construction began on September 16, 2009, and the improvements opened to traffic on December 2, 2010. The project was officially completed on January 31, 2011. Because this project was shovel-ready, OCTA was able to obtain American Recovery and Reinvestment Act funding for this M2 project, saving M2 revenues for future projects.

Segment: **SR-91, SR-241 to I-15**

Status: Riverside County Transportation Center's (RCTC) Design-Build - Initial Phase Complete on March 20, 2017; Alternatives Analysis Underway

Contact: Rose Casey, Capital Projects • (714) 560-5729

Summary: This project plans to add a general purpose lane on SR-91 between SR-241 and I-15. Since the SR-91 corridor is one of the busiest in the region, implementation of this project requires coordinating and constructing the improvements in multiple segments and to capitalize on available funding. Freeway improvements that cross county lines require close coordination to maintain seamless travel. While the portion of this project between SR-241 and the Orange County/Riverside County Line is part of OCTA's M2 Project J, the matching segment between the county line and SR-71 is part of RCTC's Measure A. The sixth lane addition requires joint implementation to ensure smooth delivery of the project. With significant SR-91 freeway improvements taking place as a result of both counties' sales tax measures, the construction timing of the additional general purpose lane between SR-241 and SR-71 was anticipated to take place post-2035. However, RCTC requested OCTA's support to accelerate a portion of the ultimate project in the westbound direction (in Orange County) to address a bottleneck issue affecting the City of Corona. With OCTA's support, RCTC developed the 91 Corridor Operation Project, which began construction in late 2020 and was completed and opened to traffic in January 2022. In addition, OCTA and RCTC are conducting a feasibility study to determine how best to implement the sixth general purpose lane while minimizing environmental and construction impacts in the eastbound direction between SR-241 and SR-71. In May 2020, the consultant team initiated efforts for the geometric and design alternatives analysis. The consultant conducted a value analysis workshop where various stakeholders provided feedback on conceptual alternatives. A final alternatives analysis report is anticipated to be completed in April 2022.

FREEWAYS

INTERSTATE 405 (I-405) PROJECTS

PROJECT K

Segment: **I-405, SR-73 to I-605**

Status: Design-Build Underway - 78 Percent Complete

Contact: Rose Casey, Capital Projects • (714) 560-5729

Summary: OCTA and Caltrans are working together to widen I-405 by adding a general purpose lane (approximately 14 miles) between Euclid Street and I-605 in both directions and a second HOV lane in both directions that will combine with the existing HOV lane to provide dual express lanes in each direction of I-405 from SR-73 to I-605, otherwise known as the 405 Express Lanes.[2] The project limits span approximately 16 miles. Additional improvements include reconstruction of local interchanges and making improvements to freeway entrances and exits along the corridor from SR-73 to I-605 through the cities of Costa Mesa, Fountain Valley, Garden Grove, Huntington Beach, Los Alamitos, Seal Beach, and Westminster. The final ED and PR were approved on June 15, 2015. Construction activities began on January 31, 2017.

During the quarter, work continued on ROW acquisition, utility coordination, public outreach, installation of drainage systems, retaining walls, paving, and bridge construction. Design is substantially complete with the review of various design refinements and construction submittals ongoing. OCTA's toll lanes system integrator is under contract and working with OCTA and the design-builder. Construction on one-stage bridges (closed during construction) continued at Newland Street, Ward Street, and Warner Avenue. Two-stage bridges (partially closed but allows throughway traffic during construction) at Bolsa Avenue, Brookhurst Street, Fairview Road, Goldenwest Street, and Westminster Boulevard are also underway. In total, 18 bridges will be replaced and widened, of which eight have been completed and opened to date. The remaining ten are in various stages of construction. In addition to one- and two-stage bridges, construction to widen the existing freeway bridges on the Beach Boulevard/Bolsa Avenue railroad crossing, old Navy railroad crossing, and at the Harbor Boulevard and Santa Ana River bridges is ongoing. Construction of the Heil Street pedestrian overcrossing and the new SR-73/I-405 connector bridge is also underway. Public outreach, through virtual neighborhood meetings, continues to be held to discuss construction activities. Substantial completion of the project is anticipated in late 2023.

[2] The general purpose lane portion of the project is an M2 project and will be funded by a combination of local, state, and federal funds. The express lanes portion of the project is financed and paid for by those who choose to pay a toll and use the 405 Express Lanes.

FREEWAYS

Segment: **I-405, I-5 to SR-55**

PROJECT L

Status: Environmental Phase Complete

Contact: Rose Casey, Capital Projects • (714) 560-5729

Summary: This project studied potential improvements along approximately 8.5 miles of I-405 between I-5 and SR-55 in the City of Irvine. The project development team reviewed the alternatives and public comments received during public circulation, and as a result of the effort, recommended adding one general purpose lane in both directions. The final ED and PR were approved on August 31, 2018. To ensure coordination with other projects planned for construction and to avoid unreasonable impacts to the public, this project is currently scheduled to be constructed beyond the Next 10 Plan timeframe.

INTERSTATE 605 (I-605) PROJECTS

Segment: **I-605, Katella Avenue Interchange Improvements**

PROJECT M

Status: Design Phase Underway - 60 Percent Complete

Contact: Rose Casey, Capital Projects • (714) 560-5729

Summary: This project will make enhancements at the on- and off-ramps and operational improvements on Katella Avenue at the I-605 Interchange in the City of Los Alamitos. In addition, pedestrian and bicycle improvements will incorporate complete streets components, including enhanced safety for all modes of travel. The final ED and PR were approved on October 3, 2018. The design of this project was initiated on December 28, 2020. This quarter, the design team worked on addressing comments from Caltrans on the 65 percent roadway design package, prepared a supplemental design standard decision document, continued to coordinate with County of Orange and County of Los Angeles on encroachment permit requirements for work near regional drainage facilities, updated the utility management matrix, and continued work on the 65 percent structures design package. The design team also began work on a pre-construction record of survey.

FREEWAY SERVICE PATROL

PROJECT N

Status: Service Ongoing

Contact: Patrick Sampson, Motorist Services • (714) 560-5435

Summary: Freeway Service Patrol (FSP) provides assistance to motorists whose vehicles have become disabled along Orange County freeways and removes congestion-causing debris from traffic lanes to reduce freeway congestion and collisions. In June 2012, M2 began supporting FSP with local funds to maintain existing service levels and expand services through 2041. During the quarter, FSP provided 16,677 services.[3] Since June 2012, FSP has provided a total of 661,814 services[3] on the Orange County freeway system.

[3] *Service calculations are based on all services provided as FSP is funded by M2 and external sources.*

STREETS AND ROADS

REGIONAL CAPACITY PROGRAM

PROJECT O

Status: 12th Call Applications Under Review

Contact: Charvalen Alacar, Planning • (714) 560-5401

Summary: This program, in combination with required local matching funds, provides funding for improvements on Orange County's Master Plan of Arterial Highways. Since 2011, through 11 calls, the Board has awarded 164 projects (202 project phases)[4] totaling nearly $339.8 million including $24 million in external funding. On August 9, 2021, the Board approved the release of the 12th call for up to $40 million between Project O and Project P. Applications for the call were received on October 21, 2021. During the quarter, staff presented proposed programming recommendations to the Technical Steering Committee (TSC) on March 9, 2022, and the Technical Advisory Committee (TAC) on March 23, 2022. Programming recommendations are anticipated to be presented to the Board in May 2022.

[4] *To date, 19 of the 202 project phases awarded by OCTA totaling approximately $32.3 million have been cancelled by the awarded local jurisdictions.*

OC Bridges Railroad Program

This program built seven grade separations (either under or overpasses) where high-volume streets are impacted by freight trains along the BNSF railroad in north Orange County. On September 13, 2021, the Board approved program closeout and budget adjustment to approximately $666.55 million for all the OC Bridges grade separation projects, of which $152.6 million was committed M2 and $513.9 million in leveraged external funding. Minor activities this quarter include continued work on the closeout of two projects.

Segment: **Kraemer Boulevard Grade Separation**

Status: **PROJECT COMPLETE**

Contact: Rose Casey, Capital Projects • (714) 560-5729

Summary: This project grade separated the local street from railroad tracks by building an underpass for vehicular traffic under the railroad crossing in the cities of Anaheim and Placentia. Construction began on November 9, 2012, and the improvements opened to traffic on June 28, 2014. Construction acceptance was obtained by the cities of Anaheim and Placentia in December 2014. OCTA turned over maintenance responsibilities to the cities and completed the one-year warranty in December 2015 with no issues or claims identified. Funding reimbursement and closeout have been completed.

STREETS AND ROADS

Segment: **Lakeview Avenue Grade Separation**

Status: **PROJECT COMPLETE**

Contact: Rose Casey, Capital Projects • (714) 560-5729

Summary: This project grade separated the local street from railroad tracks by building a bridge for vehicular traffic over the railroad crossing and reconfiguring the intersection of Lakeview Avenue and Orangethorpe Avenue in the cities of Anaheim and Placentia. Construction began on March 3, 2014, and the improvements opened to traffic on June 6, 2017. Construction acceptance was obtained from the cities of Anaheim and Placentia in June 2018. OCTA turned over maintenance responsibilities to the cities and extended the one-year warranty to July 2019 for some minor repair items. The Board approved a final claim resolution in July 2019. Funding reimbursement and closeout have been completed.

Segment: **Orangethorpe Avenue Grade Separation**

Status: **PROJECT COMPLETE**

Contact: Rose Casey, Capital Projects • (714) 560-5729

Summary: This project grade separated the local street from railroad tracks by building a bridge for vehicular traffic over the railroad crossing in the cities of Anaheim and Placentia. Construction began on April 25, 2013, and the improvements opened to traffic on June 23, 2016. Construction acceptance was obtained from the cities of Anaheim and Placentia in October 2016. OCTA turned over maintenance responsibilities to the cities and extended the one-year warranty to June 2019 for some minor repair items. No additional issues or repairs were identified. Funding reimbursement and closeout have been completed.

Segment: **Placentia Avenue Grade Separation**

Status: **PROJECT COMPLETE**

Contact: Rose Casey, Capital Projects • (714) 560-5729

Summary: This project grade separated the local street from railroad tracks by building an underpass for vehicular traffic under the railroad crossing in the City of Placentia. Construction began on October 5, 2011, and the improvements opened to traffic on March 12, 2014. Construction acceptance was obtained from the cities Anaheim and Placentia in December 2014. OCTA turned over maintenance responsibilities to the cities and completed the one-year warranty in December 2015 with no issues or repairs identified. Funding reimbursement and closeout have been completed.

STREETS AND ROADS

Segment: **Raymond Avenue Grade Separation**

Status: **PROJECT COMPLETE**

Contact: Rose Casey, Capital Projects • (714) 560-5729

Summary: This project grade separated the local street from railroad tracks by building an underpass for vehicular traffic under the railroad crossing in the City of Fullerton. The City of Fullerton managed construction while OCTA provided construction oversight, public outreach, railroad coordination, and ROW support. Construction began on March 27, 2014, and the improvements opened to traffic on October 2, 2017. Construction acceptance was obtained from the City of Fullerton in May 2018. OCTA turned over maintenance responsibilities to the City of Fullerton and completed the one-year warranty on constructed items. Activities this quarter include project closeout with BNSF and processing final invoices. Funding reimbursement and closeout are ongoing.

Segment: **State College Boulevard Grade Separation**

Status: **PROJECT COMPLETE**

Contact: Rose Casey, Capital Projects • (714) 560-5729

Summary: This project grade separated the local street from railroad tracks by building an underpass for vehicular traffic under the railroad crossing in the City of Fullerton. The City of Fullerton managed construction while OCTA provided construction oversight, public outreach, railroad coordination, and ROW support. Construction began on March 27, 2014, and the improvements opened to traffic on November 1, 2017. Construction acceptance was obtained from the City of Fullerton in March 2018. OCTA turned over maintenance responsibilities to the City of Fullerton and completed the one-year warranty on constructed items. This quarter, funding reimbursement and closeout were completed.

Segment: **Tustin Avenue/Rose Drive Grade Separation**

Status: **PROJECT COMPLETE**

Contact: Rose Casey, Capital Projects • (714) 560-5729

Summary: This project grade separated the local street from railroad tracks by building a bridge over the railroad crossing for vehicular traffic in the cities of Anaheim and Placentia. Construction began on April 22, 2013, and the improvements opened to traffic on December 7, 2015. Construction acceptance was obtained from the cities of Anaheim and Placentia in October 2016. OCTA turned over maintenance responsibilities to the cities and extended the one-year warranty to November 2018 for some minor repair items. No additional issues or repairs were identified. Funding reimbursement and closeout have been completed.

STREETS AND ROADS

REGIONAL TRAFFIC SIGNAL SYNCHRONIZATION PROGRAM

PROJECT P

Status: 12th Call Applications Under Review

Contact: Anup Kulkarni, Planning • (714) 560-5867

Summary: This program provides funding and assistance to implement multi-agency signal synchronization. The target of the program is to regularly coordinate a network of over 2,000 signalized intersections along 750 miles of roadway within Orange County. OCTA also leverages external funding to further enhance the efficiency of the street grid and reduce travel delays.

To date, OCTA and local agencies have synchronized more than 3,200 intersections over more than 838 miles of streets (94 completed projects). Through 11 calls, 104 projects[5] totaling more than $115.8 million have been awarded. Overall, OCTA has funded 123 projects[5] totaling more than $140.8 million, including $25.5 million in leveraged external funding.

On August 9, 2021, the Board approved the release of the 12th call for up to $40 million between Project O and Project P. Applications were received on October 21, 2021. During the quarter, staff presented proposed programming recommendations to the TSC on March 9, 2022, and the TAC on March 23, 2022. Programming recommendations are anticipated to be presented to the Board in May 2022.

[5] *To date, three projects totaling approximately $1.6 million have been cancelled by the awarded local jurisdictions.*

LOCAL FAIR SHARE

PROJECT Q

Status: Ongoing

Contact: Ben Torres, Finance • (714) 560-5692

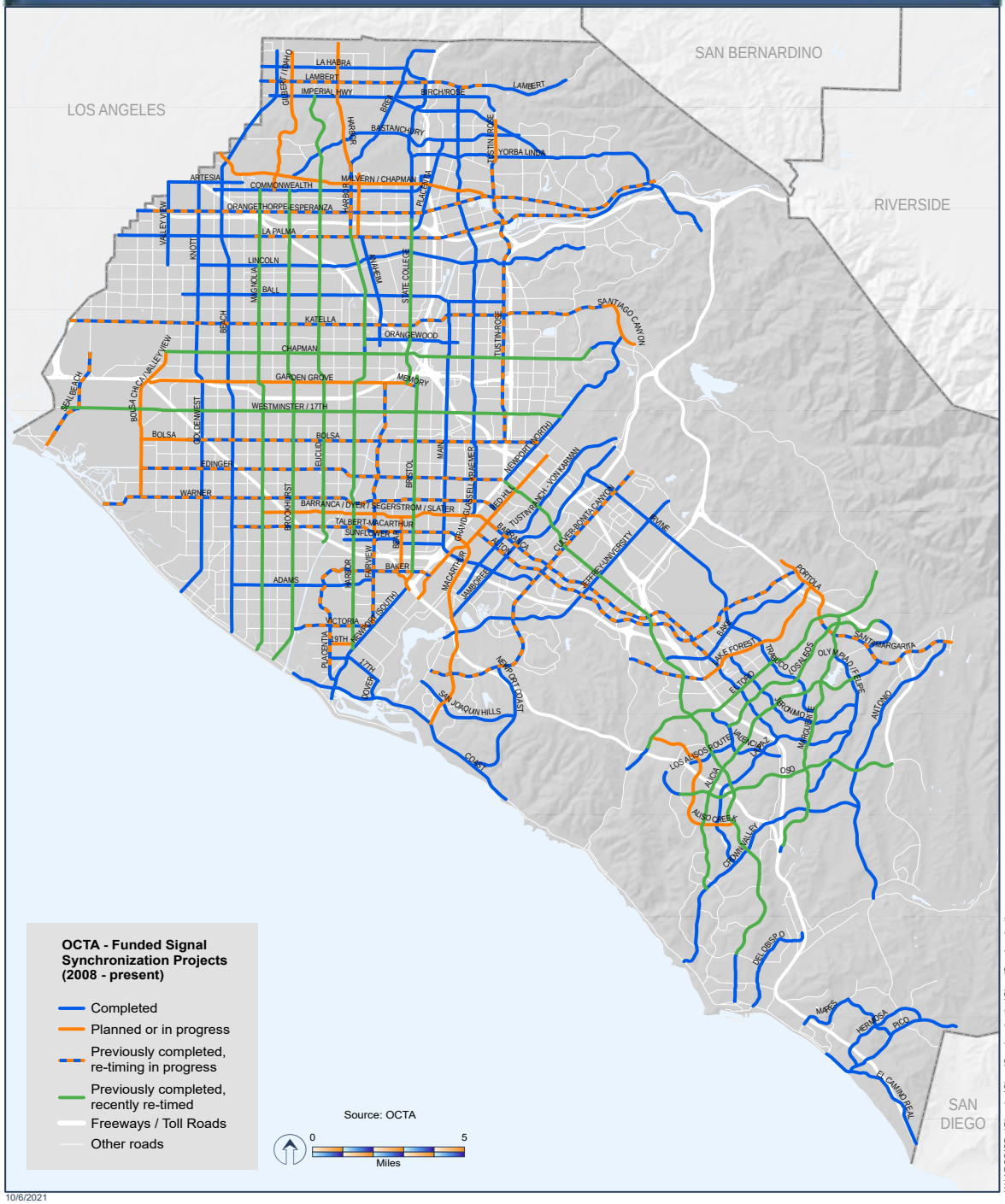
Summary: To help cities and the County of Orange keep up with the rising cost of repairing the aging street system, this program provides flexible funding intended to augment, not replace, existing transportation expenditures by the cities and the County. Annually, all local jurisdictions are reviewed to determine eligibility to receive M2 funds. All local jurisdictions have been found eligible to receive LFS funds. On a bimonthly basis, 18 percent of net revenues are allocated by formula. Since 2011, approximately $561.4 million in LFS payments have been provided to local jurisdictions.

For more details, see funding allocation by local agency on pages 49-50.

OCGO
Local Tax Dollars at Work

STREETS AND ROADS

OCTA - Funded Signal Synchronization Projects (2008 - present)



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OCGO
Local Tax Dollars at Work

TRANSIT

PROJECT R

HIGH FREQUENCY METROLINK SERVICE

Project R will increase rail services within the County and provide additional Metrolink service north of the City of Fullerton to the Los Angeles County Line. The program provides for track improvements, the addition of trains and parking capacity, upgraded stations, and safety enhancements to allow cities to establish quiet zones along the tracks. This program also includes funding for grade crossing improvements at high-volume arterial streets, which cross Metrolink tracks.

Project: **Metrolink Grade Crossing Improvements**

Status: **PROJECT COMPLETE**

Contact: Megan Taylor, Operations • (714) 560-5601

Summary: Enhancements at 50 of the designated 52 Orange County at-grade rail-highway crossings were completed in support of the Metrolink Service Expansion Program (MSEP) in October 2012. As a result of one private crossing, which did not allow OCTA to make enhancements, and one street closure, which eliminated the need for enhancements, the final count of enhanced rail-highway crossings was 50. Completion of the safety improvements provided each corridor city with the opportunity to establish a “quiet zone” at their respective crossings. Quiet zones are intended to prohibit the sounding of train horns through designated crossings, except in the case of emergencies, construction work, or safety concerns identified by the train engineer. The cities of Anaheim, Dana Point, Irvine, Orange, San Clemente, San Juan Capistrano, Santa Ana, and Tustin have established quiet zones within their communities.

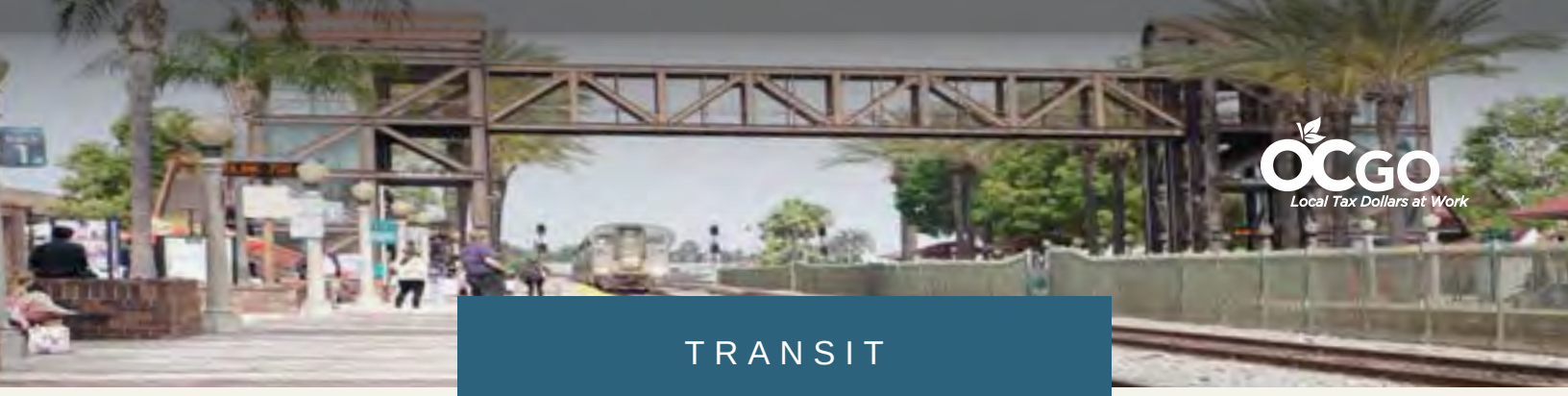
Project: **Metrolink Service Expansion Program**

Status: Service Ongoing

Contact: Megan Taylor, Operations • (714) 560-5601

Summary: Following the completion of the MSEP improvements in 2012, OCTA deployed a total of ten new Metrolink intracounty trains operating between the cities of Fullerton and Laguna Niguel/Mission Viejo, primarily during the midday and evening hours.

In October 2019, several intracounty trains were extended to Los Angeles County to increase ridership through a redeployment of the trains without significantly impacting operating costs. However, in March 2020, all Metrolink services were impacted by the statewide enforcement of stay-at-home orders that resulted from the COVID-19 pandemic. Metrolink implemented temporary service reductions in March and November 2020 due to the decline in ridership. The three lines serving Orange County (Orange County, Inland Empire-Orange County, and the 91/Perris Valley lines) now operate 41 weekday trains, a 24 percent reduction from 54 weekday trains. Metrolink is planning to partially restore services in April 2022 in response to customer feedback and to aid in ridership recovery efforts. Metrolink and OCTA will continue to assess service needs in Orange County and reinstate trains as appropriate.



TRANSIT

Rail Corridor and Station Improvements

Additionally, under MSEP, funding is provided for rail line and station improvements to accommodate increased service. Rail station parking lot expansions, better access to platforms, among other improvements have been made or are underway. For schedule information on station improvement projects, please see the CAP pages on pages 51-55.

Segment: **Anaheim Canyon Metrolink Station Improvements**

Status: Construction Underway - 26 Percent Complete

Contact: Jim Beil, Capital Programs • (714) 560-5646

Summary: This OCTA-led project will add a second main track and passenger platform, extend the existing passenger platform, add improvements to at-grade crossings for pedestrian circulation, and install new station amenities including benches, shade structures, and ticket vending machines. The construction contract was awarded on March 22, 2021, and construction began on May 10, 2021. This quarter, construction continued with grading of the new rail bed as well as placement of rail and ballast (gravel used to form the bed of the railroad track). The project is anticipated to be completed in early 2023.

Segment: **Fullerton Transportation Center Improvements**

Status: **PROJECT COMPLETE**

Contact: Jim Beil, Capital Programs • (714) 560-5646

Summary: Completed early on, this project constructed a new five-level parking structure to provide additional transit parking at the Fullerton Transportation Center for both intercity rail service and commuter rail passengers. Construction on this city-led project began on October 18, 2010, and the improvements were completed on June 19, 2012. After completion, an elevator upgrade project was initiated with leftover savings. The elevator project modified the existing pedestrian bridge to add two new traction elevators, one on each side. The City of Fullerton was the lead on this project, which was completed on May 1, 2019.

Segment: **Laguna Niguel/Mission Viejo Metrolink Station Americans with Disabilities Act (ADA) Ramps**

Status: **PROJECT COMPLETE**

Contact: Jim Beil, Capital Programs • (714) 560-5646

Summary: This project added new ADA-compliant access ramps on either side of the pedestrian undercrossing and a unisex ADA-compliant restroom, vending machine room, and three passenger canopies. Construction began on February 23, 2016, and the improvements were completed on September 20, 2017.

TRANSIT

Segment: **Orange Transportation Center Metrolink Parking Structure**

Status: **PROJECT COMPLETE**

Contact: Jim Beil, Capital Programs • (714) 560-5646

Summary: This project includes a 608-space, five-level, shared-use parking structure that is located on Lemon Street between Chapman Avenue and Maple Street in the City of Orange. Per a cooperative agreement between OCTA and the City of Orange, the City of Orange led the design phase, and OCTA led the construction phase of the project. Construction began on July 17, 2017, and the improvements were completed on February 15, 2019.

Segment: **New Placentia Metrolink Station and Parking Structure**

Status: Design Complete; Ready for Advertisement subject to BNSF construction and maintenance (C&M) agreement

Contact: Jim Beil, Capital Programs • (714) 560-5646

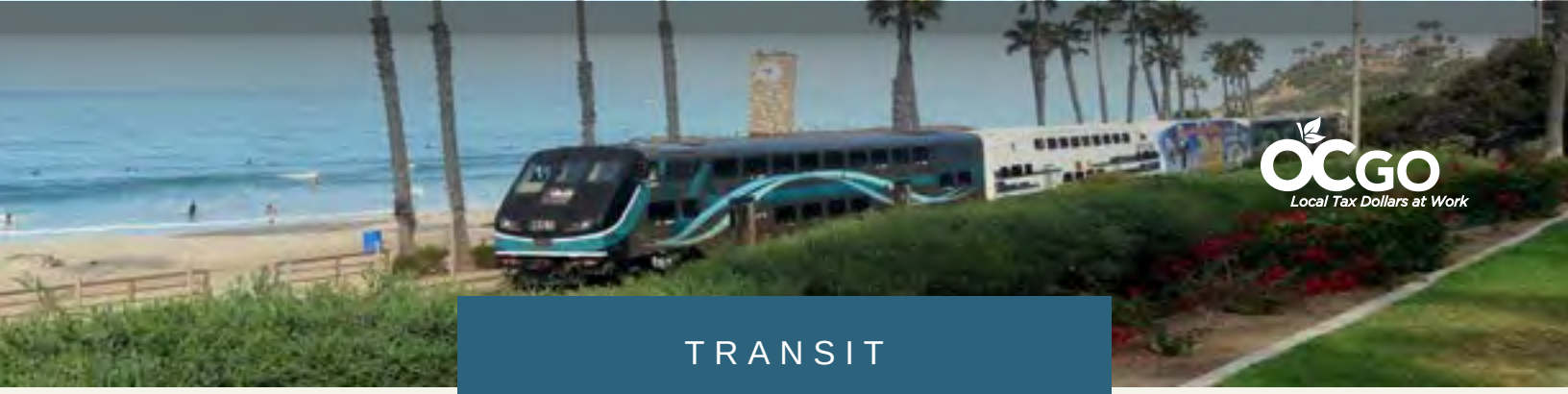
Summary: This project will construct a new Metrolink station to include platforms, parking, a new bus stop, and passenger amenities in the City of Placentia. Plans for the proposed Placentia Metrolink Station Project were near completion when the City of Placentia requested to modify them to include a parking structure to be built where surface parking had been designed. On June 27, 2016, the Board approved a cooperative agreement with the City of Placentia that revised the project's scope and budget, and with the changes, the City of Placentia will contribute towards the cost. The project will also include a third track which should assist with the on-time performance of train operations and provide operational flexibility for both freight and passenger trains. OCTA is the lead agency for the design and construction and BNSF will be the lead on rail construction. The final design was completed on July 22, 2017. The project will be ready to advertise once a C&M agreement with BNSF is in place. Due to dependency on the C&M agreement, this project is marked as a cost/schedule risk in the CAP.

Segment: **San Clemente Pier Station Lighting**

Status: **PROJECT COMPLETE**

Contact: Jim Beil, Capital Programs • (714) 560-5646

Summary: This OCTA-led project added lighting to the existing platform and new decorative handrails at the San Clemente Pier Station in the City of San Clemente. The improvements were completed on March 17, 2017, and project closeout was completed in the same month.



TRANSIT

Additional Rail Corridor Improvements

Completed:

- Installation of the Control Point project at Fourth Street in the City of Santa Ana, which provided greater efficiency and reliability for passenger rail service
- Implementation of Positive Train Control system, which improves rail safety by monitoring and controlling train movement
- Implementation of video surveillance systems at the Fullerton, Irvine, Laguna Niguel, Mission Viejo, Orange, Santa Ana, and Tustin stations
- Railroad ROW Slope Stabilization project at eight locations within the rail corridor to prevent future erosion and slope instability
- Replacement of detectable tiles and painted guidelines at six stations to meet the Federal Transit Administration (FTA) State of Good Repair requirement, enhance safety, and provide clear warnings to passengers
- Replacement of stairs at the Fullerton Transportation Center

Underway:

- Installation of riprap (erosion preventing stonewall) to stabilize tracks south of the San Clemente Pier Station
- Design of additional slope stabilization and drainage improvements in Mission Viejo and Laguna Niguel
- ROW acquisition to replace the San Juan Creek railroad bridge in the City of San Juan Capistrano, which will not preclude a future bike trail on the south end along the creek

Segment: **Sand Canyon Grade Separation**

Status: **PROJECT COMPLETE**

Contact: Rose Casey, Capital Projects • (714) 560-5729

Summary: This project separated the local street from railroad tracks in the City of Irvine by constructing an underpass for vehicular traffic. Construction began on May 3, 2011, and the improvements opened to traffic on July 14, 2014. The project was completed, and construction acceptance was obtained from the City of Irvine on January 15, 2016. The project completed the one-year warranty period, and no repairs were identified. The project closed out in January 2017.

Segment: **Tustin Metrolink Station Parking Structure**

Status: **PROJECT COMPLETE**

Contact: Jim Beil, Capital Programs • (714) 560-5646

Summary: This early completion project provided additional parking at the Tustin Metrolink Station to meet requirements associated with MSEP by constructing a new four-story parking structure with approximately 735 spaces and on-site surface parking. Construction on the parking structure began on October 27, 2010, and opened to the public on September 22, 2011.

TRANSIT

Segment: **Laguna Niguel to San Juan Capistrano Passing Siding Project**

Status: **PROJECT COMPLETE**

Contact: Jim Beil, Capital Programs • (714) 560-5646

Summary: This project added a new passing siding railroad track (approximately 1.8 miles) adjacent to the existing mainline track, which enhanced the operational efficiency of passenger services within the LOSSAN rail corridor. Construction began on March 12, 2019, and the improvements were completed on November 17, 2020.

TRANSIT EXTENSIONS TO METROLINK

PROJECT S

To broaden the reach of Metrolink to other Orange County cities, communities, and activity centers, Project S includes a competitive program that allows cities to apply for funding to connect passengers to their final destination via transit extensions. There are currently two categories for this program: a fixed-guideway program (streetcar) and a rubber tire transit program.

Project: **OC Streetcar**

Status: Full Funding Grant Agreement Executed November 30, 2018; Construction Work Ongoing, Vehicle Production Ongoing, Limited Notice to Proceed Executed with Operations and Maintenance (O&M) Contractor

Contact: Ross Lew, Rail • (714) 560-5775
Cleve Cleveland, Rail • (714) 560-5535

Summary: The OC Streetcar will serve the SARTC through Downtown Santa Ana, and the Civic Center to Harbor Boulevard in the City of Garden Grove. At the request of the two cities, OCTA is serving as the lead agency for the project. Construction on the project began on November 19, 2018.

Construction

In the Pacific Electric ROW, the construction contractor installed ballasted track between the Westminster and Santa Ana River bridges, and from the Santa Ana River bridge to the at-grade crossing at Fifth Street. Construction at the MSF reached a milestone with erection of the first structural steel on March 2, 2022. Work continued on the MSF structure (40 percent of structural steel in place), inspection pits, turntables, vehicle wash station (60 percent of structural steel in place), yard amenities and utilities.

On February 1, 2022, construction of embedded track and sidewalk widening on Fourth Street began in two segments between French Street and Bush Street, and Main Street and Broadway Street. Fourth Street demolitions included the entire street, parking areas and portions of sidewalk, relocation of street lighting, and installation of traffic and train control conduits. The first embedded track-slab concrete placement on Fourth Street was on March 24, 2022, from French Street to 300 feet westerly. Additional 300-foot segments of track-slab will be constructed in these first two segments through April 2022. Along Santa Ana Boulevard,

construction continues with new curb and gutter as well as preparation for new sidewalk once traffic signals and overhead contact system poles are placed.

Vehicle and Operations

The vehicle manufacturer continued production of the eight S700 streetcar vehicles. The first seven cars are in the final stages of equipping with installation of the last remaining vehicle components. The eighth car is in final assembly and preparations are underway to commence static and dynamic testing next quarter. In March 2022, staff traveled to the vehicle manufacturer's factory in the City of Sacramento to conduct acceptance tests for the Computer Aided Dispatch/Automated Vehicle Location equipment and pre-first article inspection for Car 1. Other key activities during the quarter included conducting the swing table test, which tests the wheel rotation, and finalizing plans for delivery of the vehicle spare parts. Negotiations continued with the vehicle manufacturer regarding an updated schedule including storage options to align with the availability of the project infrastructure needed to accept and test the vehicles.

The O&M general manager has been coordinating with staff on several processes which will be performed by the O&M consultant during system integration testing, pre-revenue operations, and revenue operations.

Cost and Schedule

On December 13, 2021, the Board approved a revised project schedule and budget of $509.54 million. Staff is coordinating with the Southern California Association of Governments and FTA to execute the grants associated with the Board action and are working closely with the construction contractor and vehicle manufacturer to achieve the March 2024 revenue service date.

Project: **Bus and Station Van Extension Projects**

Status: Last Service Completed on June 30, 2020; No Future Calls Anticipated

Contact: Charvalen Alacar, Planning • (714) 560-5401

Summary: Bus and station van extension projects help enhance the frequency of service in the Metrolink corridor by linking communities within the central core of Orange County to commuter rail. To date, the Board has approved one round of funding for bus and van extension projects, totaling over $732,000. On July 23, 2012, the Board approved funding for one project in the City of Anaheim and three projects in the City of Lake Forest. The City of Lake Forest has cancelled all three projects. The Anaheim Canyon Metrolink Station Bus Connection project provided service between the Anaheim Canyon Metrolink station and the Anaheim Resort area; this project was completed on June 30, 2020, under Project S. The service continues under a Project V grant and is subject to meeting minimum performance requirements as part of the Project V program.

TRANSIT

METROLINK GATEWAYS

PROJECT T

Project: **Anaheim Regional Transportation Intermodal Center**

Status: **PROJECT COMPLETE**

Contact: George Olivo, Capital Programs • (714) 560-5872

Summary: This project constructed the ARTIC located at 2626 East Katella Avenue in the City of Anaheim. ARTIC is a major multimodal transportation hub serving commuters and residents in the City of Anaheim. In addition to OCTA buses and Metrolink trains, ARTIC provides transit connections to Pacific Surfliner Amtrak, Anaheim Resort Transit, shuttle and charter bus service, taxis, bicycles, other private transportation services available, and accommodates future high-speed rail trains. The City of Anaheim, which led the construction effort, began construction on September 24, 2012, and opened the facility to rail and bus service on December 6, 2014. This facility replaced the former Anaheim Metrolink Station that was located on the opposite side of the freeway in the Los Angeles Angels of Anaheim Stadium parking lot.

EXPAND MOBILITY CHOICES FOR SENIORS AND PERSONS WITH DISABILITIES

Project U expands mobility choices for seniors and persons with disabilities, and includes the SMP, the SNEMT Program, and the Fare Stabilization Program. Since inception, more than $100.9 million[6,7] in Project U funding has been provided under M2.

[6] *Payments are made every other month (January, March, May, July, September, and November). July payments are based on June accruals, and therefore counted as June payments. The amount totaled for one fiscal year quarter either covers one or two payments, depending on the months that fall within that quarter.*

PROJECT U

Project: **Senior Mobility Program**

Status: Ongoing

Contact: Beth McCormick, Transit • (714) 560-5964

Summary: The SMP provides one percent of net M2 revenues to eligible local jurisdictions to provide transit services that best meet the needs of seniors living in their community. According to the SMP Funding and Policy Guidelines, M2 revenue is allocated to local jurisdictions proportionally, relative to the total county's senior population, by the residents age 60 and above multiplied by available revenues. The remaining unallocated funds are distributed to the M2 Project U Fare Stabilization Program.

Since inception, nearly $29.1 million[7] has been provided to support 2,552,561 boardings for seniors traveling to medical appointments, nutrition programs, shopping destinations, and senior and community center activities. Due to the COVID-19 pandemic, several local jurisdictions have modified or suspended service. This quarter,

nearly $1.3 million[6,7] was paid out to 31 of the 32 participating cities that are currently active. One city has temporarily suspended services due to the COVID-19 pandemic.

[7] *Only includes disbursed funds. On October 12, 2020, the Board approved a temporary exception to the SMP guidelines, which allows for OCTA to hold allocations in reserve for agencies with suspended services due to the COVID-19 pandemic. The funds will be held until the State lifts the State of Emergency or transportation services resume, whichever occurs first.*

Project: **Senior Non-Emergency Medical Transportation Program**

Status: Ongoing

Contact: Beth McCormick, Transit • (714) 560-5964

Summary: This program provides one percent of net M2 revenues to supplement existing countywide SNEMT services. Since inception, nearly $31.3 million has been allocated to support nearly 1.44 million SNEMT boardings[8]. This quarter, more than $1.4 million[6] in SNEMT funding was paid to the County of Orange.

[8] *The SNEMT program is operated by the County of Orange Office on Aging. Total boardings are calculated based on all services funded by M2 and the County of Orange.*

Project: **Fare Stabilization Program**

Status: Ongoing

Contact: Sean Murdock, Finance • (714) 560-5685

Summary: From 2011 to 2015, one percent of net M2 revenues was dedicated to stabilizing fares and providing fare discounts for bus services and specialized ACCESS services for seniors and persons with disabilities. Effective January 28, 2016, an amendment to the M2 Ordinance adjusted this amount to 1.47 percent of net M2 revenues to be dedicated to the Fare Stabilization Program.

More than $2 million[6] in revenue was allocated this quarter to support the Fare Stabilization Program. The amount of funding utilized each quarter varies based on ridership. During the quarter, based on 2.1 million program-related boardings recorded on fixed-route and ACCESS services, approximately $593,000 was utilized. The senior and disabled boardings recorded are based on pass sales and ACCESS boardings figures. Since inception, more than $40.5 million has been allocated to support more than 130 million program-related boardings.

COMMUNITY BASED TRANSIT/CIRCULATORS

PROJECT V

Status: Service Updates

Contact: Charvalen Alacar, Planning • (714) 560-5401

Summary: This program provides funding for local jurisdictions to develop local bus transit services, such as community-based circulators and shuttles, that complement regional bus and rail services to meet needs in areas

not adequately served by regional transit. To date, through a competitive process, OCTA has issued four calls (June 2013, June 2016, June 2018, and April 2020), which have awarded 35 projects and ten planning studies totaling approximately $52 million. Out of the 35 projects, 17 are currently active, nine have been cancelled (primarily due to low ridership), six are currently suspended (or not initiated) due to COVID-19, and three have been completed.

On January 25, 2021, the Board approved changes to the Project V program guidelines to better support these key community services in a post-COVID-19 environment. Key revisions included modifying minimum performance standards and allowing for escalation in the subsidy per boarding and annual fiscal year funding caps. During the quarter, staff continued to work with local jurisdictions to update existing cooperative agreements to incorporate these programmatic changes.

OCTA receives ridership reports from local agencies on a regular basis to monitor the success of these services against performance measures adopted by the Board. Currently, most of these services are generally meeting the January 2021 modified performance metrics. The most recent Project V ridership report was presented to the Transit Committee on January 13, 2022, and the Board on January 24, 2022. The next Project V ridership report is scheduled for summer 2022. Lessons learned from the success of implemented services are incorporated into recommendations for future funding guidelines and programming recommendations.

SAFE TRANSIT STOPS

PROJECT W

Status: City-Initiated Improvements Underway or Completed

Contact: Charvalen Alacar, Planning • (714) 560-5401

Summary: This program provides funding for passenger amenities at the busiest transit stops across Orange County. Stop improvements are designed to ease transfers between bus lines and provide passenger amenities such as the installation of bus benches or seating, shelters, and lighting.

To date, through a competitive process, OCTA has issued three calls (July 2014, October 2018, and April 2020), which have awarded 122 projects totaling just over $3.1 million. Of the 122 projects, 49 improvements have been completed, ten improvements are anticipated to be completed by summer 2022, 53 improvements are in various stages of implementation, and ten have been cancelled. Staff will review M2 revenues and assess the appropriate timing for the next call.

ENVIRONMENTAL

CLEAN UP HIGHWAY AND STREET RUNOFF THAT POLLUTES BEACHES

PROJECT X

Project: **Environmental Cleanup Program**

Status: Ongoing

Contact: Dan Phu, Planning • (714) 560-5907

Summary: This program implements street and highway-related water quality improvement programs and projects that assist agencies countywide with federal Clean Water Act standards for urban runoff. It is intended to augment, not replace, existing transportation-related water quality expenditures and to emphasize high-impact capital improvements over local operations and maintenance costs. The ECAC is charged with making recommendations to the Board on the allocation of funds. These funds are allocated on a countywide, competitive basis to assist agencies in meeting the Clean Water Act standards for controlling transportation related pollution.

The ECP is composed of a two-tiered funding process focusing on early priorities (Tier 1), and a second program designed to prepare for more comprehensive capital investments (Tier 2). All Orange County cities plus the County of Orange have received funding under this program. To date, there have been 11 rounds of funding under the Tier 1 grants program.

A total of 199 projects, amounting to more than $30 million, have been awarded by the Board since 2011. Of the 199 projects, construction on 171 projects have been completed, 17 are in various stages of implementation, and 11 have been cancelled by the awarded agency. On March 14, 2022, the Board approved the release of the 12th Tier 1 call for $3 million; applications are due on June 15, 2022. Staff estimates that over 45.3 million gallons of trash have been captured as a result of the installation of Tier 1 devices since the inception of the Tier 1 Program in 2011. This is equivalent to filling nearly 105 football fields with one foot deep of trash. Over time, the volume of trash captured is expected to increase.

In addition, there have been two rounds of funding under the Tier 2 grants program. A total of 22 projects in the amount of $27.89 million have been awarded by the Board since 2013. Of the 22 projects, construction on 18 projects have been completed and four projects have been cancelled by the awarded agency. It is estimated that Tier 2-funded projects, once fully functional, will have an annual groundwater recharge potential of approximately 157 million gallons of water from infiltration or through pumped and treated recharge facilities. The appropriate timing of the next Tier 2 call is being assessed and will be determined by funding availability as well as the number of viable projects from eligible agencies.

FREEWAY MITIGATION

Project: **Environmental Mitigation Program**

Status: Biological Permits Issued and Conservation Plan in Place

Contact: Dan Phu, Planning • (714) 560-5907

Summary: Working in collaboration with the United States Fish and Wildlife Service and the California Department of Fish and Wildlife (Wildlife Agencies), this program allocates funds to acquire land and fund habitat restoration

projects to offset the environmental impacts of M2 freeway projects. In June 2017, OCTA received biological resource permits after completing a state and federal Conservation Plan. This Conservation Plan commits to protecting the natural habitat and wildlife on OCTA's Preserves, funding multiple habitat restoration projects, and minimizing impacts to resources during construction of M2 freeway projects - allowing streamlined project approvals for the M2 freeway projects with little additional coordination from the Wildlife Agencies. This program represents the culmination of years of collaboration and support by the Board, environmental community, and Wildlife Agencies. The OCTA Conservation Plan is unique, as it is only the second state/federal conservation plan approved in Orange County.

The Conservation Plan also includes a streamlined process for coordination for streambed alteration agreements for portions of freeway projects that cross through streams and riverbeds. In 2017, the United States Army Corps of Engineers (Corps) issued a programmatic permit to OCTA and Caltrans (as owner/operator of the state highway system). The State Board provided a letter to OCTA in 2018, which further secured assurances related to advanced mitigation and freeway project permit issuance. These efforts are the result of years of collaboration between OCTA, the Corps, and the State Board, and constitute another groundbreaking milestone for the M2 EMP.

To date, the Board has approved the acquisition of seven properties (Preserves) totaling 1,300 acres and 12 restoration projects totaling 350 acres. The restoration project plans have been approved by the Wildlife Agencies and are currently at various stages of implementation. To date, four restoration projects have been completed and have been approved by the Wildlife Agencies. The Board authorized $42 million (inclusive of setting aside funds for long-term land management) for property acquisitions, $10.5 million to fund habitat restoration activities, and $2.5 million for conservation plan development and program support, for a total of approximately $55 million.

As part of the Conservation Plan requirement, an endowment has been established to pay for the long-term management of the Preserves. The most recent Board-adopted 2021 Next 10 Plan confirms that OCTA will be able to continue endowment deposits of $2.9 million annually. The sixth endowment deposit was made in July 2021. Quarterly investment reports are provided to the Board, with the most recent one in February 2022. As of March 31, 2022, the endowment balance was $21,042,295, which is above the FY 2021-22 target of $20,076,431. Current projections indicate that OCTA remains on track to meet the endowment target of $46.2 million in FY 2027-28, however, the performance of the endowment fund may affect the time frame. The next report is anticipated to be presented to the Board in June 2022.

Staff will continue to oversee and provide endowment updates to the Finance and Administration Committee and the Environmental Oversight Committee (EOC) on a regular basis. Resource management plans (RMP) for the Preserves were finalized in 2018. These RMPs guide the management of the Preserves as outlined within the Conservation Plan. The RMPs will be reviewed and updated as necessary, approximately every five years. Staff will continue to oversee and manage the Preserves until a long-term manager(s) is established.

As required by the Conservation Plan, OCTA is developing fire management plans (FMP) for the Preserves. Each Preserve will have its own separate FMP. These FMPs will provide guidelines for decision-making at all stages,

including fire prevention, pre-fire vegetation management, suppression activities, and post-fire responses that are compatible with conservation and stewardship responsibilities. It was anticipated that these FMPs would be completed in 2021. However, due to delays related to easement information, external Wildlife Agencies staff turnover and the inclusion of new 2021 species data, these FMPs are now anticipated to be completed by the end of 2022. The delay of completing these FMPs do not negatively impact the Conservation Plan or associated permits. Once complete, they will be posted on OCTA's website.

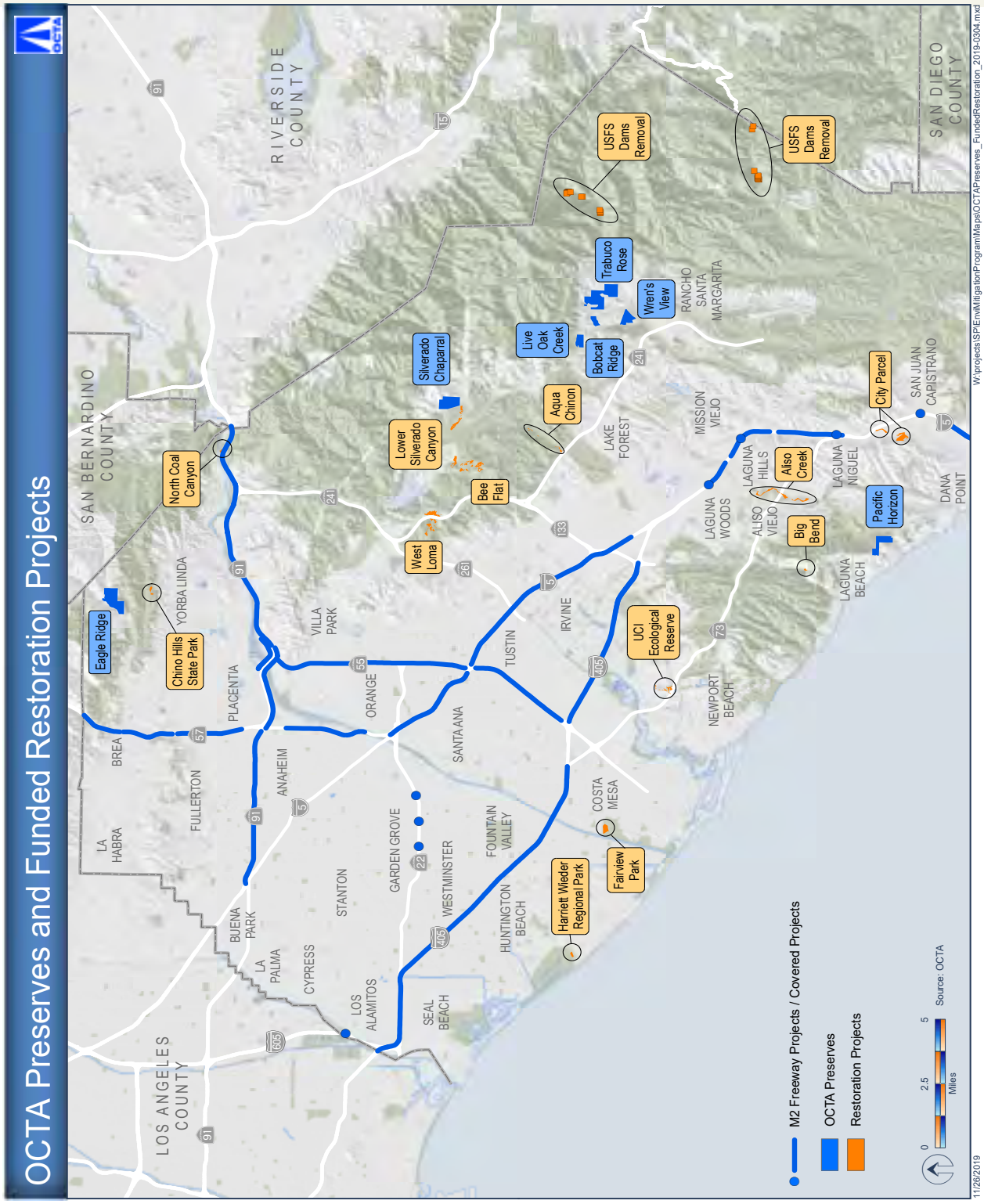
Conservation Plan annual reports are completed annually. These reports include the tracking of impacts associated with covered freeway improvement projects, other management and monitoring activities on Preserves, status and activities, the progress of the restoration projects, plan administration, and public outreach activities. Annual reports are reviewed and must be approved by the Wildlife Agencies. In summary, the annual reports to date document that OCTA's activities through 2020 were in compliance and on target with the Conservation Plan commitments. OCTA will continue with its efforts to complete the required objectives on time. The next annual report is anticipated to be provided to the Board in late 2022. The annual reports are available for public review at www.PreservingOurLegacy.org.

To date, multiple freeway projects have utilized the Conservation Plan and/or the Clean Water Act's streamlined permitting process. Some of the projects that benefit from these mechanisms include: Project C (I-5 from SR-73 to El Toro Road), Project K (I-405 from SR-73 to I-605), and Project M (I-605/Katella Avenue Interchange). If these mechanisms were not in place, it is anticipated that these projects would incur an additional $700,000 to $2.5 million (in 2018 dollars) in mitigation-related costs and unknown schedule risks. Furthermore, a strong partnership has been forged through collaboration with the environmental community.

In September 2021, OCTA reinitiated docent-led hikes and equestrian ride tours in the Preserves. Staff will continue to monitor the impacts of COVID-19 and potential health agency guidance on public gatherings. The 2022 schedule is available on the M2 website at www.PreservingOurLegacy.org.

As part of the safeguards in place for the M2 Program, a 12-member EOC makes recommendations on the allocation of environmental freeway mitigation funds and monitors the implementation of the Conservation Plan between OCTA and state and federal Wildlife Agencies. The EOC has led efforts with policy recommendations to the Board and has operated in an open and transparent manner which has garnered the trust of stakeholders, ranging from the environmental community to the recreational community to Orange County citizens. See the map of Preserves and funded restoration properties on the following page.

ENVIRONMENTAL



PROGRAM MANAGEMENT

PROGRAM MANAGEMENT OFFICE

Contact: Francesca Ching, PMO Manager • (714) 560-5625

The M2 PMO provides inter-divisional coordination for all Measure M-related projects and programs. To ensure agency-wide compliance, the PMO holds a bimonthly committee meeting comprised of executive directors and key staff from each of the divisions, who meet to review significant issues and activities within the M2 programs. This quarter, the focus of the PMO has been on several major items, including the following:

Market Conditions Forecast and Risk Analysis

On September 11, 2017, the Board was presented with a Next 10 Plan Market Conditions Forecast and Risk Analysis Report conducted by Dr. Wallace Walrod and Dr. Marlon Boarnet. The consultant's analysis identified strong potential for OCTA to experience an increasing cost environment during the Next 10 Plan delivery years. This, coupled with a reduction in revenue, could present the potential for significant challenges in the delivery of M2 and the Next 10 Plan.

The Board directed staff to continue to work with the consultant team to monitor and track key early warning indicators and provide the Board with updates in a timeline consistent with updates on the M2 sales tax revenue forecast. The consultant team continues to analyze trends in material costs, labor costs, and general economic conditions to determine a range of potential cost impacts providing insight on OCTA's capital program twice a year.

The 2021 fall analysis to the Board identified that OCTA may experience a high inflation cost environment (ranging from six percent to 11 percent) from 2022 through 2024. Compared to the prior update presented to the Board in November 2020, cost pressures have increased significantly due to increases in building permits and, by correlation, the cost of materials. This is partly due to market disruptions, the impacts to many industries, and overall demand. Another factor that contributes to these inflationary pressures is unemployment. The prior report captured the high unemployment economy due to the COVID-19 pandemic starting in early 2020, which has since declined and may lead to additional cost pressure in the future. Staff incorporated the information from this analysis into the M2 cash flow for the 2021 update of Next 10 Plan.

During the quarter, the consultant team updated the forecasting model and shared with staff the results. Economic pressures since the fall analysis suggest an even higher inflationary cost environment (ranging from 11 percent to 40 percent) for 2022 and maintains a forecasted high cost environment in 2023 and 2024 (ranging from six percent to 11 percent). The main factors for the increasing cost environment include low unemployment, increasing wages, and higher demand and cost of construction materials.

Next 10 Delivery Plan

On November 14, 2016, the Board adopted the Next 10 Plan, which provides guidance on the delivery of M2 projects and programs between FY 2016-17 and FY 2025-26. With four years of the Next 10 Plan completed to date, on December 14, 2020, the Board approved to shift the timeframe from four years to FY 2020-21 through

FY 2029-30. The PMO monitors progress on the ten deliverables identified in the Next 10 Plan and provides status updates.

Annually, OCTA reviews the Next 10 Plan and M2 program assumptions based on changes to the revenue forecast and updated project cost and schedules. The 2021 Next 10 Plan incorporating the updated forecast of $13.2 billion and was presented to the Board on December 13, 2021. Prudent financial decisions to date result in a delivery plan that continues to fulfill OCTA's commitment to the voters in Orange County.

M2 Performance Assessment

The M2 Ordinance includes a requirement for a performance assessment to be conducted at least once every three years to evaluate OCTA's efficiency and effectiveness in the delivery of M2 as committed to the voters. Four performance assessments have been completed covering FY 2006-07 through FY 2008-09, FY 2009-10 through FY 2011-12, FY 2012-13 through FY 2014-15, and FY 2015-16 through FY 2017-18. Findings and recommendations are implemented as appropriate. The fifth assessment began in July 2021 and covers the period between July 1, 2018, and June 30, 2021. During the quarter, the consultant completed a draft report and shared assessment recommendations with staff. The final report is anticipated to be presented to the Board in April 2022.

M2 Ordinance Tracking Matrix

The M2 Ordinance includes numerous requirements that staff must follow to keep the commitment to Orange County voters through the passage of M2. The PMO annually updates the M2 Ordinance Tracking Matrix to verify that OCTA complies with all requirements detailed in the M2 Ordinance. During the quarter, the 2021 update of the matrix was completed by the PMO in coordination with the responsible OCTA point of contact to ensure compliance and includes links to electronic documents verifying the response. The matrix will be shared with the Taxpayer Oversight Committee (TOC) at their next scheduled meeting in April 2022 to aid the TOC in determining OCTA's compliance with M2.

PMO M2 Tracking Tools

The PMO has developed several tracking tools to assist in reporting consistency and increased transparency of the M2 program. See the following for a brief explanation of PMO M2 tracking tools and their current status:

Local Jurisdiction Fact Sheets

Fact sheets have been created for the County of Orange and each of Orange County's 34 cities. The city fact sheets provide data on transportation and transit projects (funded through M2, state, and federal grants) in a format that emphasizes key points concisely on a single printed page. The city fact sheets are utilized when speaking with the jurisdictions to provide a summary overview of how OCTA has provided the local agency with funding (M2 and other) and transportation improvements. The next update of the city fact sheets is anticipated in summer 2022.

Engineer's Estimate versus Bids Tracking

The estimate versus bid tracking process allows the PMO to monitor the bidding environment for capital projects in the M2 Program. Capital projects that were planned for and began construction early in the M2 Program have shown cost savings due to a favorable bidding environment during the recession. For these earlier M2 projects, savings can be primarily traced back to construction costs.

Highway project constructions bids in the region are reflecting a variable market with a high number of bidders, but recent market conditions analyses have indicated that OCTA will experience an increasing cost environment related to increased demand for construction services, lack of labor resources, and increased construction material costs. It should be noted that the engineer's estimate is based on several factors – such as bidding history and historical and current market rates (materials, labor, equipment, etc.) – and adjusted accordingly for the project's conditions. Because the estimate uses prior information, there may be a lag between an uptick or a downtick in the market.

Project F (SR-55, I-405 to I-5) was advertised on December 6, 2021. On March 10, 2022, construction bids for the project were opened. The apparent low bidder was 0.8 percent below the engineer's estimate. Staff will monitor the SR-55 project contract award and continue to track the construction market and update the spreadsheet as appropriate.

M2 Administrative Safeguards

M2 includes a one percent cap on administrative expenses for salaries and benefits of OCTA administrative staff on an annual basis. In a legal opinion on M2, it was determined that in years where administrative salaries and benefits are above one percent, only one percent can be allocated with the difference borrowed from other non-M2 fund sources. Conversely, in years where administrative salaries and benefits are below one percent, OCTA can still allocate the full one percent for administrative salaries and benefits but may use the unused portion to repay the amount borrowed from prior years in which administrative salaries and benefits were above one percent.

Based on the original M2 revenue projections, OCTA expected to receive $24.3 billion in M2 funds, with one percent of total revenues available to fund administrative salaries and benefits over the life of the program. As M2 revenue projections declined (currently $13.2 billion or 46 percent lower) as a result of economic conditions, the funds available to support administrative salaries and benefits have also declined from the original expectations. While revenue has declined, the administrative effort needed to deliver M2 remains the same. Additionally, the initiation of the Early Action Plan (EAP) in 2007 required administrative functions four years prior to revenue collection. While the EAP resulted in project savings and significant acceleration of the program, administrative functions were required during this time with associated administrative costs.

As a result of the aforementioned factors, OCTA has incurred higher than one percent administrative costs. OCTA currently has Board approval to use funds from the Orange County Unified Transportation Trust (OCUTT) fund to cover costs above the one percent, with the understanding that those funds will be repaid with interest in future years that OCTA administrative costs fall below the one percent cap. As of June 30, 2012, OCTA had borrowed approximately $5.2 million from OCUTT. Over the last few years, OCTA has experienced underruns in

the one percent administration cap and has made payments to OCUTT to reduce the outstanding balance. As of September 30, 2021, the principal and accrued interest balances have been paid off.

Staff meets quarterly to review all labor costs to ensure costs attributed to the one percent cap are accurately reported and that there are no misplaced project-related costs.

Taxpayer Oversight Committee

The M2 Ordinance requires a Taxpayer Oversight Committee (TOC) to oversee compliance with the M2 Ordinance. With the exception of the elected Auditor Controller of Orange County, who is identified as the chair in the M2 Ordinance, all other members cannot be elected or appointed officials. Members are recruited and screened for expertise and experience independently by the Grand Jurors Association of Orange County and are selected from the qualified pool by lottery. The TOC is scheduled to meet every other month. The responsibilities of the 11-member M2 TOC are to:

- Approve, by a vote of no less than two-thirds of all committee members, any amendments to the Plan proposed by OCTA which changes funding categories, programs, or projects identified on page 31 of the Plan
- Receive and review the following documents submitted by each eligible jurisdiction:
  - Congestion Management Program
  - Mitigation Fee Program
  - Expenditure Report
  - Local Traffic Signal Synchronization Plan
  - Pavement Management Plan
- Review yearly audits and hold an annual public hearing to determine whether OCTA is proceeding in accordance with the Plan
- The Chair shall annually certify whether M2 funds have been spent in compliance with the Plan
- Receive and review the triennial performance assessments of the Orange County Local Transportation Authority to assess the performance of OCTA in carrying out the purposes of the Ordinance

On March 12, 2020 and March 18, 2020, the Governor enacted Executive Orders N-25-20 and N-29-20, authorizing a local legislative body to hold public meetings via teleconferencing and make public meetings accessible telephonically or electronically to all members of the public due to COVID-19. As a result, the TOC held a meeting on February 8, 2022, via teleconference.

On February 8, 2022, the TOC voted unanimously to affirm the receipt and review of the M2 Quarterly Revenue and Expenditure Reports (December 2021). The TOC also received presentations on the OC Streetcar, 2021 Next 10 Plan, and on the M2 Quarterly Progress Report for the first quarter of FY 2021-22. The TOC also received an update on the M2 triennial performance assessment.

Two subcommittees assist the TOC with their safeguard responsibilities: the Annual Eligibility Review (AER)

Subcommittee and the Audit Subcommittee. The AER Subcommittee meets a few times per year, as needed, to receive and review the following documents submitted by local jurisdictions to be deemed eligible to receive M2 funding: Congestion Management Program, Mitigation Fee Program, Local Signal Synchronization Plan, Pavement Management Plan, and an Expenditure Report. The Audit Subcommittee meets as needed and is responsible for reviewing the quarterly M2 Revenue and Expenditure Reports and the Annual M2 Audit, as well as any other items related to M2 audits.

M2 FINANCING AND SCHEDULE OF FUNDING

Contact: Sam Kaur, Revenue and Grants • (714) 560-5889

Revenue Forecast and Collection

OCTA contracts with three universities (Chapman University; University of California, Fullerton; and California State University, Los Angeles) to provide a long-range forecast of taxable sales to forecast M2 revenues for purposes of planning projects and program expenditures.

In the past, OCTA averaged the three university taxable sales projections to develop a long-range forecast of M2 taxable sales. On March 28, 2016, the Board approved a new sales tax forecast methodology as part of the FY 2016-17 budget development process. This methodology includes a more conservative approach by utilizing the MuniServices, LLC forecast for the first five years and the three-university average for the remaining years.

Revenue forecast information is updated quarterly based on the actual revenues received for the previous quarter. As required by law, OCTA pays the California Department of Tax and Fee Administration a fee to collect the sales tax. The M2 Ordinance estimated this fee to be 1.5 percent of the revenues collected over the life of the program.

Current Forecast

Original projections in 2005 during the development of M2 estimated total nominal M2 sales tax collections at $24.3 billion. OCTA received final sales tax receipts for FY 2020-21 in August 2021 and presented the 2021 M2 sales tax forecast update on Board on September 27, 2021. The current revised total nominal sales tax collections over the life of M2 is estimated to be approximately $13.2 billion, which represents a year-over-year increase of $1.6 billion in forecasted sales tax when compared to last year's forecast.

Although this increase provides a positive outlook on the M2 Program, staff will continue to work closely with MuniServices, LLC and the three universities to monitor the short- and long-term impacts on M2 sales tax revenues due to COVID-19 and its variants. OCTA staff is considering these impacts in the FY 2022-23 budget development process that is currently underway. The proposed budget growth rate for FY 2022-23 is 3.9 percent.

Based on the sales tax forecast information provided by MuniServices, LLC, the budgeted growth rate is 3.6 percent for FY 2021-22. The next updated forecast is anticipated to be brought to the Board in fall 2022.

OCGO
Local Tax Dollars at Work

FINANCING

Schedule of Revenues, Expenditures and Changes in Fund Balance as of
March 31, 2022 (Unaudited)
Schedule 1

($ in thousands)	Quarter Ended Mar 31, 2022	Year to Date Mar 31, 2022 *(A)*	Period from Inception to Mar 31, 2022 *(B)*
Revenues:			
Sales taxes	$ 114,411	$ 315,719	$ 3,392,757
Other agencies' share of Measure M2 costs:			
Project related	8,061	13,855	786,674
Non-project related	-	-	454
Interest:			
Operating:			
Project related	(922)	(762)	5,354
Non-project related	1,681	6,088	94,972
Bond proceeds	2,850	3,574	87,218
Debt service	1	3	1,067
Commercial paper	-	-	393
Right-of-way leases	45	214	1,591
Proceeds on sale of assets held for resale	-	11	12,212
Donated assets held for resale			
Project related	-	-	2,071
Miscellaneous:			
Project related	-	-	331
Non-project related	29	29	129
Total revenues	126,156	338,731	4,385,223
Expenditures:			
Supplies and services:			
Sales tax administration fees	831	2,493	34,854
Professional services:			
Project related	9,318	20,618	466,432
Non-project related	458	935	35,211
Administration costs:			
Project related	2,622	7,868	101,872
Non-project related:			
Salaries and Benefits	1,250	2,749	34,405
Other	1,533	4,597	58,546
Other:			
Project related	131	242	5,791
Non-project related	17	45	5,230
Payments to local agencies:			
Project related	27,750	61,188	1,197,901
Capital outlay:			
Project related	56,334	173,888	1,793,518
Non-project related	-	-	31
Debt service:			
Principal payments on long-term debt	8,455	8,455	75,550
Interest on long-term debt and commercial paper	17,686	35,371	284,626
Total expenditures	126,385	318,449	4,093,967
Excess (deficiency) of revenues over (under) expenditures	(229)	20,282	291,256
Other financing sources (uses):			
Transfers out:			
Project related	3,084	(123,019)	(441,044)
Transfers in:			
Project related	2,936	7,499	197,401
Bond proceeds	-	-	804,625
Payment to refunded bond escrow agent	-	-	(45,062)
Total other financing sources (uses)	6,020	(115,520)	515,920
Excess (deficiency) of revenues over (under) expenditures and other sources (uses)	$ 5,791	$ (95,238)	$ 807,176

Schedule of Revenues, Expenditures and Changes in Fund Balance as of **March 31, 2022 (Unaudited)**

Schedule 2

($ in thousands)	Quarter Ended Mar 31, 2022 (actual)	Year to Date Mar 31, 2022 (actual)	Period from Inception through Mar 31, 2022 (actual)	Period from April 1, 2022 through March 31, 2041 (forecast)	Total
		(C.1)	*(D.1)*	*(E.1)*	*(F.1)*
Revenues:					
Sales taxes	$ 114,411	$ 315,719	$ 3,392,757	$ 9,808,871	$ 13,201,628
Operating interest	1,681	6,088	94,972	138,647	233,619
Subtotal	116,092	321,807	3,487,729	9,947,518	13,435,247
Other agencies share of M2 costs	-	-	454	-	454
Miscellaneous	29	29	129	-	129
Total revenues	116,121	321,836	3,488,312	9,947,518	13,435,830
Administrative expenditures:					
Sales tax administration fees	831	2,493	34,854	95,494	130,348
Professional services	458	935	31,436	104,012	135,448
Administration costs:					
Salaries and Benefits	1,250	2,749	34,405	99,200	133,605
Other	1,533	4,597	58,546	170,590	229,136
Other	17	45	2,210	15,600	17,810
Capital outlay	-	-	31	-	31
Environmental cleanup	409	1,401	47,421	196,146	243,567
Total expenditures	4,498	12,220	208,903	681,042	889,945
Net revenues	$ 111,623	$ 309,616	$ 3,279,409	$ 9,266,476	$ 12,545,885
		(C.2)	*(D.2)*	*(E.2)*	*(F.2)*
Bond revenues:					
Proceeds from issuance of bonds	$ -	$ -	$ 804,625	$ 199,300	$ 1,003,925
Interest revenue from bond proceeds	2,850	3,574	87,218	68,952	156,170
Interest revenue from debt service funds	1	3	1,067	3,299	4,366
Interest revenue from commercial paper	-	-	393	-	393
Total bond revenues	2,851	3,577	893,303	271,551	1,164,854
Financing expenditures and uses:					
Professional services	-	-	3,775	698	4,473
Payment to refunded bond escrow	-	-	45,062	-	45,062
Bond debt principal	8,455	8,455	75,550	809,470	885,020
Bond debt and other interest expense	17,686	35,371	284,626	476,974	761,600
Other	-	-	3,020	-	3,020
Total financing expenditures and uses	26,141	43,826	412,033	1,287,142	1,699,175
Net bond revenues (debt service)	$ (23,290)	$ (40,249)	$ 481,270	$ (1,015,591)	$ (534,321)

Schedule of Revenues, Expenditures and Changes in Fund Balance as of
March 31, 2022 (Unaudited)
Schedule 3

Project	Description	Net Revenues through Mar 31, 2022	Total Net Revenues
	(G)	*(H)*	*(I)*
	($ in thousands)		
	Freeways (43% of Net Revenues)		
A	I-5 Santa Ana Freeway Interchange Improvements	$ 129,258	$ 494,498
B	I-5 Santa Ana/SR-55 to El Toro	82,560	315,847
C	I-5 San Diego/South of El Toro	172,438	659,680
D	I-5 Santa Ana/San Diego Interchange Upgrades	70,955	271,448
E	SR-22 Garden Grove Freeway Access Improvements	33,002	126,255
F	SR-55 Costa Mesa Freeway Improvements	100,656	385,077
G	SR-57 Orange Freeway Improvements	71,147	272,184
H	SR-91 Improvements from I-5 to SR-57	38,502	147,297
I	SR-91 Improvements from SR-57 to SR-55	114,545	438,209
J	SR-91 Improvements from SR-55 to County Line	96,861	370,558
K	I-405 Improvements between I-605 to SR-55	295,039	1,128,717
L	I-405 Improvements between SR-55 to I-5	87,923	336,364
M	I-605 Freeway Access Improvements	5,500	21,042
N	All Freeway Service Patrol	41,253	157,818
	Freeway Mitigation	70,507	269,737
	Subtotal Projects	1,410,146	5,394,731
	Net (Bond Revenue)/Debt Service	-	-
	Total Freeways	$ 1,410,146	$ 5,394,731
	%		
	Street and Roads Projects (32% of Net Revenues)		
O	Regional Capacity Program	$ 327,945	$ 1,254,604
P	Regional Traffic Signal Synchronization Program	131,172	501,820
Q	Local Fair Share Program	590,294	2,258,259
	Subtotal Projects	1,049,411	4,014,683
	Net (Bond Revenue)/Debt Service	-	-
	Total Street and Roads Projects	$ 1,049,411	$ 4,014,683
	%		

Schedule of Revenues, Expenditures and Changes in Fund Balance as of
March 31, 2022 (Unaudited)
Schedule 3

Expenditures through Mar 31, 2022	Reimbursements through Mar 31, 2022	Net M2 Cost
(J)	*(K)*	*(L)*
$ 10,937	$ 7,589	$ 3,348
13,969	9,745	4,224
268,712	50,452	218,260
2,739	529	2,210
5	-	5
60,770	24,187	36,583
51,644	12,432	39,212
34,959	824	34,135
38,929	36,704	2,225
17,431	15,912	1,519
1,138,696	151,885	986,811
9,203	6,954	2,249
4,188	16	4,172
6,170	-	6,170
58,158	6,189	51,969
1,716,510	323,418	1,393,092
139,164	-	139,164
$ 1,855,674	$ 323,418	$ 1,532,256
		48.5%
$ 794,180	$ 505,352	$ 288,828
91,422	12,985	78,437
566,104	77	566,027
1,451,706	518,414	933,292
40,775	-	40,775
$ 1,492,481	$ 518,414	$ 974,067
		30.9%

Schedule of Revenues, Expenditures and Changes in Fund Balance as of
March 31, 2022 (Unaudited)
Schedule 3

Project	Description	Net Revenues through Mar 31, 2022	Total Net Revenues
	(G)	*(H)*	*(I)*
	($ in thousands)		
	Transit Projects (25% of Net Revenues)		
R	High Frequency Metrolink Service	$ 314,484	$ 1,251,266
S	Transit Extensions to Metrolink	289,496	1,107,511
T	Metrolink Gateways	35,117	64,125
U	Expand Mobility Choices for Seniors and Persons with Disabilities	107,947	435,030
V	Community Based Transit/Circulators	65,571	250,851
W	Safe Transit Stops	7,237	27,688
	Subtotal Projects	819,852	3,136,471
	Net (Bond Revenue)/Debt Service	-	-
	Total Transit Projects	$ 819,852	$ 3,136,471
	%		
	Environmental Cleanup (2% of Revenues)		
X	Clean Up Highway and Street Runoff that Pollutes Beaches	$ 69,755	$ 268,705
	Net (Bond Revenue)/Debt Service	-	-
	Total Environmental Cleanup	$ 69,755	$ 268,705
	%		
	Taxpayer Safeguards and Audits		
	Collect Sales Taxes (1.5% of Sales Taxes)	$ 50,891	$ 198,024
	%		
	Oversight and Annual Audits (1% of Revenues)	$ 34,877	$ 134,352
	%		

Schedule of Revenues, Expenditures and Changes in Fund Balance as of
March 31, 2022 (Unaudited)
Schedule 3

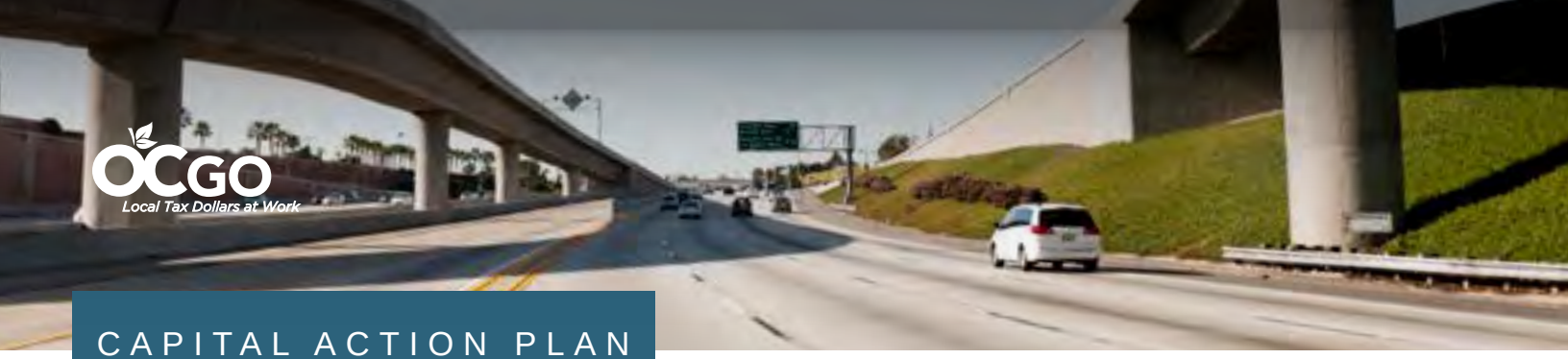
Expenditures through Mar 31, 2022	Reimbursements through Mar 31, 2022	Net M2 Cost
(J)	*(K)*	*(L)*
$ 430,014	$ 98,849	$ 331,165
143,429	2,133	141,296
98,220	60,956	37,264
103,288	88	103,200
14,770	1,439	13,331
1,200	26	1,174
790,921	163,491	627,430
22,804	-	22,804
$ 813,725	$ 163,491	$ 650,234
		20.6%
$ 47,421	$ 311	$ 47,110
-	-	-
$ 47,421	$ 311	$ 47,110
		1.4%
$ 34,854	$ -	$ 34,854
		1.0%
$ 34,405	$ -	$ 34,405
		1.0%

LOCAL FAIR SHARE

M2 Funds		
ENTITY	3RD QUARTER FY 2021-22	FUNDS TO DATE
ALISO VIEJO	$292,107	$7,020,581
ANAHEIM	$2,561,329	$58,664,395
BREA	$416,209	$10,083,147
BUENA PARK	$656,341	$15,657,815
COSTA MESA	$1,068,997	$25,727,436
CYPRESS	$394,322	$9,285,531
DANA POINT	$254,901	$5,893,809
FOUNTAIN VALLEY	$462,358	$10,926,222
FULLERTON	$984,576	$22,957,947
GARDEN GROVE	$1,130,573	$26,267,690
HUNTINGTON BEACH	$1,480,991	$34,355,337
IRVINE	$2,149,641	$48,365,143
LAGUNA BEACH	$182,940	$4,471,517
LAGUNA HILLS	$252,501	$5,992,296
LAGUNA NIGUEL	$505,111	$11,735,637
LAGUNA WOODS	$95,489	$2,240,238
LA HABRA	$412,343	$9,329,331
LAKE FOREST	$617,278	$14,050,251

LOCAL FAIR SHARE

M2 Funds		
ENTITY	3RD QUARTER FY 2021-22	FUNDS TO DATE
LA PALMA	$104,276	$2,816,201
LOS ALAMITOS	$98,072	$2,285,286
MISSION VIEJO	$679,738	$16,408,862
NEWPORT BEACH	$821,243	$19,401,554
ORANGE	$1,262,543	$29,184,532
PLACENTIA	$358,068	$8,138,694
RANCHO SANTA MARGARITA	$321,247	$7,469,547
SAN CLEMENTE	$442,775	$9,982,336
SAN JUAN CAPISTRANO	$292,735	$6,705,649
SANTA ANA	$2,103,823	$49,049,951
SEAL BEACH	$178,126	$4,369,143
STANTON	$231,111	$5,271,248
TUSTIN	$698,576	$15,860,317
VILLA PARK	$39,739	$919,906
WESTMINSTER	$637,481	$15,051,280
YORBA LINDA	$465,225	$10,650,256
COUNTY UNINCORPORATED	$1,989,668	$34,803,856
TOTAL M2 FUNDS	**$24,642,453**	**$561,392,940**



CAPITAL ACTION PLAN

Grey = Milestone achieved
Green = Forecast milestone meets or exceeds plan
Yellow = Forecast milestone is one to three months later than plan
Red = Forecast milestone is over three months later than plan
Non-bolded = Planned/Baseline **Bold = Forecasted/Actual**

Capital Projects	Cost Baseline/Forecast (millions)	Schedule Plan/Forecast: Complete Environmental	Complete Design	Award Contract	Complete Construction
Freeway Projects:					
I-5, SR-55 to SR-57	$38.1	Jun-13	Mar-17	Dec-17	Apr-21
Project A	$38.9	**Apr-15**	**Jun-17**	**Nov-18**	**Jan-21**
I-5, I-405 to Yale Avenue	$230.5	Aug-18	TBD	TBD	TBD
Project B	$230.5	**Jan-20**	Jul-24	Aug-25	Mar-29
I-5, Yale Avenue to SR-55	$200.4	Aug-18	TBD	TBD	TBD
Project B **Cost/Schedule Risk**	$200.4	**Jan-20**	Jan-24	Mar-25	Sep-28
I-5, Pico to Vista Hermosa	$113.0	Dec-11	Oct-13	Dec-14	Aug-18
Project C	$83.6	**Oct-11**	**Oct-13**	**Dec-14**	**Aug-18**
I-5, Vista Hermosa to Pacific Coast Highway	$75.6	Dec-11	Feb-13	Dec-13	Mar-17
Project C	$75.3	**Oct-11**	**May-13**	**Jun-14**	**Jul-17**
I-5, Pacific Coast Highway to San Juan Creek Road	$70.7	Dec-11	Jan-13	Oct-13	Sep-16
Project C	$74.3	**Oct-11**	**Jan-13**	**Dec-13**	**Jul-18**
I-5, SR-73 to Oso Parkway	$151.9	Jun-14	Jan-18	Dec-18	Apr-25
Project C & D	$195.8	**May-14**	**Aug-18**	**Dec-19**	Sep-24
I-5, Oso Parkway to Alicia Parkway	$196.2	Jun-14	Jun-17	Jun-18	Nov-23
Project C & D	$203.1	**May-14**	**Dec-17**	**Mar-19**	Jan-24
I-5, Alicia Parkway to El Toro Road	$133.6	Jun-14	Jun-18	May-19	Oct-24
Project C	$165.9	**May-14**	**May-19**	**Sep-20**	Oct-24
I-5, SR-73 to El Toro Road (Landscape)	TBD	N/A	TBD	TBD	TBD
Project C	$12.4	N/A	Mar-24	Nov-24	Jun-26
I-5, I-5/El Toro Road Interchange	TBD	Nov-19	TBD	TBD	TBD
Project D **Cost/Schedule Risk**	TBD	Jan-23	TBD	TBD	TBD

*Status through March 2022. For detailed project information, please refer to the individual project section within this report.

CAPITAL ACTION PLAN

Grey = Milestone achieved

Green = Forecast milestone meets or exceeds plan

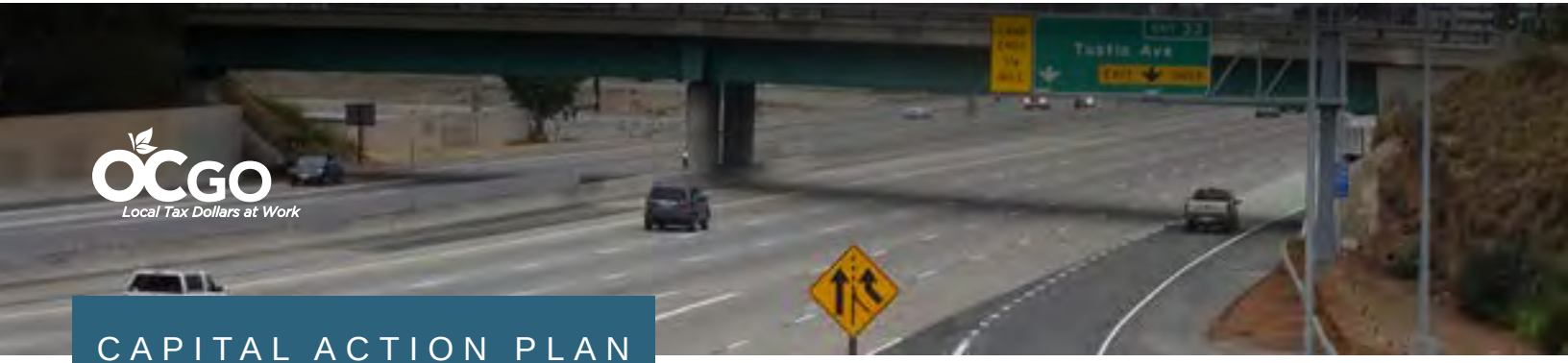
Yellow = Forecast milestone is one to three months later than plan

Red = Forecast milestone is over three months later than plan

Non-bolded = Planned/Baseline **Bold = Forecasted/Actual**

Capital Projects	Cost Baseline/Forecast (millions)	Schedule Plan/Forecast Complete Environmental	Complete Design	Award Contract	Complete Construction
I-5, I-5/Ortega Interchange	$90.9	Jun-09	Nov-11	Aug-12	Sep-15
Project D	$79.8	**Jun-09**	**Dec-11**	**Aug-12**	**Jan-16**
I-5, I-5/Ortega Interchange (Landscape)	N/A	N/A	N/A	N/A	N/A
Project D	N/A	N/A	**Oct-14**	**Sep-15**	**Sep-16**
SR-55, I-405 to I-5	$410.9	Nov-13	Apr-20	Jul-21	Aug-25
Project F **Cost/Schedule Risk**	$503.2	**Aug-17**	**Apr-20**	Apr-22	May-26
SR-55, I-5 to SR-91	$131.3	Jan-20	TBD	TBD	TBD
Project F	$131.3	**Mar-20**	Jul-25	Jul-26	Sep-29
SR-57 Northbound (NB), Orangewood Avenue to Katella Avenue	$71.8	Dec-18	TBD	TBD	TBD
Project G	$71.8	**Mar-19**	Apr-24	Mar-25	Nov-27
SR-57 (NB), Katella Avenue to Lincoln Avenue	$78.7	Jul-09	Nov-10	Aug-11	Sep-14
Project G	$38.0	**Nov-09**	**Dec-10**	**Oct-11**	**Apr-15**
SR-57 (NB), Katella Avenue to Lincoln Avenue (Landscape)	N/A	N/A	N/A	N/A	N/A
Project G	N/A	N/A	**Jul-10**	**Sep-17**	**Jun-18**
SR-57 (NB), Orangethorpe Avenue to Yorba Linda Boulevard	$80.2	Dec-07	Dec-09	Oct-10	May-14
Project G	$52.3	**Dec-07**	**Jul-09**	**Oct-10**	**Nov-14**
SR-57 (NB), Yorba Linda Boulevard to Lambert Road	$79.3	Dec-07	Dec-09	Oct-10	Sep-14
Project G	$54.1	**Dec-07**	**Jul-09**	**Oct-10**	**May-14**
SR-57 (NB), Orangethorpe Avenue to Lambert Road (Landscape)	N/A	N/A	N/A	N/A	N/A
Project G	N/A	N/A	**Aug-17**	**Feb-18**	**Apr-19**
SR-57 (NB), Lambert Road to Tonner Canyon	TBD	TBD	TBD	TBD	TBD
Project G	TBD	May-28	TBD	TBD	TBD

*Status through March 2022. For detailed project information, please refer to the individual project section within this report.



CAPITAL ACTION PLAN

Grey = Milestone achieved

Green = Forecast milestone meets or exceeds plan

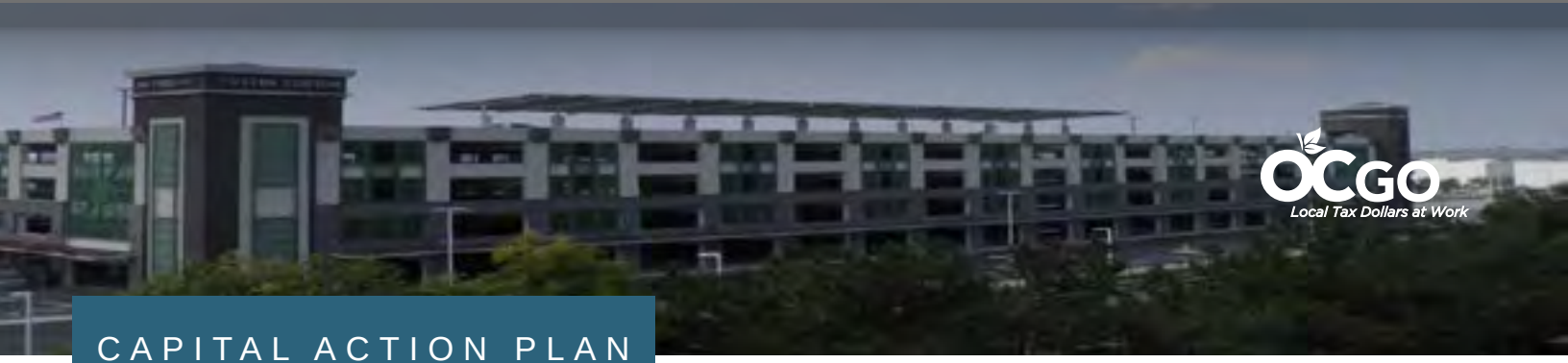
Yellow = Forecast milestone is one to three months later than plan

Red = Forecast milestone is over three months later than plan

Non-bolded = Planned/Baseline **Bold = Forecasted/Actual**

Capital Projects	Cost Baseline/Forecast (millions)	Schedule Plan/Forecast: Complete Environmental	Complete Design	Award Contract	Complete Construction
SR-91 Westbound (WB), I-5 to SR-57	$78.1	Apr-10	Feb-12	Nov-12	Apr-16
Project H	$59.2	**Jun-10**	**Apr-12**	**Jan-13**	**Jun-16**
SR-91 Westbound (WB), I-5 to SR-57 (Landscape)	N/A	N/A	N/A	N/A	N/A
Project H	N/A	N/A	**Aug-16**	**Mar-17**	**Nov-17**
SR-91, SR-55 to Lakeview Avenue (Segment 1)	$100.9	Oct-18	Jan-23	Feb-24	Sep-27
Project I	$100.9	**Jun-20**	Jan-23	Feb-24	Sep-27
SR-91, La Palma Avenue to SR-55 (Segment 2)	$208.4	Oct-18	Jul-23	Jul-24	Mar-28
Project I	$208.4	**Jun-20**	Jul-23	Jul-24	Mar-28
SR-91, Acacia Street to La Palma Ave (Segment 3)	$116.2	Oct-18	Apr-24	Apr-25	Sep-28
Project I	$116.2	**Jun-20**	Apr-24	Apr-25	Sep-28
SR-91 (WB), Tustin Interchange to SR-55	$49.9	Jul-11	Mar-13	Oct-13	Jul-16
Project I	$42.5	**May-11**	**Feb-13**	**Oct-13**	**Jul-16**
SR-91, SR-55 to SR-241	$128.4	Jul-09	Jan-11	Sep-11	Dec-12
Project J	$79.7	**Apr-09**	**Aug-10**	**May-11**	**Mar-13**
SR-91, SR-55 to SR-241 (Landscape)	N/A	N/A	N/A	N/A	N/A
Project J	N/A	N/A	**Feb-13**	**Oct-13**	**Feb-15**
SR-91 Eastbound, SR-241 to SR-71	$104.5	Dec-07	Dec-08	Jul-09	Nov-10
Project J	$57.8	**Dec-07**	**Dec-08**	**Aug-09**	**Jan-11**
I-405, SR-55 to I-605 (Design-Build)	$2,080.2	Mar-13	Nov-15	Nov-16	Feb-24
Project K	$2,080.2	**May-15**	**Nov-15**	**Nov-16**	Feb-24
I-405, I-5 to SR-55	TBD	Jul-18	TBD	TBD	TBD
Project L	TBD	**Aug-18**	TBD	TBD	TBD

*Status through March 2022. For detailed project information, please refer to the individual project section within this report.



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Capital Projects	Cost Baseline/Forecast (millions)	Schedule Plan/Forecast Complete Environmental	Complete Design	Award Contract	Complete Construction
I-605, I-605/Katella Interchange	$29.0	Nov-18	Mar-23	Feb-24	Nov-25
Project M	$29.0	**Oct-18**	Mar-23	Mar-24	Dec-25
Grade Separation Projects:					
Raymond Avenue Railroad Grade Separation	$77.2	Nov-09	Aug-12	May-13	Aug-18
Project O	$126.2	**Nov-09**	**Dec-12**	**Feb-14**	**May-18**
State College Boulevard Railroad Grade Separation (Fullerton)	$73.6	Jan-11	Aug-12	May-13	May-18
Project O	$99.6	**Apr-11**	**Feb-13**	**Feb-14**	**Mar-18**
Placentia Avenue Railroad Grade Separation	$78.2	May-01	Mar-10	Jun-11	Nov-14
Project O	$64.5	**May-01**	**Jun-10**	**Jul-11**	**Dec-14**
Kraemer Boulevard Railroad Grade Separation	$70.4	Sep-09	Jul-10	Aug-11	Oct-14
Project O	$63.8	**Sep-09**	**Jul-10**	**Sep-11**	**Dec-14**
Orangethorpe Avenue Railroad Grade Separation	$117.4	Sep-09	Dec-11	May-12	Sep-16
Project O	$105.9	**Sep-09**	**Oct-11**	**Jan-13**	**Oct-16**
Tustin Avenue/Rose Drive Railroad Grade Separation	$103.0	Sep-09	Dec-11	Aug-12	May-16
Project O	$96.6	**Sep-09**	**Jul-11**	**Feb-13**	**Oct-16**
Lakeview Avenue Railroad Grade Separation	$70.2	Sep-09	Oct-11	May-13	Mar-17
Project O	$110.7	**Sep-09**	**Jan-13**	**Nov-13**	**Jun-17**
Sand Canyon Avenue Railroad Grade Separation	$55.6	Sep-03	Jul-10	Feb-11	May-14
Project R	$61.9	**Sep-03**	**Jul-10**	**Feb-11**	**Jan-16**

*Status through March 2022. For detailed project information, please refer to the individual project section within this report.

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Capital Projects	Cost Baseline/Forecast (millions)	Schedule Plan/Forecast: Complete Environmental	Complete Design	Award Contract	Complete Construction
Rail and Station Projects:					
Rail-Highway Grade Crossing Safety Enhancement	$94.4	Oct-08	Sep-08	Aug-09	Dec-11
Project R	$90.4	**Oct-08**	**Sep-08**	**Aug-09**	**Dec-11**
San Clemente Beach Trail Safety Enhancements	$6.0	Jul-11	Apr-12	Oct-12	Jan-14
Project R	$5.0	**Jul-11**	**Jun-12**	**May-13**	**Mar-14**
San Juan Capistrano Passing Siding	$25.3	Jan-13	May-16	Dec-16	Feb-21
	$36.4	**Mar-14**	**Aug-18**	**Mar-19**	**Nov-20**
Anaheim Canyon Station	$27.9	Dec-16	May-19	Nov-19	Jan-23
	$34.2	**Jun-17**	**Oct-20**	**Mar-21**	Jan-23
Placentia Metrolink Station and Parking Structure	$34.8	May-07	Jan-11	TBD	TBD
Project R **Cost/Schedule Risk**	$40.1	**May-07**	**Feb-11**	TBD	TBD
Orange Station Parking Expansion	$33.2	Dec-12	Apr-13	Nov-16	Feb-19
	$30.9	**May-16**	**Apr-16**	**Jun-17**	**Feb-19**
Fullerton Transportation Center - Elevator Upgrades	$3.5	N/A	Dec-13	Sep-14	Mar-17
	$4.2	N/A	**Dec-13**	**Apr-15**	**May-19**
Laguna Niguel/Mission Viejo Station ADA Ramps	$3.5	Jan-14	Aug-14	Jan-15	Apr-17
	$5.0	**Feb-14**	**Jul-15**	**Oct-15**	**Sep-17**
Anaheim Regional Transportation Intermodal Center	$227.4	Feb-11	Feb-12	Jul-12	Nov-14
Project R & T	$232.2	**Feb-12**	**May-12**	**Sep-12**	**Dec-14**
OC Streetcar	$526.1	Mar-12	Sep-17	Aug-18	Mar-24
Project S **Cost/Schedule Risk**	$526.1	**Mar-15**	**Nov-17**	**Sep-18**	Mar-24

*Status through March 2022. For detailed project information, please refer to the individual project section within this report.

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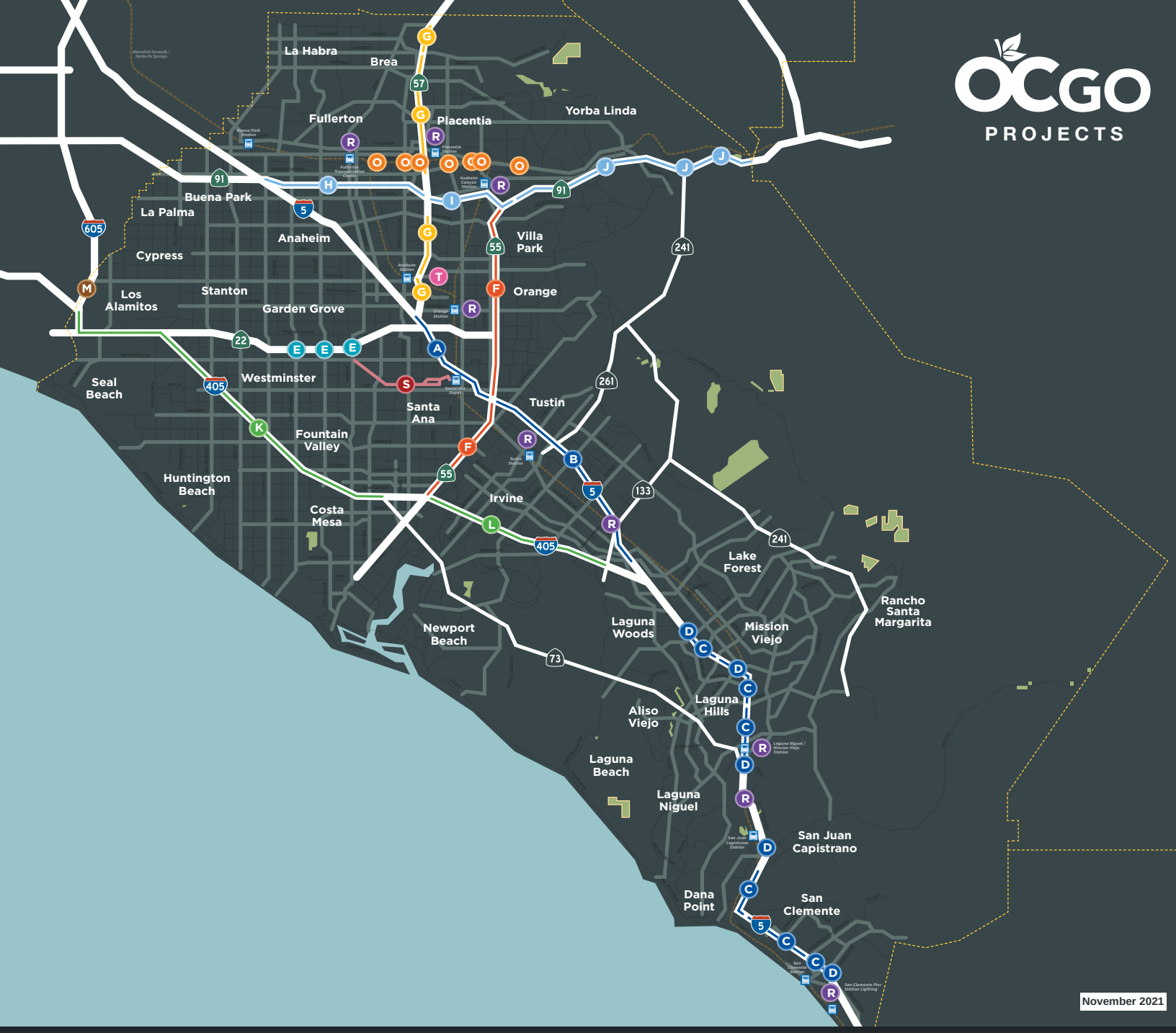
COMMON ABBREVIATIONS

Americans with Disabilities Act	ADA
Anaheim Regional Transportation Intermodal Center	ARTIC
Annual Eligibility Review	AER
Board of Directors	Board
BNSF Railway Company	BNSF
California Department of Transportation	Caltrans
Capital Action Plan	CAP
Comprehensive Transportation Funding Program	CTFP
Conservation Properties	Preserves
Construction and Maintenance	C&M
Coronavirus	COVID-19
Cost Estimate Review	CER
Early Action Plan	EAP
Environmental Cleanup Allocation Committee	ECAC
Environmental Cleanup Program	ECP
Environmental Document	ED
Environmental Mitigation Program	EMP
Environmental Oversight Committee	EOC
Federal Highway Administration	FHWA
Federal Transit Administration	FTA
Fire Management Plan	FMP
Fiscal Year	FY
Freeway Service Patrol	FSP
Full Funding Grant Agreement	FFGA
High Occupancy Vehicle	HOV
Interstate 5	I-5
Interstate 15	I-15
Interstate 405	I-405
Interstate 605	I-605
Local Fair Share	LFS
Los Angeles County Metropolitan Transportation Authority	LA Metro
Measure M2 or Renewed Measure M	M2
Metrolink Service Expansion Program	MSEP
Notice to Proceed	NTP
Next 10 Delivery Plan	Next 10 Plan
Natural Community Conservation Plan/Habitat Conservation Plan	Conservation Plan
Operation and Maintenance	O&M
Orange County Transportation Authority	OCTA

COMMON ABBREVIATIONS

Orange County Unified Transportation Trust	OCUTT
Ordinance No. 3	M2 Ordinance
Pacific Coast Highway	PCH
Plans, Specifications, and Estimates	PS&E
Program Management Office	PMO
Project Report	PR
Regional Capacity Program	RCP
Regional Traffic Signal Synchronization Program	RTSSP
Request for Proposals	RFP
Resource Management Plan	RMP
Right-of-Way	ROW
Riverside County Transportation Commission	RCTC
Santa Ana Regional Transportation Center	SARTC
Senate Bill 1	SB 1
Senior Mobility Program	SMP
Senior Non-Emergency Medical Transportation	SNEMT
Southern California Edison	SCE
State Route 22	SR-22
State Route 55	SR-55
State Route 57	SR-57
State Route 71	SR-71
State Route 74	SR-74
State Route 91	SR-91
State Route 133	SR-133
State Route 241	SR-241
State Transportation Improvement Program	STIP
Southern California Regional Rail Authority	Metrolink
Taxpayer Oversight Committee	TOC
Technical Advisory Committee	TAC
Technical Steering Committee	TSC
To Be Determined	TBD
Transportation Investment Plan	Plan
United States Army Corps of Engineers	Corps



FREEWAY IMPROVEMENT PROGRAM (A-N)

Interstate 5 (I-5) Projects

- **A** **I-5**, SR-55 to SR-57
- **B** **I-5**, I-405 to SR-55
- **C** **I-5**, SR-73 to El Toro Road
- **C** **I-5**, Avenida Pico to San Juan Creek Road
- **D** **I-5** Highway Interchanges

State Route 22 (SR-22) Projects

- **E** **SR-22** Access Improvements

State Route 55 (SR-55) Projects

- **F** **SR-55**, I-405 to I-5
- **F** **SR-55**, I-5 to SR-91

State Route 57 (SR-57) Projects

- **G** **SR-57** NB, Orangewood Avenue to Katella Avenue
- **G** **SR-57** NB, Katella Avenue to Lincoln Avenue
- **G** **SR-57** NB, Orangethorpe Avenue to Lambert Road
- **G** **SR-57** NB, Lambert Road to Tonner Canyon Road

State Route 91 (SR-91) Projects

- **H** **SR-91** WB, I-5 to SR-57
- **I** **SR-91**, SR-57 to SR-55
- **J** **SR-91**, SR-55 to Riverside County Line

Interstate 405 (I-405) Projects

- **K** **I-405**, SR-73 to I-605
- **L** **I-405**, I-5 to SR-55

Interstate 605 (I-605) Projects

- **M** **I-605** Katella Avenue Interchange Improvements

Freeway Mitigation Restoration Projects
Part of Projects A-M

Freeway Mitigation Acquisition Projects
Part of Projects A-M

STREETS & ROADS (O-Q)

- **O** **Grade Separation Program**
- **P** **Signal Synchronization Project Corridors**

TRANSIT PROJECTS (R-W)

- **R** **Grade Separation and Station Improvement Projects**
- **S** **Transit Extensions to Metrolink**
- **T** **Metrolink Station Conversion to accept Future High-Speed Rail Systems**

OTHER PROJECTS NOT SHOWN

Project N: Freeway Service Patrol

Project O: Regional Capacity Program

Project Q: Local Fair Share Program

Project R: Grade Crossing and Trail Safety Enhancements
Metrolink Service Expansion Program

Project U: Senior Mobility Program, Senior Non-Emergency Medical Transportation Program, and Fare Stabilization Program

Project V: Community Based Transit/Circulators

Project W: Safe Transit Stops

Project X: Environmental Cleanup Program

COMMITTEE TRANSMITTAL

June 13, 2022

To: Members of the Board of Directors

From: Andrea West, Interim Clerk of the Board

Subject: Measure M2 Environmental Mitigation Program Update

Regional Planning and Highways Committee Meeting of June 6, 2022

Present: Directors Chaffee, Delgleize, Foley, Harper, Muller, and Murphy
Absent: Director Bartlett

Committee Vote

Thiis item was passed by the Members present

Committee Recommendation

Receive and file as an information item.

OCTA

June 6, 2022

To: Regional Highways and Planning Committee

From: Darrell E. Johnson, Chief Executive Officer

Subject: Measure M2 Environmental Mitigation Program Update

Overview

Measure M2 includes a program to deliver comprehensive mitigation for biological impacts of 13 freeway projects in exchange for streamlined project approvals from state and federal resource agencies. The Environmental Mitigation Program has acquired conservation properties and provided habitat restoration projects funding as part of the Natural Community Conservation Plan/Habitat Conservation Plan. Updates on program activities for the first half of 2022 are provided.

Recommendation

Receive and file as an information item.

Background

Measure M2 (M2) includes the Environmental Mitigation Program (EMP) intended to mitigate biological resources impacts of 13 M2 freeway projects and streamline the approval process with state and federal resource agencies. This was achieved through the development of a Natural Community Conservation Plan/Habitat Conservation Plan (Conservation Plan), approved by the California Department of Fish and Wildlife (CDFW), and the United States Fish and Wildlife Service (collectively referred to as Wildlife Agencies) in 2017. Consistent with the Conservation Plan, the Orange County Transportation Authority (OCTA) has acquired seven conservation properties (Preserves) and funded 12 habitat restoration projects, depicted in Attachment A. An endowment has been established for the long-term management of the Preserves. On a parallel path, the United States Army Corps of Engineers (ACOE) and the State Water Resources Control Board (SWRCB), commonly referred to as the Regulatory Agencies, have also established a framework to expedite the permitting process.

The aforementioned investments made to date have largely met the intent of the EMP. Many of the restoration projects are close to or have obtained approvals from the Wildlife Agencies.

Discussion

Restoration Projects Update

In November 2021, the Wildlife Agencies provided their sign off on the OCTA funded University of California Irvine (UCI) restoration project (Project). This 8.5-acre Project was funded by OCTA in April 2011 and is located on the UCI campus. This is the fourth OCTA-funded restoration Project to meet its success criteria. The project success criteria established specific goals that needed to be met within a set timeframe for native and non-native plant and animal species and was approved by the Wildlife Agencies.

The Natural Communities Coalition (NCC) has been responsible for the planning and implementation of the restoration of native habitat for the Project since November 2011. The goal of the Project was to increase breeding habitat for coastal California gnatcatcher and cactus wren. The restoration area will continue to be monitored and managed by the NCC.

OCTA Preserves' Fire Management Plans Update

As required by the OCTA M2 Conservation Plan, OCTA is developing fire management plans (Plans) for each of the Preserves. The Plans will provide guidelines for decision-making at all stages, including fire prevention, pre-fire vegetation management, suppression activities, and post-fire responses that are compatible with conservation and stewardship responsibilities. Due to delays related to easement information, external agency staff turnover, and the inclusion of new 2021 species data, these plans are now anticipated to be completed in 2022. The delay of completing these plans will not have any material impact to the Conservation Plan or related permits. Drafts have been completed for the seven Preserves, and reviews are underway with the respective fire agency and the Wildlife Agencies. Once completed, the Plans will be provided to the Environmental Oversight Committee (EOC) and posted on OCTA's website.

Southern California Association of Government (SCAG) Award

The OCTA-funded 53-acre City Parcel (2C Ranch) Habitat Restoration Project was awarded the 2022 SCAG Sustainability Award for the Green Region Initiative: Resource Conservation & Climate Action category. The awards program was held at the annual SCAG Regional Conference & General Assembly in May. In 2018, the Wildlife Agencies signed off on this project. The restoration project is within and sponsored by the City of San Juan Capistrano. As one measure of success, wildlife surveys have documented that two endangered bird species

(coastal California gnatcatcher and least Bell's vireo) are utilizing the restored areas.

Clean Water Act Permits Update

The M2 freeway projects are anticipated to impact waters of the State or jurisdictional waters that are subject to regulation by the ACOE, the SWRCB, and the CDFW, and will require mitigation. Before construction activities can occur, OCTA must obtain permits from the aforementioned Regulatory Agencies. The Conservation Plan's mitigation was also utilized to obtain these permits, streamlining the processes. These efforts are the result of years of collaboration between OCTA and the Regulatory Agencies, and constitute another groundbreaking milestone for the M2 EMP. The success of the partnership that this program has garnered is evident with the recent recognition from Federal Highway Administration, as well as the ACOE's swift response to the projects below and other OCTA project needs.

Freeway Projects Update

The following OC Go freeway projects have benefited from the EMP. Without the EMP's established process, additional mitigation-related requirements could have been incurred, resulting in increased project cost and schedule risks.

- Project C (Interstate 5 Improvement Project from State Route 73 [SR-73] to El Toro Road); and
- Project F (State Route 55 Improvement Project between Interstate 405 and Interstate 5); and
- Project K (Interstate 405 Improvement Project from SR-73 to the Los Angeles County Line).

Environmental Mitigation Program Endowment Fund Investment Report

The Conservation Plan requires the establishment of an endowment to fund the long-term management of the Preserves. Current projections indicate that OCTA remains on track to meet the endowment target of $46.2 million (inclusive of interest earnings) by fiscal year 2027-28. To date, OCTA has made six endowment deposits. A separate quarterly investment report was last provided to the Board of Directors (Board) in March 2022 and the EOC. Staff will continue to assess market conditions and provide regular endowment updates to the Board, Finance and Administration Committee, and the EOC.

Hikes and Equestrian Rides

Three hikes and two equestrian rides have occurred on the OCTA Preserves so far this year. The next equestrian ride will take place on July 16 at the Trabuco Rose Preserve, and the next hike will occur on July 23 at the Pacific Horizon

Preserve. More information on the Preserves and the OCTA hikes are rides are available at http://preservingourlegacy.org/.

Summary

M2 includes an EMP that provides funding for programmatic mitigation to offset certain impacts of the 13 M2 freeway projects. To expedite the delivery of the M2 freeway projects, this program was initiated to implement early project mitigation through preservation and habitat restoration. This program is administered through a Conservation Plan, which was approved by the Wildlife Agencies in mid-2017. To maximize the benefits of the investments, OCTA has utilized some of that same mitigation to obtain Clean Water Act permits.

Attachment

A. OCTA Preserves and Funded Restoration Projects

Prepared by:

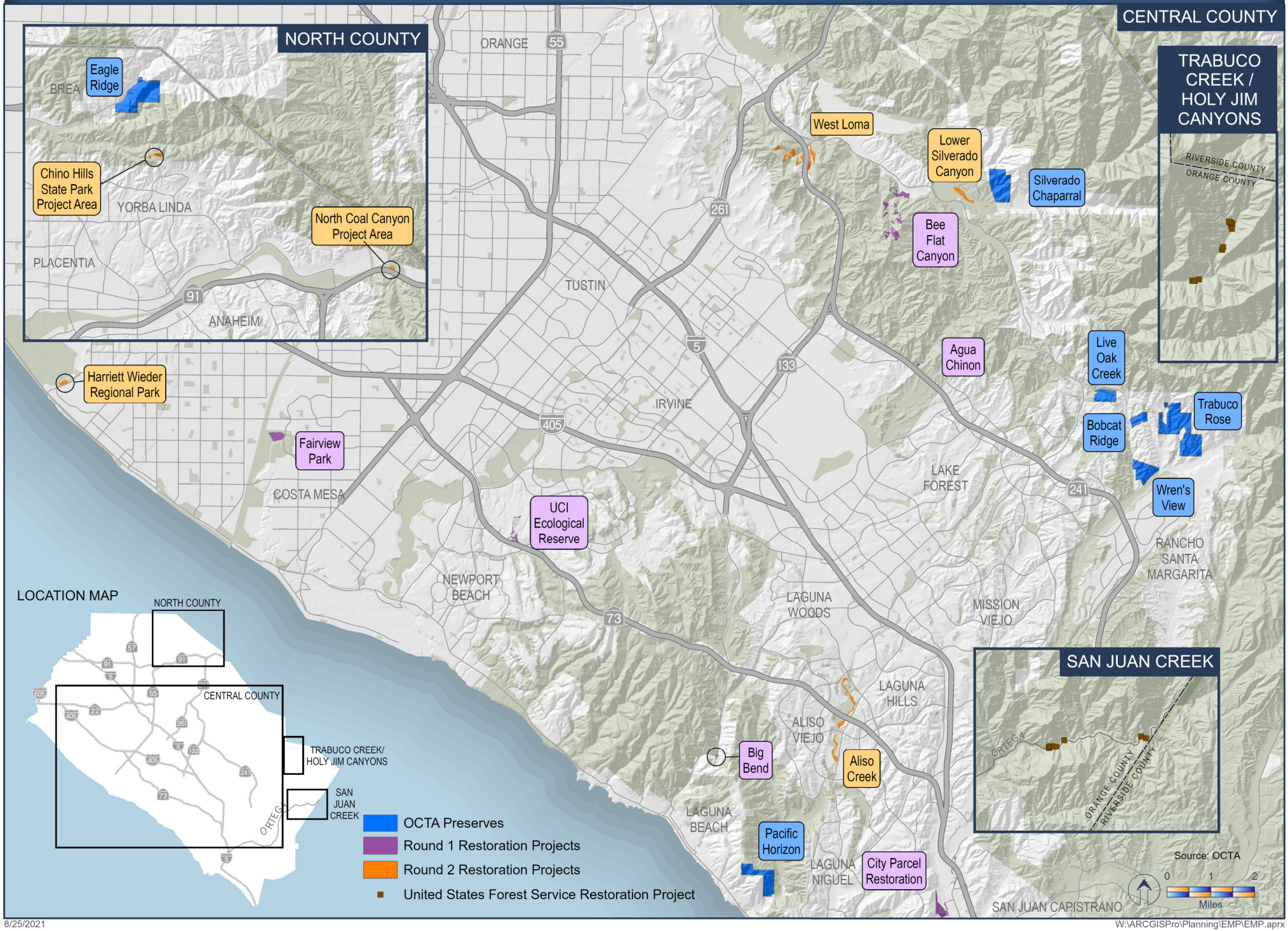
Lesley Hill
Environmental Mitigation Program
Project Manager
(714) 560-5759

Approved by:

Kia Mortazavi
Executive Director, Planning
(714) 560-5741

OCTA Preserves and Funded Restoration Projects

ATTACHMENT A



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COMMITTEE TRANSMITTAL

June 13, 2022

To: Members of the Board of Directors

From: Andrea West, Interim Clerk of the Board

Subject: Measure M2 Eligibility Review Recommendations for Fiscal Year 2020-21 Expenditure Reports

Regional Planning and Highways Committee Meeting of June 6, 2022

Present: Directors Chaffee, Delgleize, Foley, Harper, Muller, and Murphy
Absent: Director Bartlett

Committee Vote

Thiis item was passed by the Members present

Committee Recommendation

Approve all 35 Orange County local jurisdictions as eligible to continue receiving Measure M2 net revenues.

OCTA

June 6, 2022

To: Regional Planning and Highways Committee

From: Darrell E. Johnson, Chief Executive Officer

Subject: Measure M2 Eligibility Review Recommendations for Fiscal Year 2020-21 Expenditure Reports

Overview

The Measure M2 Ordinance requires that all Orange County local jurisdictions annually satisfy specific eligibility requirements to receive Measure M2 net revenues. As part of this requirement, fiscal year 2020-21 expenditure reports and resolutions were submitted by the local jurisdictions. In April 2022, the Taxpayer Oversight Committee affirmed that all expenditure reports were received and reviewed, consistent with the Measure M2 Ordinance requirement. Board of Directors' approval is requested to find all Orange County local jurisdictions eligible to continue receiving Measure M2 net revenues.

Recommendation

Approve all 35 Orange County local jurisdictions as eligible to continue receiving Measure M2 net revenues.

Background

Local jurisdictions are required to meet Measure M2 (M2) eligibility requirements and submit eligibility verification packages to the Orange County Transportation Authority (OCTA) annually to remain eligible to receive M2 net revenues. There are 13 eligibility requirements, which local jurisdictions must satisfy. However, not all 13 eligibility components require verification each eligibility cycle. For reference, a summary of M2 eligibility requirements and their respective due dates is provided in Attachment A.

While OCTA staff reviews and confirms all M2 eligibility requirements, the M2 Ordinance specifies that the Taxpayer Oversight Committee (TOC) also review five of these requirements. These include the Congestion Management Program (CMP), Mitigation Fee Program (MFP), Local Signal Synchronization Plan (LSSP), Pavement Management Plan (PMP), and expenditure reports.

The CMPs, MFPs, LSSPs, and PMPs are due on June 30 each year and are typically approved by the OCTA Board of Directors (Board) in December. Expenditure reports are due on December 31 each year, six months after the close of the fiscal year (FY), and are typically approved by the Board in June. Expenditure reports incorporate all M2 and related transportation expenditures including maintenance of effort (MOE) spending levels. MOE is the amount of discretionary funding (e.g., general fund revenues) that local jurisdictions must spend on streets and roads purposes to ensure that they are not replacing discretionary transportation spending with M2 revenues[1].

Per the M2 Ordinance, the TOC is responsible for the receipt and review of expenditure reports. To assist with this responsibility, the TOC has designated an Annual Eligibility Review (AER) Subcommittee to initially receive and review required M2 eligibility submittals prior to consideration by the full TOC. The TOC review and affirmation process is now complete, and a summary is provided below.

Discussion

As of the December 31, 2021 deadline, all local jurisdictions submitted their FY 2020-21 expenditure reports. Staff carried out a technical review of all 35 Orange County local jurisdictions' reports. A brief summary of the results from the review are provided in Attachment B. It should be noted that while all local jurisdictions met the MOE requirement, this cycle three local jurisdictions satisfied the MOE requirement through the modified benchmark approach approved by the Board in response to the financial impacts of the coronavirus pandemic. All local jurisdictions will be required to return to the traditional benchmark requirement for FY 2022-23 and beyond.

The FY 2020-21 expenditure reports were presented at the March 31, 2022 AER Subcommittee meeting, which was conducted virtually. AER Subcommittee members affirmed receipt and review of FY 2020-21 expenditure reports for all 35 Orange County local jurisdictions. On April 12, 2022, the TOC meeting, which convened in person, received the AER Subcommittee's report on these materials and affirmed receipt and review of FY 2020-21 expenditure reports, consistent with the M2 Ordinance requirement.

As the TOC has now completed its review, consistent with M2 Ordinance requirements, staff is recommending that the Board approve all 35 Orange County local jurisdictions as eligible to continue receiving net M2 revenues.

[1] It should be noted that due to the financial impacts of the coronavirus pandemic, the MOE requirement was modified by the OCTA Board for this eligibility review cycle to provide flexibility with satisfying the MOE benchmark requirement. Local jurisdictions could meet either 1) the traditional MOE benchmark dollar amount; or 2) an MOE target based on the percentage of the MOE benchmark value of general fund revenues.

If the Board approves the recommendation identified in this report, this action will conclude the FY 2020-21 M2 eligibility process and will result in all Orange County local jurisdictions being deemed eligible to continue receiving M2 net revenues.

Summary

In April 2022, the Orange County Transportation Authority Taxpayers Oversight Committee convened and affirmed that it had received and reviewed the required fiscal year 2020-21 Measure M2 expenditure reports for all 35 Orange County local jurisdictions. Given this review, Board of Directors' approval is requested to find all 35 of Orange County's local jurisdictions eligible to continue receiving Measure M2 net revenues.

Attachments

A. Measure M2 Eligibility Requirements and Submittal Schedule Summary, Fiscal Year 2020-21
B. Measure M2 Eligibility Review Summary of FY 2020-21 Expenditure Reports

Prepared by:

Cynthia Morales
Transportation Funding Analyst
(714) 560-5905

Approved by:

Kia Mortazavi
Executive Director, Planning
(714) 560-5741

ATTACHMENT A

Measure M2 Eligibility Requirements and Submittal Schedule Summary
Fiscal Year 2021-22

Compliance Category	Frequency (submitted)	Status
Capital Improvement Program	Annual (June 30, 2021)	✓
Circulation Element/Master Plan of Arterial Highways Consistency	Biennial (June 30, 2021)	✓
Congestion Management Program	Biennial (June 30, 2021)	✓
Expenditure Report	Annual (December 31, 2021)	Submitted, pending Board approval
Local Signal Synchronization Plan	Every Three Years (i.e., June 30, 2023)	N/A – next cycle
Maintenance of Effort	Annual (June 30, 2021)	✓
Mitigation Fee Program (MFP)	Biennial (June 30, 2021)[1]	✓
No Supplanting of Developer Fees	Annual (June 30, 2021)	✓
Pavement Management Plan (PMP)	Biennial (June 30, 2021)[2]	✓
Timely Submittal of Project Final Reports	Within Six Months of Project Completion	Ongoing
Timely Use of Net Revenues	Annual (June 30, 2021)	✓
Traffic Forum Participation	Annual (June 30, 2021)	✓
Transit and Non-Motorized Transportation Land-Use Planning Strategies	Annual (June 30, 2021)	✓

Board – Board of Directors
N/A – Not applicable

[1] A jurisdiction must submit their updated program and revised fee schedule or process methodology when the jurisdiction updates their MFP and/or nexus study.

[2] 14 agencies update their PMPs on odd-numbered fiscal years, while 21 agencies update their PMPs on even-numbered fiscal years.

ATTACHMENT B

Measure M2 Eligibility Review Summary of FY 2020-21 Expenditure Reports

Local Jurisdiction	Expenditure Report Received by Deadline	Resolution Received by Deadline	MOE Benchmark Met[1]	Received and Reviewed
Aliso Viejo	Yes	Yes	Yes	Yes
Anaheim	Yes	Yes	Yes	Yes
Brea	Yes	Yes	Yes	Yes
Buena Park	Yes	Yes	Yes	Yes
Costa Mesa	Yes	Yes	Yes	Yes
County of Orange[2]	Yes	Yes	N/A	Yes
Cypress	Yes	Yes	Yes	Yes
Dana Point	Yes	Yes	Yes	Yes
Fountain Valley	Yes	Yes	Yes	Yes
Fullerton	Yes	Yes	Yes	Yes
Garden Grove	Yes	Yes	Yes	Yes
Huntington Beach	Yes	Yes	Yes	Yes
Irvine	Yes	Yes	Yes	Yes
La Habra	Yes	Yes	Yes	Yes
La Palma	Yes	Yes	Yes	Yes
Laguna Beach	Yes	Yes	Yes	Yes
Laguna Hills	Yes	Yes	Yes	Yes
Laguna Niguel	Yes	Yes	Yes	Yes
Laguna Woods	Yes	Yes	Yes	Yes
Lake Forest	Yes	Yes	Yes	Yes
Los Alamitos	Yes	Yes	Yes	Yes
Mission Viejo	Yes	Yes	Yes	Yes
Newport Beach	Yes	Yes	Yes	Yes
Orange	Yes	Yes	Yes	Yes
Placentia	Yes	Yes	Yes	Yes
Rancho Santa Margarita	Yes	Yes	Yes	Yes
San Clemente	Yes	Yes	Yes	Yes
San Juan Capistrano	Yes	Yes	Yes	Yes
Santa Ana	Yes	Yes	Yes	Yes
Seal Beach	Yes	Yes	Yes	Yes
Stanton	Yes	Yes	Yes	Yes
Tustin	Yes	Yes	Yes	Yes
Villa Park	Yes	Yes	Yes	Yes
Westminster	Yes	Yes	Yes	Yes
Yorba Linda	Yes	Yes	Yes	Yes

1. Due to the financial impacts of the coronavirus pandemic, the MOE requirement was modified by the Orange County Transportation Authority's Board of Directors, for FY 2020-21. Local jurisdictions can meet either 1) the traditional MOE benchmark dollar amount; or 2) an MOE target that is based on the percentage of the MOE benchmark value of GFRs.

2. MOE was established in 1991 with the first Measure M Program using a five-year average of the level of funding local jurisdictions spent on streets and roads between 1985 and 1990. However, Orange County Public Works and their predecessor agencies received sufficient gas tax subventions and other transportation specific funding from state, federal, and other local sources, which were required to be used for transportation. As such, they did not and do not use discretionary funds for transportation purposes. The County uses a number of fund sources for transportation including gas tax subvention or Highway User Tax Account, federal grants, assessment districts, developer impact fees, and other transportation specific fund sources.

Acronyms

FY - Fiscal Year

GFR - General Fund Revenues

MOE - Maintenance of Effort

N/A - Not Applicable

COMMITTEE TRANSMITTAL

June 13, 2022

To: Members of the Board of Directors

From: Andrea West, Interim Clerk of the Board

Subject: South Orange County Multimodal Transportation Study Update

Regional Planning and Highways Committee Meeting of June 6, 2022

Present: Directors Chaffee, Delgleize, Foley, Harper, Muller, and Murphy
Absent: Director Bartlett

Committee Vote

No action was taken by the Committee on this item.

Staff Recommendation

Receive and file as an information item.

June 6, 2022

To: Regional Planning and Highways Committee

From: Darrell E. Johnson, Chief Executive Officer

Subject: South Orange County Multimodal Transportation Study Update

Overview

The Orange County Transportation Authority is conducting a long-range multimodal transportation study for the south Orange County area. Objectives of the study are to document transportation issues and opportunities, engage with key stakeholders, partner agencies, and the public to identify potential long-term multimodal solutions. A status report on the study is provided for information.

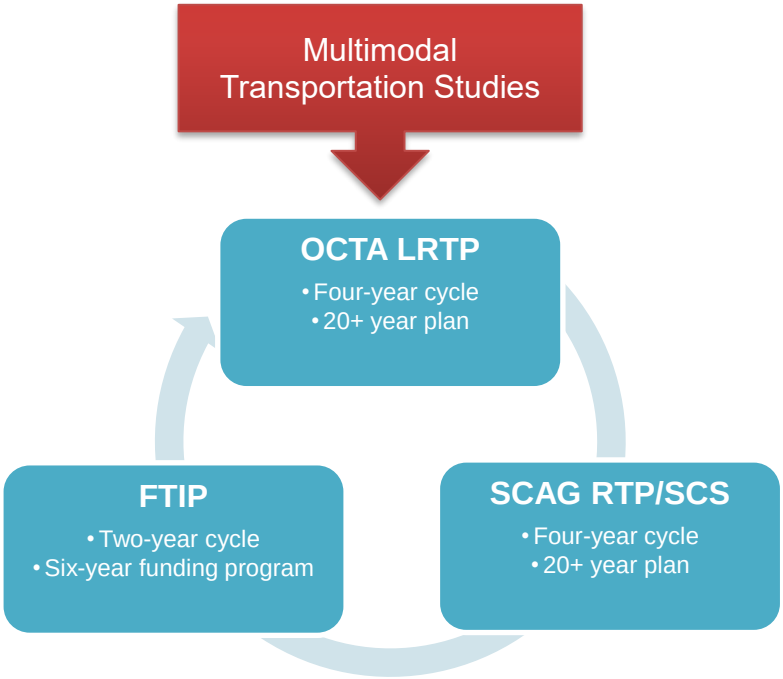
Recommendation

Receive and file as an information item.

Background

The Orange County Transportation Authority (OCTA) conducts planning studies to address the long-term transportation needs of Orange County. Multimodal transportation studies serve as the foundation of the long-range planning process by engaging stakeholders, providing focused analysis of corridor-specific transportation issues, and recommending a vision for the study area. This vision is often referred to as the locally preferred strategy (LPS).

Once a LPS is approved by the Board of Directors (Board), recommended improvements are considered for inclusion in the Long-Range Transportation Plan (LRTP) project list. This project list is then used as input for the Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS) developed by the Southern California Association of Governments (SCAG). Projects included in the RTP/SCS are then eligible to proceed through project-level development and can compete for state and federal funding and listing in the Federal Transportation Improvement Program (FTIP). This is summarized in the graphic on the following page.



Achieving consensus on an LPS involves local jurisdictions, transportation and environmental resource agencies, elected officials, residents, businesses, and other key community organizations in the study screening and decision-making processes. As such, the LPS recommendations represent a locally-supported vision for the study area's long-term transportation needs.

OCTA initiated a long-range multimodal transportation study for the south Orange County area in early 2020. In August 2020, February 2021, and September 2021, updates were provided to the Board on the South Orange County Multimodal Transportation Study (SOCMTS). The August 2020 item reviewed the study area (Attachment A), background, phasing, stakeholder and partner agency engagement approach, and study area transportation issues and opportunities. The February 2021 item reviewed the study Purpose and Need Statement (Attachment B) and the initial multimodal solutions. The September 2021 item addressed the initial screening of multimodal solutions and the development of a reduced set of multimodal solutions. The current update primarily focuses on the development of the multimodal vision alternatives.

Discussion

The study is being informed by the technical analysis of the transportation system in the study area, and refined through stakeholder, partner agency, and public input, as summarized below.

- Eight meetings (to date) of the Technical Working Group comprised of technical planning and public works staff from cities within the study area.

- Eight meetings (to date) of the Transportation Agency Working Group comprised of staff from the California Department of Transportation (Caltrans), the Transportation Corridor Agencies (TCA), SCAG, the San Diego Association of Governments, the Southern California Regional Rail Authority (Metrolink), the North County Transit District, the Federal Transit Administration, and the Federal Highway Administration.
- Individual agency meetings offered by OCTA and, to date, requested by and held with Caltrans, Metrolink, TCA, and the cities of Dana Point, Irvine, Laguna Beach, Laguna Hills, Laguna Niguel, Laguna Woods, and Newport Beach.
- Two city council presentations (to date) to the cities of Lake Forest and San Clemente.
- Two presentations to the South Orange County Economic Coalition.
- Three key stakeholder roundtables, three elected official roundtables, two public webinars, two virtual meeting rooms, one telephone town hall, and three online surveys.
- The online surveys, public webinars, and telephone town hall were promoted through a social media campaign, e-blasts, communications toolkit sent to cities and stakeholders, news releases, and to members of the Citizens Advisory Committee, Accessible Transit Advisory Committee, and Diverse Community Leaders group. Postcards printed in English and Spanish were mailed to low-income and disadvantaged communities with Mandarin, Korean, and Vietnamese interpretations offered.
- The telephone town hall included up to 350 callers, which also included a Spanish simulcast.
- The three online surveys were available in English, Spanish, Mandarin, Korean, Vietnamese, and through a project information telephone helpline, also available in multiple languages. A total of 360 surveys were collected from the first online survey and the results were provided to the Board as part of the February 2021 item. The second online survey received more than 1,700 responses and the results were provided to the Board as part of the September 2021 item. The third online survey received more than 310 responses and can be viewed in Attachment C.

Multimodal Vision Alternatives

Two multimodal vision alternatives (alternatives) with different mixes of multimodal solutions from earlier study phases have been analyzed. However, at the core of both alternatives are OCTA's current capital improvement programs and Measure M2 (M2) (countywide sales tax program for transportation improvements). Both alternatives also assume implementation of three near-term south Orange County projects: the extension of Los Patrones Parkway as a non-tolled facility from Cow Camp Road to Avenida La Pata, widening and restriping of Ortega Highway between Calle Entradero and

Reata Road, and the southern extension of carpool lanes on Interstate 5 (I-5) from Avenida Pico to the San Diego County Line.

The assumptions for each of the multimodal solutions that comprise the multimodal vision alternatives are summarized below. These represent conceptual strategies being used to form the long-term vision for south Orange County. They are not intended as specific recommendations on locations, boundaries, or service levels. These details are anticipated to be developed in subsequent studies that will work to advance the strategies from the SOCMTS LPS vision to implementation.

- Roadway infrastructure and operational improvements: Assumptions for this multimodal solution include traffic signal synchronization, transportation systems management and operations, active traffic management strategies, intelligent transportation systems, and integrated corridor management. Such improvements would entail the installation of upgraded technologies and operational programs to improve efficiencies of the existing roadway system and accommodate evolving technologies including for connected and autonomous vehicles.

- Bottleneck improvements: This multimodal solution includes two potential projects intended to improve traffic flows on I-5, with one project through the City of Irvine and one project through the City of San Clemente. The first project would braid the southbound State Route 133 ramp to the southbound I-5 with the off-ramp to Alton Parkway from southbound I-5. The second project would add a truck climbing lane on northbound I-5 from Avenida Pico to Avenida Vaquero. Both projects were considered for inclusion based on the potential ability to add within the existing freeway right-of-way. Additional analysis, including coordination with the ongoing environmental analysis of the I-5 high-occupancy vehicle (HOV) lane project between Avenida Pico and the San Diego County Line, will be required to ensure that community impacts can be addressed. OCTA is also in the process of conducting a Freeway Chokepoint Improvement Study, which may identify additional or different bottleneck improvements in south Orange County. Future implementation efforts will refine freeway bottleneck improvements.

- HOV lane operations: Given current congestion levels identified in the HOV lane system countywide, operations may need to change to meet federal performance requirements. Consistent with the 2018 Long-Range Transportation Plan and for long-range planning purposes, it was assumed that Caltrans will consider converting degraded HOV2+ (minimum carpool occupancy of two persons) lanes to tolled express lanes (or HOT3+). Qualified carpools (HOV3+); minimum occupancy of three persons) would continue to ride for free and other drivers could access the lane by paying a toll when additional capacity is available. This

ensures reliable travel and increases average vehicle occupancy by encouraging carpooling and vanpooling while meeting federal performance standards. A phased approach would likely be taken for actual implementation based on more detailed studies, analyses, and public engagement of options along each corridor in the future.

- High-frequency transit: The assumptions for high-frequency transit are comprised of three components: Metrolink passenger rail, freeway bus rapid transit, and high-frequency OC Bus service. The Metrolink service levels assume additional rail capacity north of the Laguna Niguel/ Mission Viejo Metrolink station with 30-minute all-day service north of the station and hourly service south of it. Two freeway bus rapid transit routes are assumed. The I-5 service would operate between the Fullerton Park-and-Ride and the Laguna Niguel/Mission Viejo Metrolink station. The State Route 55 corridor would operate between the Santa Ana Regional Transportation Center and Hoag Hospital. Both routes are assumed to operate on a 15-minute frequency. For OC Bus service, the Making Better Connections Study (the bus restructuring effort) will address near-term OC Bus service levels. To help establish the long-term vision, service enhancements were assumed for higher ridership OC Bus routes consistent with the high-frequency transit vision identified in OCTA's Transit Master Plan.

- Local circulators / shuttles: Regular and seasonal beach shuttle and trolley services have been successful in several South County communities. Therefore, the continuation of funding programs (M2 Project V) to cities and communities to operate circulators and shuttle services to meet local demands and to integrate with other multimodal solutions addressed herein was assumed.

- Micro-transit: Using demographic information and forecasted travel flow patterns, a series of potential micro-transit service areas were tested for establishing the long-term vision. Each potential micro-transit service area was compared to what is known about the success drivers behind the existing OC Flex service to determine the likely success of each area for potential micro-transit service. While support for micro-transit services like OC Flex or SC Rides is high, potential expansion of micro-transit service in south Orange County would likely need to occur in phases due to limited resources and technology constraints (e.g., vehicle automation, etc.). The assumptions for micro-transit service include the continuation of the existing Aliso Viejo-Laguna Niguel-Mission Viejo OC Flex service but otherwise, there is not a specific recommendation on locations, boundaries, or service levels. Future implementation efforts will define locations, service levels, and potential priorities.

- Mobility Hubs: Mobility hubs provide enhanced amenities for emerging mobility services and provide access to a variety of first and last mile travel modes. Assumptions for this multimodal solution include three mobility hub typologies: regional hubs located at transit centers and regional activity centers (such as high-density commercial centers), local hubs located at centers that are more typical of routine daily activities, and neighborhood hubs located at recreational areas and along active transportation pathways. The location and distribution of assumed mobility hubs of each type were based on linkages to the micro-transit service areas described above and the potential suite of first and last mile services at each location considering connecting transit service, infrastructure connectivity, and surrounding land-uses. OCTA is currently conducting a separate mobility hub study that will consider countywide implementation priorities. An update is planned for Board review in summer 2022.

- Active transportation: Using trip information from OCTA's travel demand model, South County areas with high active transportation trip potential were identified for potential active transportation infrastructure enhancements. It was assumed that all trips under three miles are potential active transportation trips. Areas with greater shares of shorter trips (less than three miles) were assumed to receive enhanced active transportation investments, particularly if it increased access to micro-transit services and mobility hubs. The active transportation improvement network is assumed as a "slow streets network" with street capacity for active transportation and neighborhood electric vehicles. These traffic-calmed facilities may take multiple forms as local jurisdictions determine the exact design of these corridors and what is most appropriate for each community.

- Transportation Demand Management (TDM): Assumptions for the TDM measures include strategies applicable to south Orange County, such as support for telework (e.g., work-from-home), support for carpool/vanpool/ schoolpool, and transit subsidies. The TDM measures considered are aimed at reducing roadway congestion and demand by redistributing trips to alternative modes of travel, times outside of the peak period, and/or along less congested travel routes.

Based on the Purpose and Need Statement, performance measures were developed to consider what a successful multimodal transportation system in south Orange County in the year 2045 would look like. Key performance measures include:

- Reducing delay or overall traffic congestion,
- Reducing greenhouse gas (GHG) emissions and improving air quality,
- Reducing the miles traveled by vehicle on a per capita basis, and
- Increasing the share of trips taken by carpool, transit, biking or walking versus driving alone.

Ongoing analysis of the multimodal vision alternatives (with the assumptions noted above) suggest that the alternatives meet and exceed targets for reducing delay and GHG and air pollutant emissions. Depending on assumptions included in the multimodal vision alternatives (e.g., level of TDM investments), some options meet and exceed the targets for vehicle miles traveled reduction while others are close to meeting the target. All alternatives evaluated to increase the share of trips taken by carpool, transit, walking, and bicycling. However, more (e.g., greater incentives, changes in trip origins and destinations, etc.) is needed to hit the target set for reducing the share of driving alone trips.

In addition to the performance measures noted above, an equity and cost effectiveness analysis are under development.

Next Steps

During the next few months, OCTA will engage with stakeholders and partner agencies to consider the final analysis on the multimodal vision alternatives as input into the development of the LPS. Consistent with the Purpose and Need Statement, these recommended long-range multimodal strategies will include improvements and policies that enhance travel choices, manage growing travel demand, address sustainability issues, and consider the implications of the coronavirus and possibilities of emerging technologies on mobility in the study area. The investments and policies will support convenient, competitive, and effective travel options beyond driving alone. It will also address the travel needs of disadvantaged communities and transit-dependent populations and will be appropriate for implementation in south Orange County.

Summary

OCTA is developing strategies to improve travel in south Orange County. Study progress is presented for Board review. Technical analysis, in conjunction with input from stakeholder and public engagement efforts, will guide the development of the LPS and be brought to the Board for consideration later this year.

Attachments

A. South Orange County Multimodal Study Area
B. South Orange County Multimodal Transportation Study Purpose and Need Statement
C. South Orange County Multimodal Transportation Study, Public Involvement Program, Phase 3 Report

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ATTACHMENT A

South Orange County Multimodal Study Area

ATTACHMENT B

South Orange County Multimodal Transportation Study
Purpose and Need Statement

The Purpose and Need Statement summarizes the existing and future transportation challenges in the study area (which is illustrated in Attachment A) and the desired study outcomes. The Purpose and Need Statement provides the basis for defining multimodal solutions for consideration, comparing multimodal vision alternatives, and ultimately for selecting a locally preferred strategy for south Orange County. The Purpose and Need Statement is summarized in the following table.

Need	Purpose
Make public transit, bicycling, and walking more convenient and accessible	• Increase availability of transit service and infrastructure for bicycling and walking • Provide convenient connections between different travel modes (e.g., transit and bicycling) • Coordinate with land-use development
Decrease the overall number of trips made each day	• Reduce overall travel demand • Enhance transportation safety and efficiency • Better utilize available freeway lanes, carpool lanes (high-occupancy vehicle lanes), and street space
Protect the environment and preserve transportation infrastructure	• Increased zero-emission vehicles • Improve access to clean, affordable travel options • Preserve transportation infrastructure from natural disasters • Minimize adverse environmental impacts
Adapt to new transportation technologies and services	• Consider autonomous vehicles and electric charging infrastructure • Pursue proven technologies • Support equity and innovation • Support telework strategies

ATTACHMENT C

South Orange County Multimodal Transportation Study

Public Involvement Program
Phase 3

April 2022

Prepared by:

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Appendix D.4 Eblast #1 — Virtual Community Meeting, Survey and Virtual Meeting Room Invite

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APPENDIX E Local Community Events

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Appendix E.3 San Juan Capistrano's Spring Eggstravaganza Photos

EXECUTIVE SUMMARY

The Orange County Transportation Authority (OCTA) recently completed the third and final phase of public involvement for the South Orange County Multimodal Transportation Study (**Study**). The Study is looking at a wide range of transportation needs and solutions in south Orange County beyond 2045, including improvements to streets, bus and other transit options, highways and bikeways. As part of this Study, OCTA has implemented a comprehensive Public Involvement Program (**PIP**) which included outreach during the three different Study phases. Phase One of the PIP took place in fall 2020 and Phase Two took place in summer 2021. Each phase included engagement with stakeholders, residents, and elected officials as well as a survey. Among Phase One and Phase Two survey findings, the respondents said that they would like to see:

Phase One

- Reduction in traffic congestion
- Increase frequency and accessibility of multimodal transportation
- Increase safety and efficiency for all modes of travel

Phase Two

- Increase availability of and improvements to public transit/ rail
- Provide more alternatives to driving and enhance accessibility (light rail, trolleys, biking, walking, mass transit, etc.)
- Offer flexible roadway pricing based on demand
- Not adding more toll roads
- Focus on current roads and freeways to expand, improve and better connect paths for active transportation (pedestrian, bicycle, etc.)

Phase 3 Public Engagement Approach

Phase Three of the PIP took place in winter/spring 2022 and included a virtual stakeholder roundtable, virtual elected official's roundtable, a virtual community meeting with a call-in feature for those without access to the internet, and a Virtual Meeting Room (VMR). The VMR simulated an in-person meeting with project boards and a feedback station and allowed participants to join at their convenience. In addition, a survey was conducted which was designed to assess the public's priorities on draft strategies and transportation solutions in south Orange County. The online survey was available March 14 to April 15, 2022. The engagement methods to distribute information about the survey included various channels such as emails, postcards mailed specifically to low-income and disadvantaged communities, a communications toolkit sent to cities and stakeholders, targeted geofencing advertisements, the OCTA Facebook and Twitter accounts, and attendance at local community events.

To align with OCTA's diversity, equity, and inclusion goals, several outreach tactics were implemented in an effort to engage diverse and hard-to-reach communities to encourage meaningful engagement with all people regardless of ethnicity or socioeconomic backgrounds. An online survey and fact sheet were translated into Spanish, Vietnamese, Korean, and

Mandarin. In addition, a helpline was available for people who prefered to call or do not have internet access so they could leave comments and ask questions. Postcards were also mailed to targeted disadvantaged and low-income communities in the South County area so they received information about the survey, helpline number and public meeting. Two local community events were also attended where the project team hosted an informational booth with the survey available in multiple languages and printed fact sheets in English and Spanish.

Communications toolkits were sent to all south Orange County cities, key stakeholders, local churches, school districts, higher education facilities and OCTA's Citizens Advisory Committee, Accessible Transit Advisory Committee and Diverse Community Leaders Group. Targeted Facebook and geofencing ads were also placed in the aforementioned multiple languages.

Public Engagement Survey

The survey research was qualitative, which means that results cannot be considered representative of the total population of interest. Informal research methods are useful to explore a group's opinions and views, allowing for the collection of verifiable data. This data can reveal information that may warrant further study and is often a cornerstone for generating new ideas.

The survey accomplished the following objectives:

- Solicited public input on draft transportation alternatives to include in the study findings report which will include a general analysis of survey results and general comments provided
- Disseminated study information and the printed and online survey to the general public

A total of 1,137 individuals visited the website (all languages combined), and 313 surveys were collected (307 English, 6 Spanish).

Key Findings

Phase 3 survey respondents further prioritized the various proposed strategies developed from participant feedback gathered in Phases 1 and 2 of the study to improve future transportation and mobility challenges within south Orange County. From the 300+ survey respondents – who reflect a wide range of demographics and preferences – a majority would like OCTA to:

- Improve bike and pedestrian pathways
- Increase frequency and accessibility of bus and train services

The summary below presents the top-ranked results related to participants' priorities on proposed transportation and mobility strategies, improvements and goals. See Appendix B for the full survey results.

Table 1: Summary of Key Findings

Survey Question	Top Ranked	Second Ranked	Third Ranked
1. Recognizing that future funding is limited, rank the following types of transportation services for funding priority. (Rank from highest to lowest priority.)	Improved bike and pedestrian paths/trails and bike amenities **26%**	More frequent and reliable train service **22%**	More frequent and reliable bus service **20%**
2. Choosing a non-car travel option can help reduce emissions and congestion. Prioritize the following in order of how likely you would consider a non-car travel option. (Rank from most to least likely.)	Increased walking and biking safety measures, including separation from vehicle traffic **24%**	Universal fare pass that works across multiple transportation services **21%**	Easy connections between multiple transportation services (such as Metrolink to bikeshare) **19%**
3. Providing a safe and comfortable environment for all people who use the street is one way to encourage more walking, bicycling, and transit ridership. How important are the following for creating safe and easy-to-use streets? (Ranked from very important to unimportant.) *	Sidewalks wide enough to allow pedestrians to walk comfortably, separated from traffic. **70%**	Bicycle lanes/paths that are safe for riders of all ages and experience levels. **69%**	Street roundabouts, curb extensions, and other elements that increase safety for pedestrians and bicyclists. **43%**
4. Various incentives are being considered to encourage use of travel options other than driving alone. How likely would the following incentives encourage you to consider alternative travel options? (Ranked from definitely to definitely not) *	Metrolink and bus pass subsidies **42%**	Telework subsidies **36%**	Microtransit/shared ride (OC Flex and Uber/Lyft) subsidies **24%**
5. Assume in the future that you are charged $10 per day to park your car when driving alone to work/school. How likely would you consider the following alternative options to avoid paying to park? (Ranked from definitely to definitely not)*	Telework **47%**	Walk or bike **35%**	Take transit (such as Metrolink and bus) **32%**

*Percentages do not equal 100% because each question was ranked.

OUTREACH OVERVIEW

Through the various outreach methodologies, public input was collected and the online survey was successfully distributed to a wide target audience. Refer to Table 2 for an overview of the distribution channels.

Table 2: Summary of Outreach

#.	Notification Method	Audience	Notes

1.	Aliso Viejo Farmers Market
	Saturday, April 2, 2022
	8:00am-12:00pm
		• Local residents and stakeholders	• Surveys: 8
			  ○ 6 iPad surveys
			  ○ 2 QR code surveys
			• People talked to: 20
			• Spanish speakers: 0

2.	San Juan Capistrano's Spring Eggstravaganza
	Saturday, April 9, 2022
	10:00am-12:30pm
		• Local residents and stakeholders	• Surveys: 8
			  ○ 1 paper survey
			  ○ 2 iPad surveys (1 English, 1 Spanish)
			  ○ 6 QR code surveys
			• People talked to: 26
			  ○ Spanish speakers: 5

3.	Community Meeting/Survey Postcard	• Low-income community • Disadvantaged community • Stakeholder database (including Phase 1 and Phase 2 participants, community organizations, city staff, major businesses, and facilities, etc.)	• Mailed postcards to over 13,300 stakeholders (English/ Spanish; interpretation was offered in Korean, Mandarin and Vietnamese) • Featured on project webpage

4.	Facebook Ads (also distributed through Facebook Messenger and Instagram) and Facebook Posts
	• 11 Facebook Ads
	• 2 Regular Posts
		• South Orange County
		• Zip codes with a high Spanish, Korean, Vietnamese and Mandarin Population
			• English Ads Statistics (3)
			  ○ Total Reach: 9,148
			  ○ Total Link Clicks: 113
			• Spanish Ads Statistics (2)
			  ○ Total Reach: 5,349
			  ○ Total Link Clicks: 94
			• Korean Ads Statistics (2)
			  ○ Total Reach: 4,664

#.	Notification Method	Audience	Notes
			○ Total Link Clicks: 36 • Vietnamese Ads Statistics (2) ○ Total Reach: 5,504 ○ Total Link Clicks: 58 • Mandarin Ads Statistics (2) ○ Total Reach: 5,022 ○ Total Link Clicks: 43 • English Regular Post Statistics (2) ○ Total Reach: 457 ○ Total Engagements: 6
5.	Twitter Posts	• OCTA Twitter Followers and General Public	• 2 Posts ○ Total Retweets: 7 ○ Total Likes: 8
6.	Geofencing Ads	• South Orange County • Zip codes with a high Spanish, Korean, Vietnamese and Mandarin Population	• English/Spanish Statistics ○ Total Impressions: 270,304 ○ Total Clicks: 334 • English/Korean Ads Statistics ○ Total Impressions: 25,140 ○ Total Clicks: 39 • English/Vietnamese Ads Statistics ○ Total Impressions: 25,059 ○ Total Clicks: 46 • English/Mandarin Ads Statistics ○ Total Impressions: 56,573 ○ Total Clicks: 67
7.	Communications Toolkit	• South county cities and the County	• Provided instructions to distribute the survey via electronically to the

#.	Notification Method	Audience	Notes
		• OCTA's Citizen's Advisory Committee, Accessible Transit Advisory Committee, and Diverse Community Leaders Group • Transportation partners • Environmental Community • HOAs • Chambers of Commerce • Churches • Schools and School Districts	stakeholder's constituents.
8.	Digital • Email Blasts • OCTA On the Move blog • Linking to project website and survey	• Stakeholder database (including Phase 1 and Phase 2 participants, HOAs, community organizations, city staff, major businesses, and facilities, etc.)	• Eblast distributed to stakeholder database (over 1,300 stakeholders) and OCTA customer database (36,540). • Blog article distributed to 12,700 readers
9.	Announcement at meetings	• Stakeholder Roundtable • Technical Working Group meetings • Transportation Agency Working Group Meetings • OCTA's Citizen's Advisory Committee and Diverse Community Leaders Group • Virtual Community Meeting • Elected Officials Roundtable	• Survey link was provided at each meeting
10.	Virtual Meeting Room	• South Orange County • Stakeholder database (including Phase 1 and Phase 2 participants,	• 74 users, with an average of 1 minute and 21 seconds of engagement time per session

#.	Notification Method	Audience	Notes
		HOAs, community organizations, city staff, major businesses, and facilities, etc.)	• 4 registrations and 1 comment form completed • Open for the entirety of Phase 3 • Survey link provided in VMR

Survey Format

The Phase 3 survey was offered in English, Spanish, Mandarin, Korean, and Vietnamese to accommodate the south Orange County population demographics. An online survey was created using Typeform to provide participants the opportunity to personally rank the importance of proposed strategies and garner more qualitative responses. The survey had a total of 5 detailed questions that focused on prioritizing the transportation strategies based off the study's results from Phases 1 and 2. Participants also were asked to enter their work site and home zip code. These questions were optional.

The survey concluded with optional demographic questions related to age, ethnicity, and location, as well as a sign-up to receive project updates and a link to the study's website. Participants were able to take the survey via desktop or mobile device.

Survey Outreach

Several channels were utilized to notify the south Orange County community of the survey. The engagement methods included targeted advertisement through geofencing and Facebook, mailed postcards, online tools, social media, and communication toolkits distributed to cites, churches, school districts and stakeholders within the project area. Reference Appendix D for all outreach efforts.

Geofencing, a location-based online advertising tool, was utilized to promote the survey to a wide audience and allowed the Project Team to focus on specific south Orange County zip codes to ensure the survey reached the target audience. Bilingual advertisements were promoted in Spanish, Mandarin, Korean, and Vietnamese. The multilingual geofencing ad campaign led to 377,076 impressions, which is the indicator of how many users viewed the ad. These impressions led to an overall clickthrough rate (CTR) of .13% in one month compared to an industry average of 2% which is accumulated over multiple months. In relation to geofencing, the CTR is the ratio showing how often individuals who viewed the study's ad ended up clicking on it. The ad campaign's CTR resulted in a total of 486 clicks. The number of clicks is the measurement of how many people engaged with the ad. See Appendix C for the geofencing raw data results.

The virtual meeting room provided a supplementary interactive experience for those interested in the study. Participants could learn more about the study, submit comments, register for future project updates, and access the study's survey link. OCTA's Study VMR gave south Orange County residents an additional opportunity to provide more feedback outside of the survey format. The VMR was promoted along with the survey in social media posts, advertisements, and email outreach. The Virtual Meeting Room had a total of 74 users with an average time per session of one minute and twenty-one seconds.

Additionally, two in-person local community events were attended in the cities of Aliso Viejo and San Juan Capistrano to further disseminate the survey. The survey was offered through a presentation board with a QR code for participants to scan, displayed on iPads, and as hard copy (English) versions. At these events, staff educated interested parties on the project and encouraged attendees to take the survey, sign-up to be included on the project email list, and take a project fact sheet. All print surveys gathered at the events were entered by staff into the online survey. Reference Appendix E for all photos and the survey presentation board.

Figure 1: San Juan Capistrano Spring Eggstravaganza

SURVEY RESULTS ANALYSIS

The survey results were analyzed based on the 313 responses collected from the 5-question survey.

Geographic Distribution

Over half of the survey respondents indicated they both lived and worked in south Orange County.

Home Zip Code

Out of the 313 surveys collected, 93% of the respondents shared their home zip code (290) and 66% of those respondents shared they live within the project area as shown in Figure 2. 29% of the respondents indicated their home zip code was outside of the project area but still within Orange County, the majority being east of the project area (in Ladera Ranch) with some respondents immediately adjacent to the west of the project area in Costa Mesa, Santa Ana and Tustin. There was a higher concentration of survey participants in San Juan Capistrano, San Clemente, Mission Viejo and the Laguna Woods, Aliso Viejo area. Overall, the collected responses were spread throughout the entire project area, especially when combined with the work zip codes.

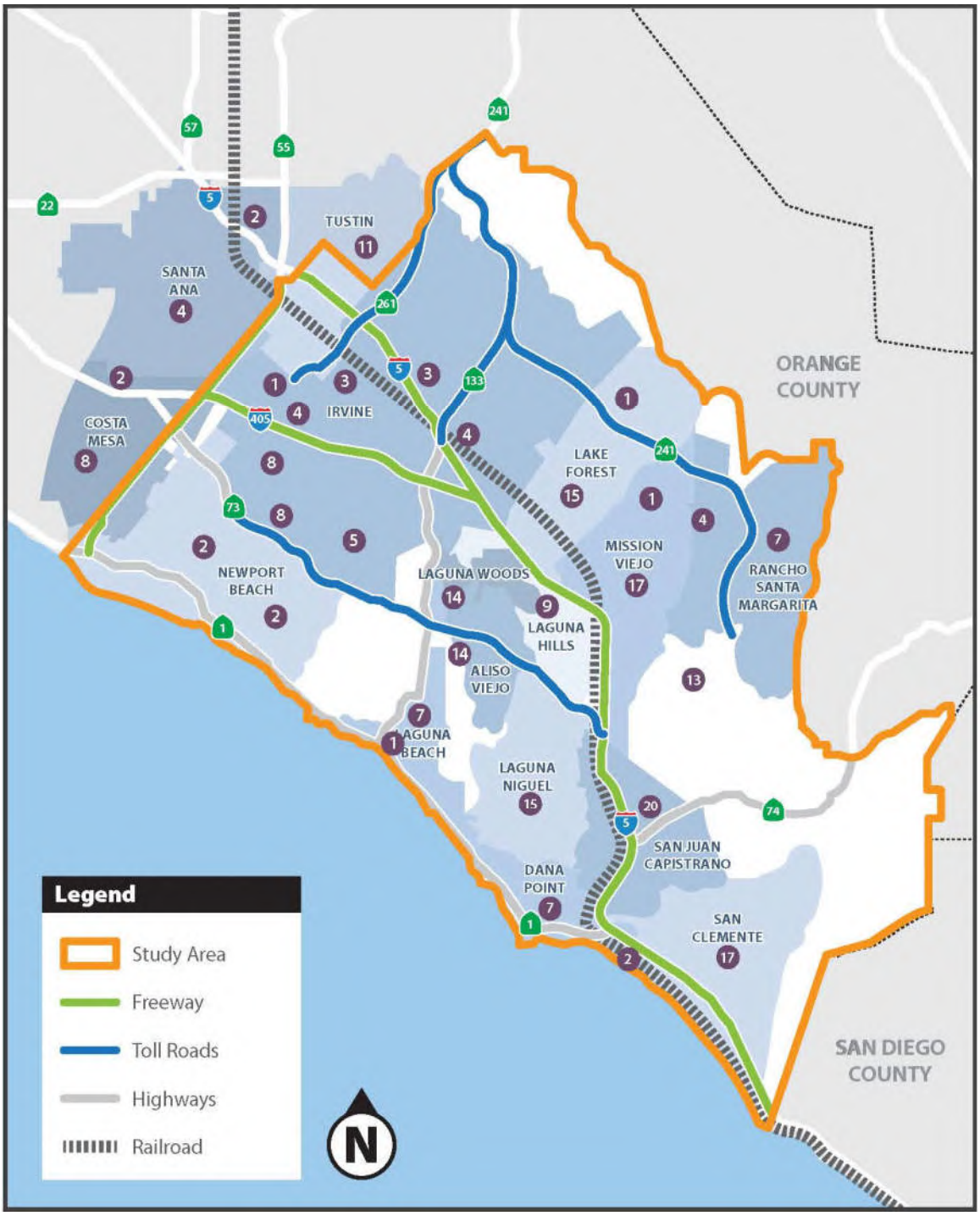


Figure 2: Survey Respondents - Home Zip Code

Work Zip Code

79% of the survey respondents (247) indicated their work zip code and from these respondents, 62% indicated their work zip code is within the project area. There was a higher concentration of survey participants in San Juan Capistrano, San Clemente, the south Irvine area, and Aliso Viejo.

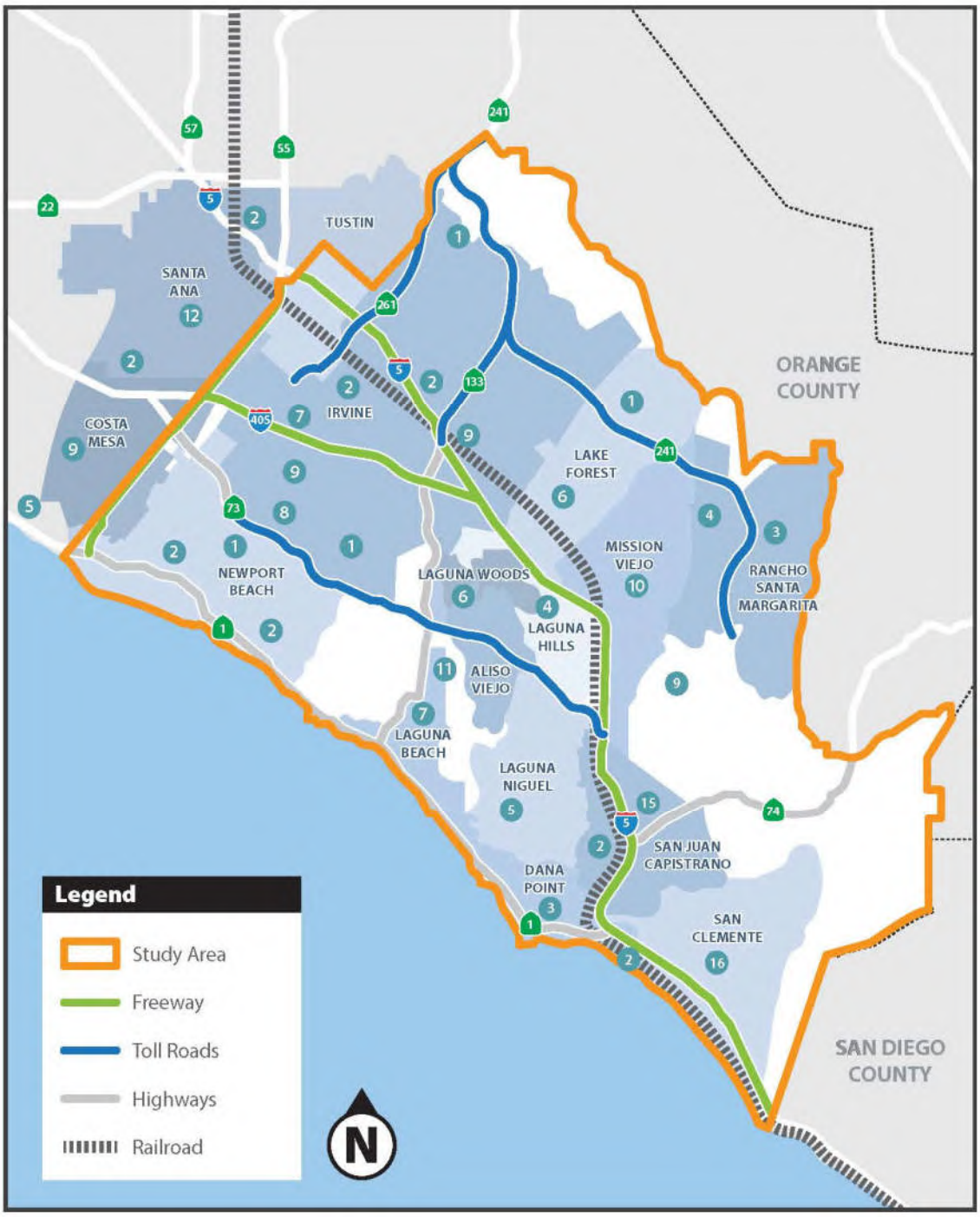
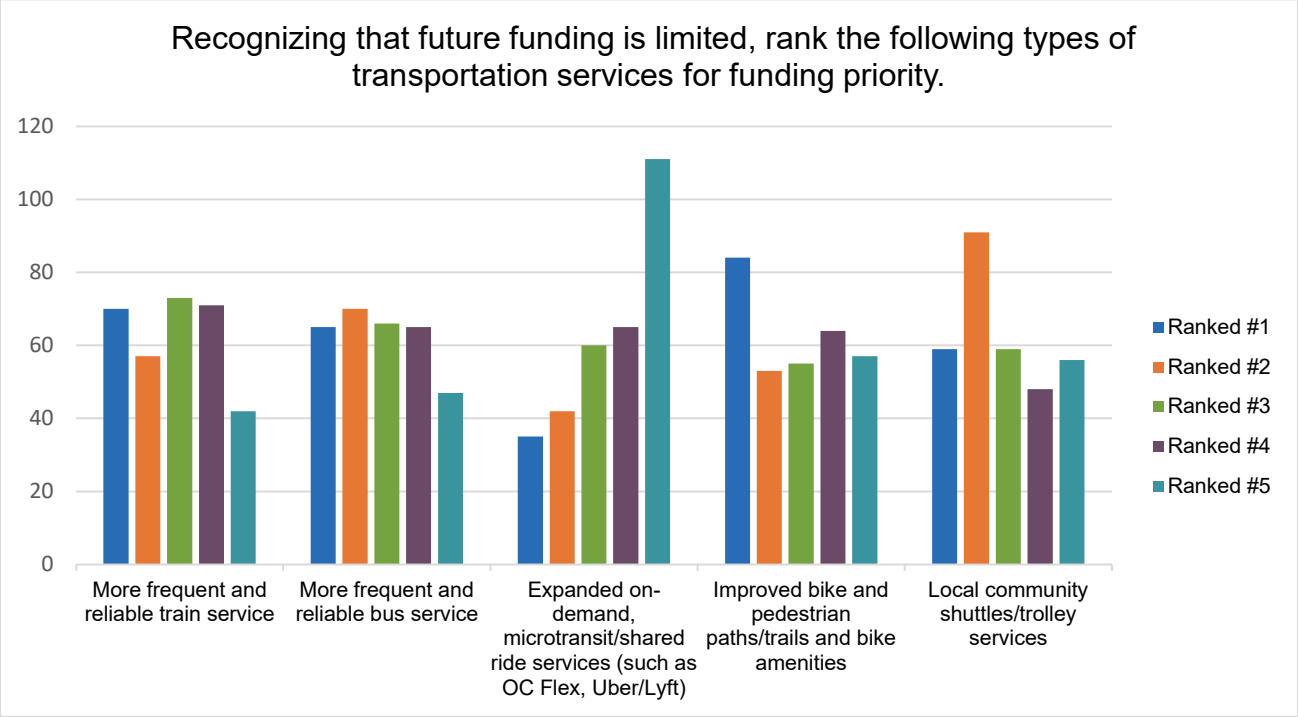


Figure 3: Survey Respondents - Work Zip Code

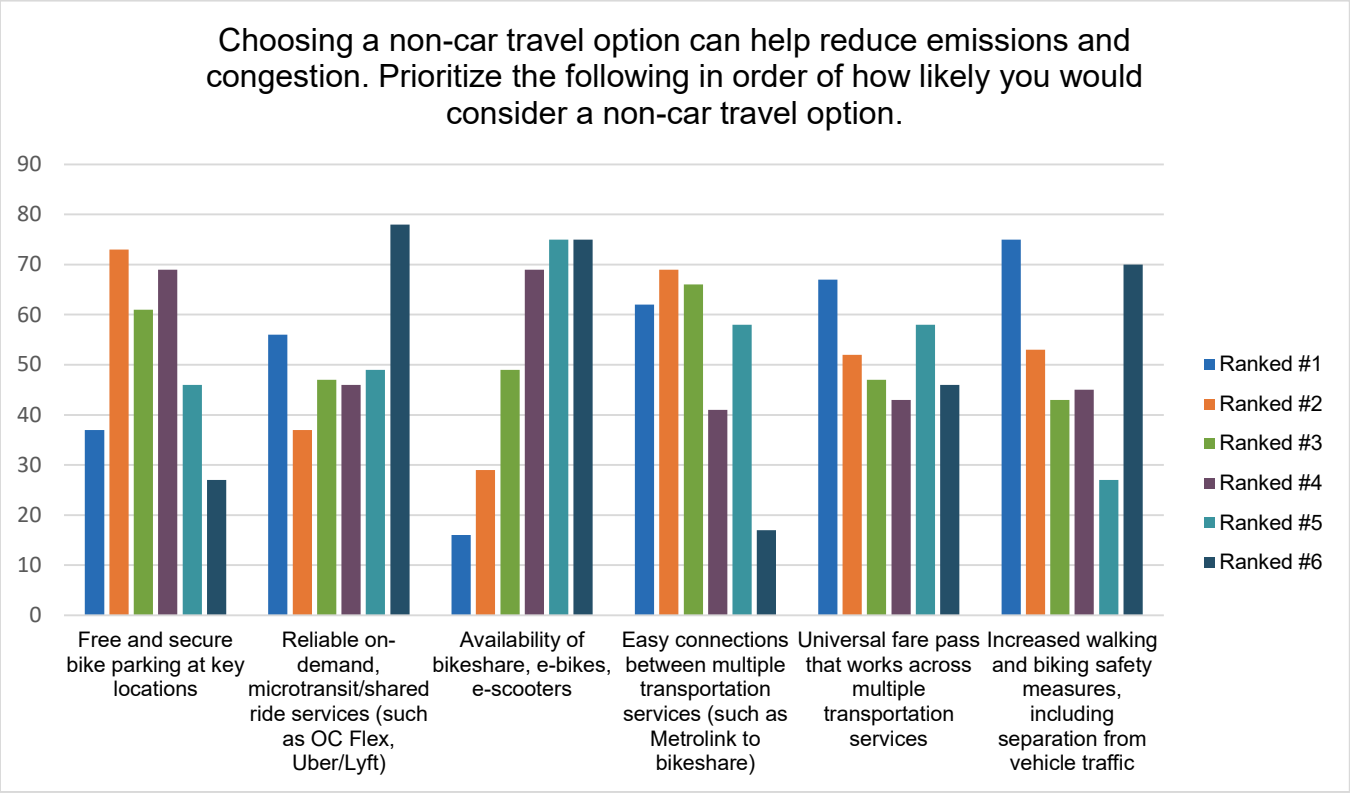
Priority Ranking

The first survey question asked participants to rank the types of transportation services for funding priority. The table below gives an overview of how many times each option was ranked by each priority level. Overall, the option "Improved bike and pedestrian paths/trails and bike amenities" was ranked first the greatest number of times, revealing this was the most valued transportation service.



	More frequent and reliable train service	More frequent and reliable bus service	Expanded on-demand, microtransit/ shared ride services (such as OC Flex, Uber/Lyft)	Improved bike and pedestrian paths/trails and bike amenities	Local community shuttles/trolley services
Ranked #1	70	65	35	**84**	59
Ranked #2	57	70	42	53	91
Ranked #3	73	66	60	55	59
Ranked #4	71	65	65	64	48
Ranked #5	42	47	111	57	56

The second priority ranking question focused on travel options that would help reduce emissions and traffic congestion. This question had participants prioritize the stated options by how likely they would consider the non-car travel options. Data shows that "Increased walking and biking safety measures, including separation from vehicle traffic" was the non-car travel option participants would most likely use, followed by a "Universal fare pass that works across multiple transportation services".

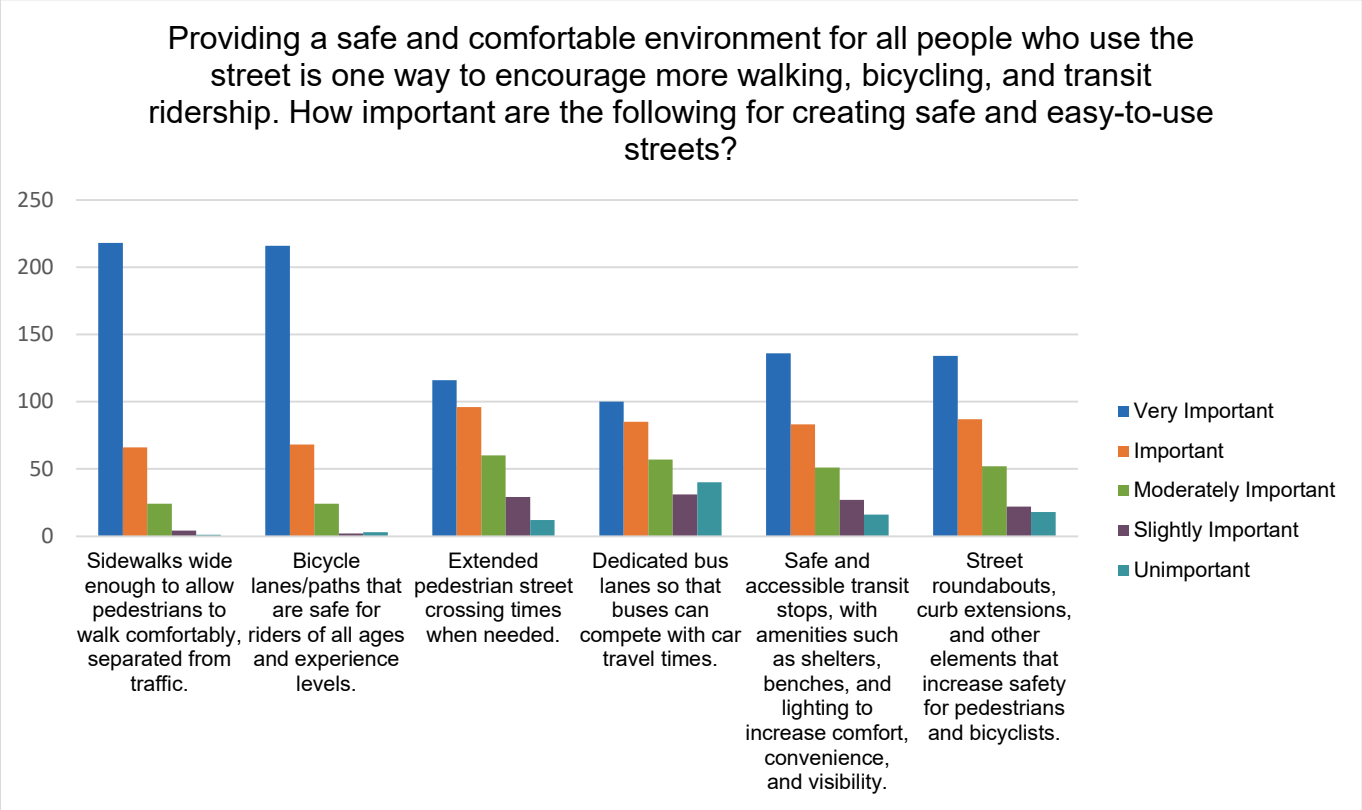


	Free and secure bike parking at key locations	Reliable on-demand, microtransit/ shared ride services (such as OC Flex, Uber/Lyft)	Availability of bikeshare, e-bikes, e-scooters	Easy connections between multiple transportation services (such as Metrolink to bikeshare)	Universal fare pass that works across multiple transportation services	Increased walking and biking safety measures, including separation from vehicle traffic
Ranked #1	37	56	16	62	67	**75**
Ranked #2	73	37	29	69	52	53
Ranked #3	61	47	49	66	47	43
Ranked #4	69	46	69	41	43	45
Ranked #5	46	49	75	58	58	27
Ranked #6	27	78	75	17	46	70

Value Matrix

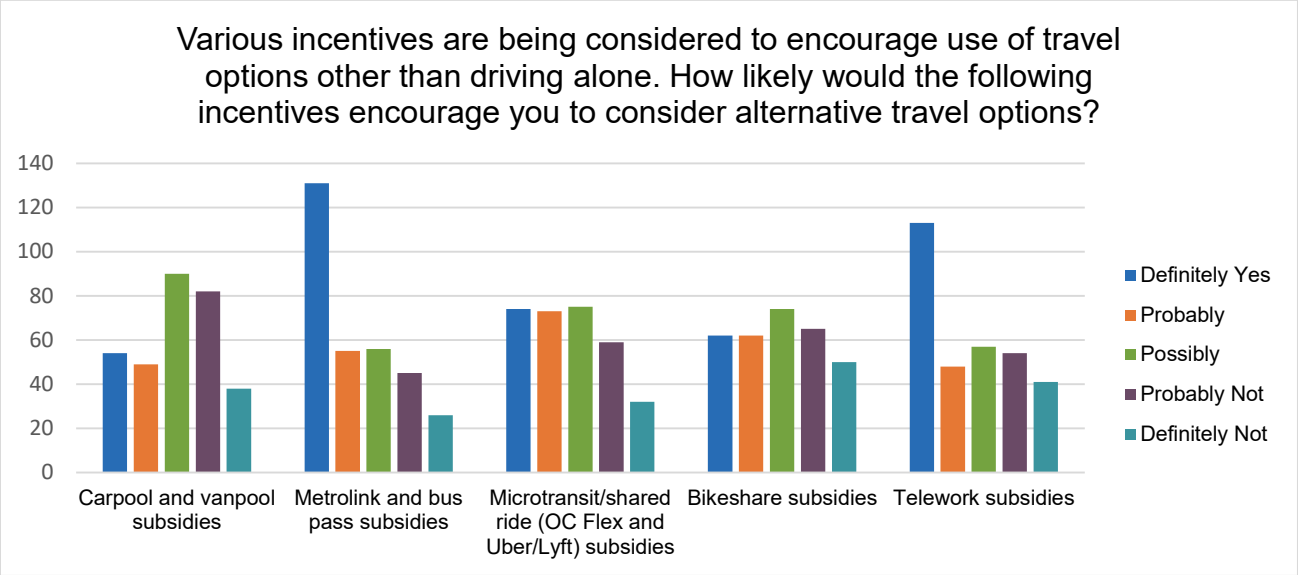
For the next three questions, participants were asked to individually assign a value to several options. Depending on the question, participants would assign a value based on a scale ranging from “very important” to “unimportant” or “definitely” to “definitely not”. The rating of each option reveals the level of priority respondents believe each strategy should possess.

The first question inquired how important certain transportation features are for creating safe and easy-to-use streets, to encourage more walking, bicycling, and transit ridership. For this question, surveyors most valued “Sidewalks wide enough to allow pedestrians to walk comfortably, separated from traffic” and “Bicycle lanes/paths that are safe for riders of all ages and experience levels”.



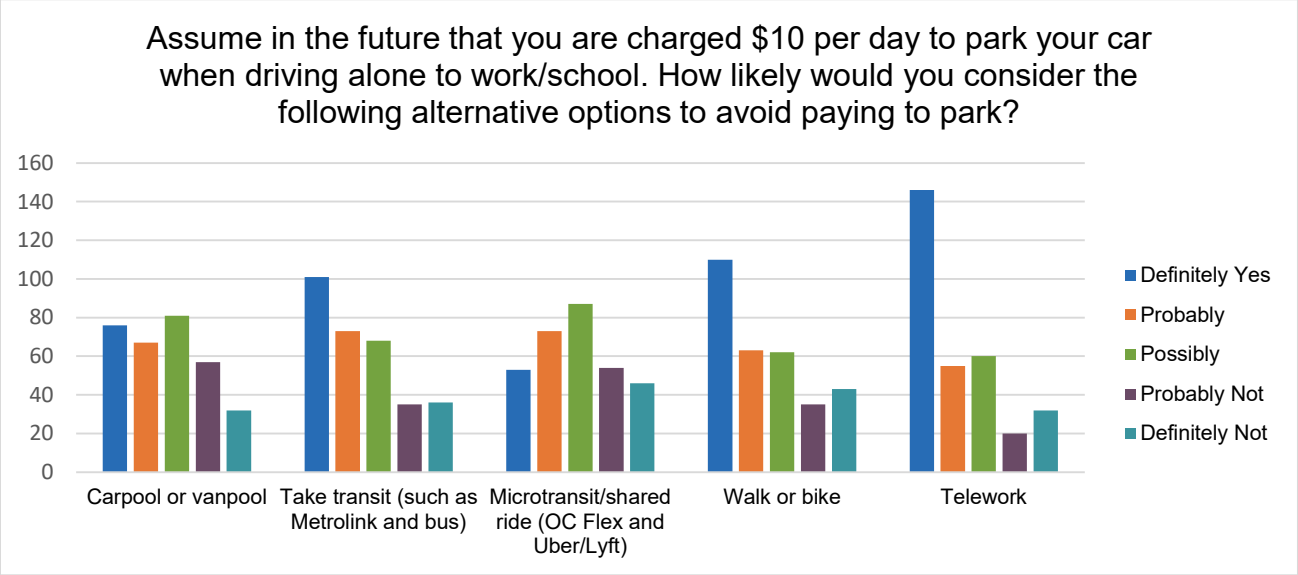
	Sidewalks wide enough to allow pedestrians to walk comfortably, separated from traffic.	Bicycle lanes/paths that are safe for riders of all ages and experience levels.	Extended pedestrian street crossing times when needed.	Dedicated bus lanes so that buses can compete with car travel times.	Safe and accessible transit stops, with amenities such as shelters, benches, and lighting to increase comfort, convenience, and visibility.	Street roundabouts, curb extensions, and other elements that increase safety for pedestrians and bicyclists.
Very Important	**218**	216	116	100	136	134
Important	66	68	96	85	83	87
Moderately Important	24	24	60	57	51	52
Slightly Important	4	2	29	31	27	22
Unimportant	1	3	12	40	16	18

The second value matrix question covered the topic of multimodal transportation incentives to reduce individual car driving. Based on a scale of “definitely” to “definitely not,” participants chose how likely the stated incentive would encourage them to consider alternative travel options. Data shows that participants would most likely be encouraged by “Metrolink and bus pass subsidies” and “telework subsidies”.



	Carpool and vanpool subsidies	Metrolink and bus pass subsidies	Microtransit/shared ride (OC Flex and Uber/Lyft) subsidies	Bikeshare subsidies	Telework subsidies
Definitely Yes	54	**131**	74	62	113
Probably	49	55	73	62	48
Possibly	90	56	75	74	57
Probably Not	82	45	59	65	54
Definitely Not	38	26	32	50	41

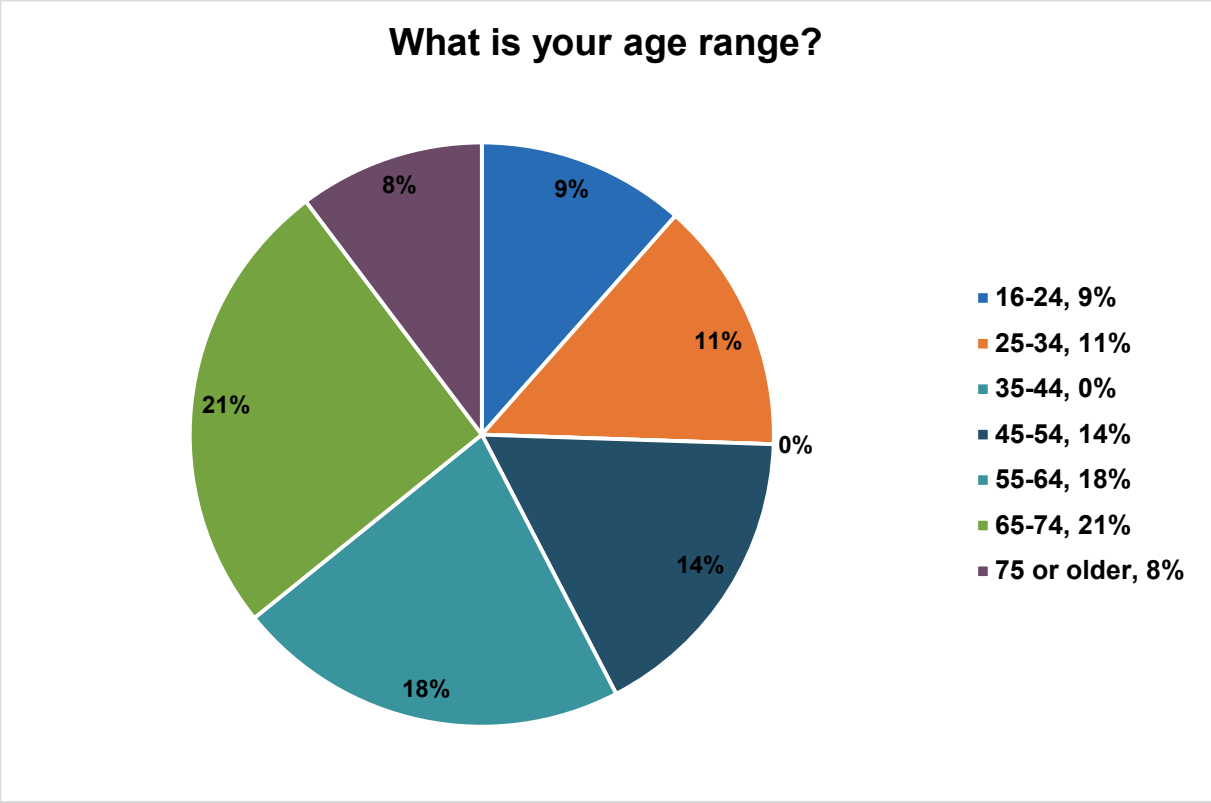
Finally, participants were asked to assume in the future that they are charged $10 per day to park their car when driving alone to work/school. They then had to rank how likely they would consider the stated alternative options to avoid paying for parking. Participants ranked “telework” and “walk or bike” as their preferred alternatives.



	Carpool or vanpool	Take transit (such as Metrolink and bus)	Microtransit/shared ride (OC Flex and Uber/Lyft)	Walk or bike	Telework
Definitely Yes	76	101	53	110	**146**
Probably	67	73	73	63	55
Possibly	81	68	87	62	60
Probably Not	57	35	54	35	20
Definitely Not	32	36	46	43	32

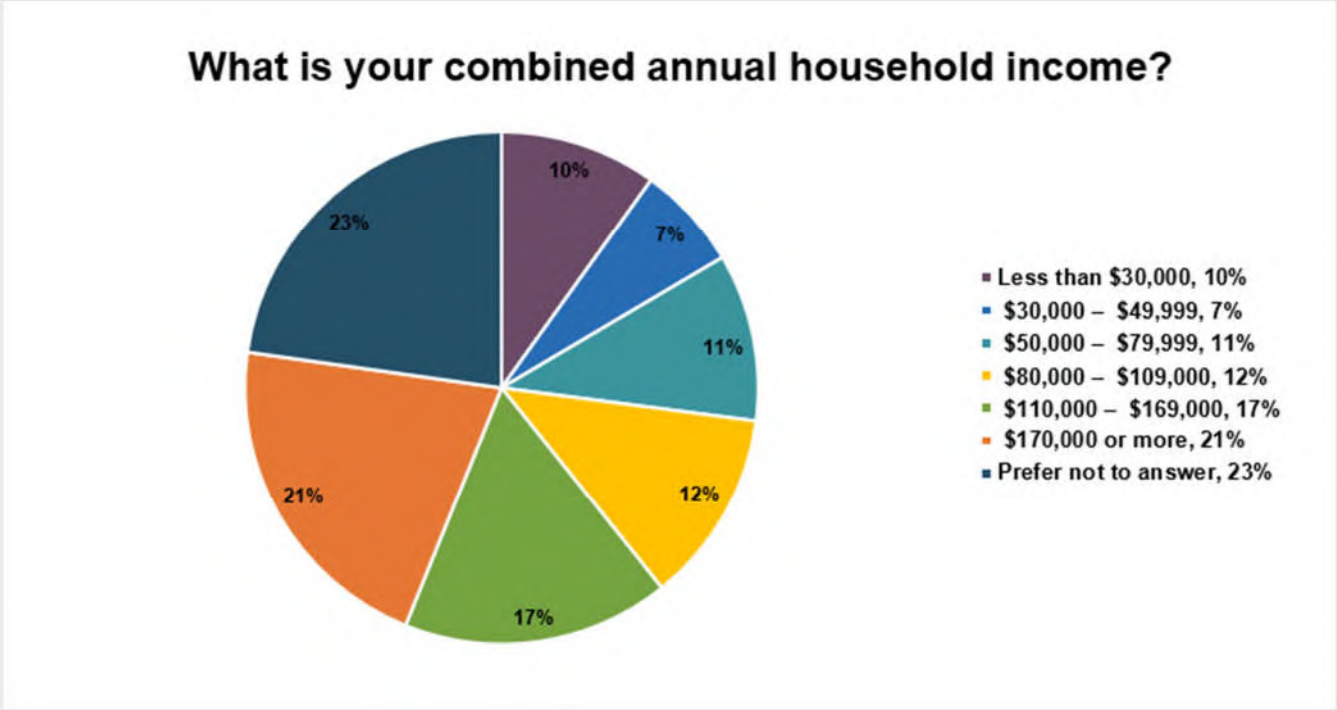
Demographics

The three following questions were asked to assess the demographics of the respondents.



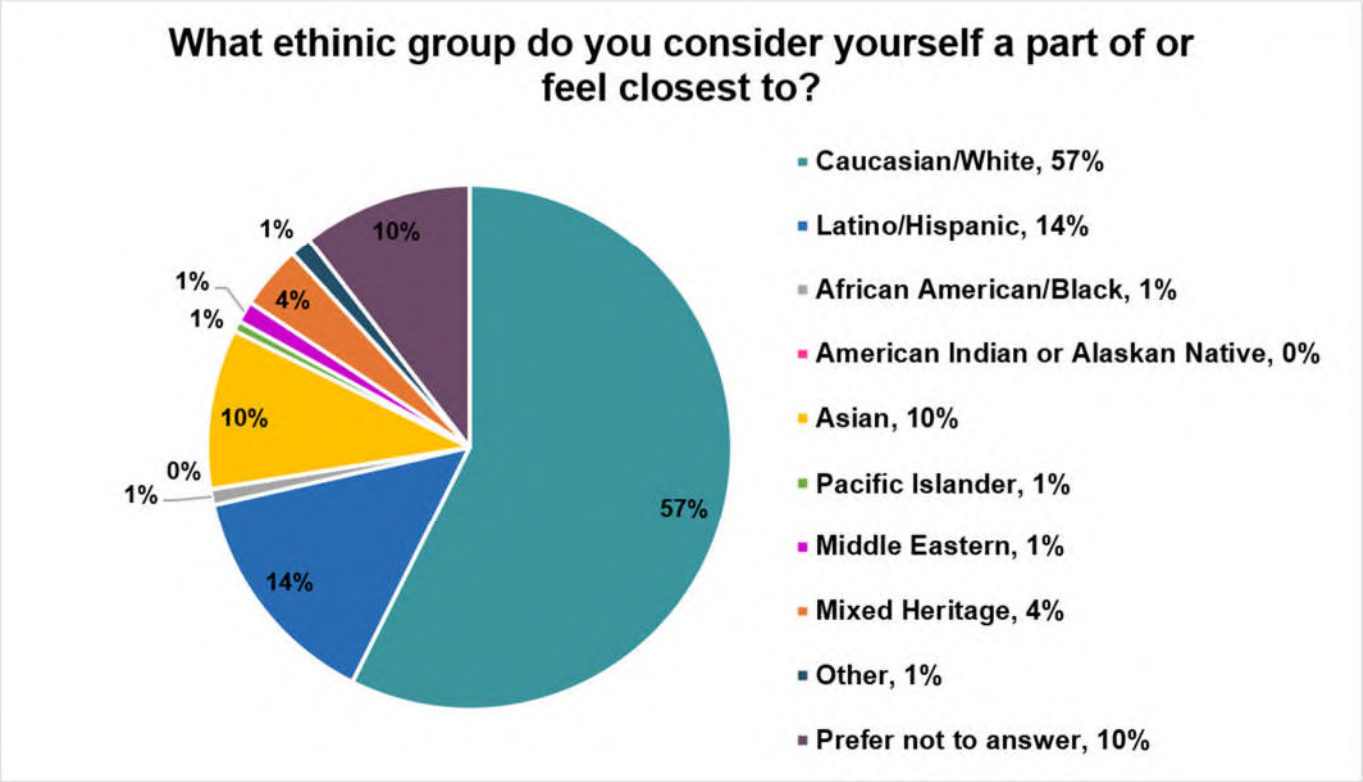
Option	Total*
16-24	28
25-34	34
35-44	0
45-54	41
55-64	53
65-74	62
75 or older	25

* Based upon 299 respondents



Option	Total*
Less than 30,000	30
30,000 – 49,999	20
50,000 – 79,999	32
80,000 – 109,000	37
110,000 – 169,000	51
170,000 or more	64
Prefer not to answer	69

* Based upon 303 respondents



Option	Total*
Caucasian/White	175
Latino/Hispanic	43
African American/Black	3
American Indian or Alaskan Native	0
Asian	30
Pacific Islander	2
Middle Eastern	4
Mixed Heritage	12
Other	4
Prefer not to answer	32

* Based upon 305 respondents

Stay Involved

A total of 146 email contacts were received and included in the Stakeholder Database to receive notifications, project updates, community meeting invites and to be included in future outreach.

CONCLUSION

During Phase 3 of the PIP, OCTA further analyzed the remaining strategy options in order to develop a recommendation for a Locally Preferred Strategy (LPS). The priority ranking format of Phase 3's survey allows the Project Team to assess a broader spectrum of detailed responses. The survey's compiled results showed respondents value increasing availability and affordability of public transit/rail and increasing and improving bike/pedestrian pathways.

Analysis of the feedback garnered during Phases 1 through 3 will aid OCTA in developing the LPS to effectively improve future transportation in south Orange County. The Locally Preferred Strategy will be presented to the OCTA Board in Summer 2022.

Appendices

Appendix A
Surveys

Appendix A.1 Online Survey (English; Spanish; Mandarin; Korean; Vietnamese)

Appendix A.2 Paper Survey (English)

Appendix A

Appendix A.1 Online Survey (English; Spanish; Mandarin; Korean; Vietnamese)

SOUTH ORANGE COUNTY
MULTIMODAL TRANSPORTATION STUDY

The South Orange County Multimodal Transportation Study is looking at what kind of **transportation improvements** are needed by the year 2045 and beyond. The focus is on prioritizing **equity**, **safety**, and **moving people** rather than moving cars.

Please take this brief survey and share how we make the most out of the existing roadway footprint and what kinds of options you would find most beneficial for your travel needs.

Español
简体中文
Tiếng Việt
한국어

Takes 4 minutes

Continue press Enter ↵

---

1 → **Recognizing that future funding is limited, rank the following types of transportation services for funding priority.**
(Rank from highest to lowest priority.) *
**Answer required.*

Drag and drop to rank options

- More frequent and reliable train service
- More frequent and reliable bus service
- Expanded on-demand, microtransit/shared ride services (such as OC Flex, Uber/Lyft)
- Improved bike and pedestrian paths/trails and bike amenities
- Local community shuttles/trolley services

OK ✓

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2 → **Choosing a non-car travel option can help reduce emissions and congestion. Prioritize the following in order of how likely you would consider a non-car travel option.**
(Rank from most to least likely.) *
**Answer required.*

Drag and drop to rank options

- Free and secure bike parking at key locations
- Reliable on-demand, microtransit/shared ride services (such as OC Flex, Uber/Lyft)
- Availability of bikeshare, e-bikes, e-scooters
- Easy connections between multiple transportation services (such as Metrolink to bikeshare)
- Universal fare pass that works across multiple transportation services
- Increased walking and biking safety measures, including separation from vehicle traffic

OK ✓

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3 → **Providing a safe and comfortable environment for all people who use the street is one way to encourage more walking, bicycling, and transit ridership. How important are the following for creating safe and easy-to-use streets?** *
**Answer required.* View in landscape for mobile devices.

	Very Important	Important	Moderately Important	Slightly Important	Unimportant
Sidewalks wide enough to allow pedestrians to walk comfortably, separated from traffic	○	○	○	○	○
Bicycle lanes/paths that are safe for riders of all ages and experience levels.	○	○	○	○	○
Extended pedestrian street crossing times when needed	○	○	○	○	○

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Dedicated bus lanes so that buses can compete with car travel times.	○	○	○	○	○
Safe and accessible transit stops, with amenities such as shelters, benches, and lighting to increase comfort, convenience, and visibility.	○	○	○	○	○
Street roundabouts, curb extensions, and other elements that increase safety for pedestrians and bicyclists	○	○	○	○	○

OK ✓

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4→ Various incentives are being considered to encourage use of travel options other than driving alone. How likely would the following incentives encourage you to consider alternative travel options? *

*Answer required. View in landscape for mobile devices.

	Definitely	Probably	Possibly	Probably Not	Definitely Not
Carpool and vanpool subsidies	○	○	○	○	○
Metrolink and bus pass subsidies	○	○	○	○	○
Microtransit/shared ride (OC Flex and Uber/Lyft) subsidies	○	○	○	○	○
Bikeshare subsidies	○	○	○	○	○
Telework subsidies	○	○	○	○	○

OK ✓

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5→ Assume in the future that you are charged $10 per day to park your car when driving alone to work/school. How likely would you consider the following alternative options to avoid paying to park? *

*Answer required. View in landscape for mobile devices.

	Definitely	Probably	Possibly	Probably Not	Definitely Not
Carpool or vanpool	○	○	○	○	○
Take transit (such as Metrolink and bus)	○	○	○	○	○
Microtransit/shared ride (OC Flex and Uber/Lyft)	○	○	○	○	○
Walk or bike	○	○	○	○	○
Telework	○	○	○	○	○

OK ✓

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6→ Thanks for your input! Now, please tell us a little about yourself.

What is your worksite zip code if you have one?

(Optional)

Type your answer here...

OK ✓ press Enter ↵

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7 What is your home zip code?

(Optional)

Type your answer here...

OK ✓ press Enter ↵

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8 What is your age range?

(Optional)

- A 16-24
- B 25-34
- C 35-44
- D 45-54
- E 55-64
- F 65-74
- G 75 or older

OK ✓

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9 What is your combined annual household income?

(Optional)

- A Less than 30,000
- B 30,000 - 49,999
- C 50,000 - 79,999
- D 80,000 - 109,000
- E 110,000 - 169,000
- F 170,000 or more
- G Prefer not to answer

OK ✓

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10 What ethnic group do you consider yourself a part of or feel closest to?

(Optional)

- A Caucasian/White
- B Latino/Hispanic
- C African American/Black
- D American Indian or Alaskan Native
- E Asian
- F Pacific Islander
- G Middle Eastern
- H Mixed Heritage
- I Other
- J Prefer not to answer

OK ✓

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11 → Sign up to receive project updates and meeting invites

(Optional)

name@example.com

Submit press Ctrl + Enter ↵

SOUTH ORANGE COUNTY
MULTIMODAL TRANSPORTATION STUDY

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SOUTH ORANGE COUNTY
MULTIMODAL TRANSPORTATION STUDY

El Estudio de Transporte Multimodal del Sur del Condado de Orange tiene como objetivo analizar qué mejoras se necesitan en el sistema de transporte para el año 2045 y en adelante. El enfoque es de priorizar la equidad, la seguridad y el desplazamiento de las personas en lugar de los vehículos.

Por favor responda a esta breve encuesta y comparta con nosotros cómo podemos aprovechar al máximo la actual huella de carreteras y qué opciones considera que mejor servirían a sus necesidades de desplazamiento.

Continuar pulsa Enter ↵

Dura 4 minutos

---

1 → **Reconociendo que la financiación futura será limitada, clasifique los siguientes tipos de servicios de transporte según su prioridad de financiación.**
(Ordénelos de mayor a menor prioridad). *

*Respuesta requerida.

Arrastra y suelta para clasificar las opciones

- Servicio ferroviario más frecuente y fiable
- Servicio de autobús más frecuente y fiable
- Más servicios de vehículo compartido/microtransporte a demanda (como OC, Flex, Uber/Lyft)
- Mejores vías/senderos para peatones y bicicletas e infraestructura para bicicletas
- Servicios de shuttles/tranvía dentro de la comunidad local

Aceptar ✓

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2 → **Elegir una opción de desplazamiento distinta al automóvil puede ayudar a reducir las emisiones y la congestión. Priorice las siguientes opciones según la probabilidad de que usted consideraría una alternativa de desplazamiento distinta al automóvil.**
(Ordénelas de mayor a menor probabilidad). *

*Respuesta requerida.

Arrastra y suelta para clasificar las opciones

- Estacionamiento de bicicletas gratuito y seguro en puntos clave
- Servicios fiables de vehículo compartido/microtransporte a demanda (como OC Flex, Uber/Lyft)
- Disponibilidad de bicicletas compartidas, bicicletas eléctricas y scooters eléctricos
- Conexiones fáciles entre múltiples servicios de transporte (por ejemplo, entre Metrolink y los servicios de bicicletas compartidas)
- Un boleto universal que funcione en múltiples servicios de transporte
- Aumento de las medidas de seguridad para peatones y ciclistas, incluyendo la separación del tráfico de vehículos

Aceptar ✓

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3 → **Brindar un entorno seguro y cómodo para todas las personas que utilizan la calle es una forma de alentarlas a caminar más, a usar la bicicleta o el sistema de transporte. ¿Qué importancia tienen los siguientes aspectos para crear calles seguras y fáciles de usar?** *

Respuesta requerida. Ver en horizontal para dispositivos móviles.

	Muy importante	Importante	Moderadamente importante	Ligeramente importante	No impor
Las aceras lo suficientemente anchas permiten a todos los peatones caminar de manera cómoda y alejados del tráfico.	○	○	○	○	○
Los carriles/sendas para bicicletas que sean seguros para los ciclistas de todas las edades y niveles de experiencia.	○	○	○	○	○
Más tiempo para que los					

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Más tiempo para que los peatones puedan cruzar las calles cuando sea necesario	○	○	○	○	○
Carriles exclusivos para autobuses para que puedan competir con los tiempos de viaje de los automóviles.	○	○	○	○	○
Paradas de transporte seguras y accesibles con infraestructura como marquesinas, bancas e iluminación para aumentar la comodidad, conveniencia y visibilidad.	○	○	○	○	○

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que puedan competir con los tiempos de viaje de los automóviles.	○	○	○	○	○
Paradas de transporte seguras y accesibles con infraestructura como marquesinas, bancas e iluminación para aumentar la comodidad, conveniencia y visibilidad.	○	○	○	○	○
Glorietas en las calles, ampliación de las banquetas y otros elementos que permitan aumentar la seguridad de los peatones y ciclistas.	○	○	○	○	○

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4 → **Se están considerando distintos incentivos para fomentar opciones de viaje distintas a conducir solo. ¿En qué medida los siguientes incentivos le animarían a considerar otras opciones de desplazamiento? ***

**Respuesta requerida. Ver en horizontal para dispositivos móviles.*

	Definitivamente sí	Probablemente	Tal vez	Probablemente no
Subvenciones para vehículos compartidos (carpool, vanpool)	○	○	○	○
Subvenciones para el boleto de Metrolink y el autobús	○	○	○	○
Subvenciones para los viajes compartidos/microtransporte (OC Flex y Uber/Lyft)	○	○	○	○
Subvenciones para las bicicletas compartidas	○	○	○	○
Subvenciones al trabajo en remoto	○	○	○	○

Aceptar ✓

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5 → **Suponga que en el futuro le cobren $10 por día por estacionar su vehículo cuando viaje solo(a) al trabajo/a la escuela. ¿Con qué probabilidad consideraría las siguientes opciones alternativas para evitar pagar por estacionar? ***

**Respuesta requerida. Ver en horizontal para dispositivos móviles.*

	Definitivamente sí	Probablemente	Tal vez	Probablemente no
Carpool o vanpool	○	○	○	○
Transporte público (como Metrolink y el autobús)	○	○	○	○
Viajes compartidos/microtransporte (OC Flex y Uber/Lyft)	○	○	○	○
Caminar o usar la bicicleta	○	○	○	○
Trabajo en remoto	○	○	○	○

Aceptar ✓

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6 ¡Gracias por su aportación! Ahora, por favor cuéntenos más sobre usted.

¿Cuál es el código postal de su lugar de trabajo, si corresponde?
(Opcional)

Escribe aquí tu respuesta...

Aceptar ✓ pulsa Enter ↵

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7 ¿Cuál es su código postal de su domicilio?
(Opcional)

Escribe aquí tu respuesta...

Aceptar ✓ pulsa Enter ↵

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8 ¿Cuál es su rango de edad?
(Opcional)

- A 16-24
- B 25-34
- C 35-44
- D 45-54
- E 55-64
- F 65-74
- G 75 o más

Aceptar ✓

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9 ¿Cuál es el ingreso anual total de su hogar?
(Opcional)

- A Menos de 30,000
- B 30,000 - 49,999
- C 50,000 - 79,999
- D 80,000 - 109,000
- E 110,000 - 169,000
- F 170,000 o más
- G Prefiero no responder

Aceptar ✓

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10 → ¿De qué grupo étnico se considera parte o se siente más cercano?

(Opcional)

- A Caucásico/Blanco
- B Latino/Hispano
- C Afroamericano/Negro
- D Indio americano o nativo de Alaska
- E Asiático
- F Isleño del Pacífico
- G Procedente de Medio Oriente
- H Herencia mixta
- I Otros
- J Prefiero no responder

Aceptar ✓

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11 → Inscríbase para recibir actualizaciones sobre el proyecto e invitaciones a reuniones

(Opcional)

nombre@ejemplo.com

Enviar pulsa Ctrl + Enter ↵

SOUTH ORANGE COUNTY
MULTIMODAL TRANSPORTATION STUDY

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SOUTH ORANGE COUNTY
MULTIMODAL TRANSPORTATION STUDY

橙县南部多式交通研究正在研究到 2045 年及以后需要什么样的交通改进。重点是优先考虑公平、安全和移动人员而不是移动汽车。

请参加这份简短的调查，并分享我们如何充分利用现有道路足迹，以及您发现哪些选项最适合您的出行需求。

继续 按 Enter ↵ 键

● 需要4分钟

---

1 → **认识到未来的资金有限，请将以下类型的交通服务按资助优先级别排序。（从最高优先级到最低优先级。）** *

*需要回答。

通过拖放对选项排序

- 更频繁、更可靠的列车服务
- 更频繁、更可靠的巴士服务
- 扩展的按需、微型交通/共享乘车服务（例如 OC Flex、Uber/Lyft）
- 改善自行车和人行道/步道和自行车设施
- 当地社区班车/电车服务

确定 ✓

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---

2 → **选择非汽车出行方式有助于减少排放和拥堵。根据您考虑非汽车出行选项的可能性，给下列各项进行优先排序。**（从最可能到最不可能排序。）*

*需要回答。

通过拖放对选项排序

- 在关键地点提供免费且安全的自行车停车场
- 可靠的按需、微型交通/共享乘车服务（例如 OC Flex、Uber/Lyft）
- 提供共享单车、电动自行车、电动滑板车
- 多种交通服务之间的轻松连接（例如 Metrolink 到自行车共享）
- 适用于多种交通服务的通用票价车票
- 增加步行和骑自行车的安全措施，包括与车辆交通分开

确定 ✓

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3 → **为所有使用街道的人提供安全舒适的环境是鼓励更多步行、骑自行车和公交出行的一种方式。以下内容对于创建安全且易于使用的街道有多重要？** *

需要回答。在移动设备上横向查看。

	非常重要	重要	中等重要	有点重要	不重要
人行道足够宽，可以让行人舒适地行走，与车辆交通分开。	○	○	○	○	○
对所有年龄和经验水平的骑手都安全的自行车道/路径。	○	○	○	○	○
必要时延长步行穿越街道时间。	○	○	○	○	○
专用巴士车道，使巴士可以与汽车的出行时间竞争。	○	○	○	○	○

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车辆交通分开。					
对所有年龄和经验水平的骑手都安全的自行车道/路径。	○	○	○	○	○
必要时延长步行穿越街道时间。	○	○	○	○	○
专用巴士车道，使巴士可以与汽车的出行时间竞争。	○	○	○	○	○
安全便捷的公交站点，配备避雨棚、长椅和照明等便利设施，以提高舒适度、便利性和可见度。	○	○	○	○	○
街道环形交叉路口、路边延伸和其他增加行人和骑自行车者安全的元素。	○	○	○	○	○

确定 ✓

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4 → **正在考虑各种激励措施来鼓励使用独自驾驶以外的出行方式。以下激励措施鼓励您考虑替代出行选择的可能性有多大？** *

**需要回答。在移动设备上横向查看。*

	绝对会	很可能会	可能会	可能不会	绝对不会
轿车和面包车拼车补贴	○	○	○	○	○
Metrolink 和巴士车票补贴	○	○	○	○	○
微交通/拼车（OC Flex 和 Uber/Lyft）补贴	○	○	○	○	○
共享单车补贴	○	○	○	○	○
远程办公补贴	○	○	○	○	○

确定 ✓

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5 → **假设将来您独自开车去上班/上学时，停车费每天 10 美元。您考虑以下替代方案以避免付费停车的可能性有多大？** *

**需要回答。在移动设备上横向查看。*

	绝对会	很可能会	可能会	可能不会	绝对不会
轿车或面包车拼车	○	○	○	○	○
乘坐公交（如 Metrolink 和巴士）	○	○	○	○	○
微型交通/拼车（OC Flex 和 Uber/Lyft）	○	○	○	○	○
步行或骑自行车	○	○	○	○	○
远程办公	○	○	○	○	○

确定 ✓

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6 → **感谢您的意见！现在，请告诉我们一些关于您自己的事情。**

如果有的话，您的工作地点的邮政编码是什么？
（可选）

请在此处键入答案...

确定 ✓ 按 Enter ↵ 键

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7 → **您的住家的邮递区号是什么？**

(可选)

请在此处键入答案...

确定 ✓ 按 Enter ↵ 键

Powered by Typeform

8 → **您在哪个年龄段？**

(可选)

- A 16-24 岁
- B 25-34 岁
- C 35-44 岁
- D 45-54 岁
- E 55-64 岁
- F 65-74 岁
- G 75 岁以上

确定 ✓

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9 → **您的家庭年总收入是多少？**

(可选)

- A 低于30,000
- B 30,000 - 49,999
- C 50,000 - 79,999
- D 80,000 - 109,000
- E 110,000 - 169,000
- F 170,000 以上
- G 不愿回答

确定 ✓

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10 → **您认为自己属于或者最接近哪个种族？**

(可选)

- A 高加索人/白人
- B 拉丁裔/西班牙裔
- C 非洲裔美国人/黑人
- D 美洲印第安人或阿拉斯加原住民
- E 亚裔
- F 太平洋岛民
- G 中东人
- H 混合族裔
- I 其他
- J 不愿回答

确定 ✓

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11 → **注册以接收项目更新和会议邀请**

(可选)

somebody@example.com

提交 按 Ctrl + Enter ↵ 键

SOUTH ORANGE COUNTY
MULTIMODAL TRANSPORTATION STUDY

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SOUTH ORANGE COUNTY
MULTIMODAL TRANSPORTATION STUDY

사우스 오렌지 카운티 복합 교통 연구는 2045년까지 그리고 그 이후 어떤 교통 개선이 필요한지 조사하고 있습니다. 자동차를 움직이기 보다는 형평성, 안전, 그리고 사람들을 이동시키는 데 중점을 두고 있습니다.

이 간단한 설문 조사에 참여하여 어떻게 하면 우리가 기존 도로를 최대로 활용하고 어떠한 교통 수단이 여러분에게 가장 좋은지 의견을 나누어 주십시오.

계속하다 Enter ↵를 누르십시오

4분 소요

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1 → **미래의 예산이 한정되어 있음을 인지하시고, 아래 어떤 교통 수단에 예산을 먼저 투입해야 하는지 순위를 정하시기 바랍니다.**
(가장 높은 순위부터 가장 낮은 순위로) *
*답변이 필요합니다.

선택지의 순위를 정하려면 드래그 앤드 드롭하세요

- 보다 자주 다니고 믿을 수 있는 철도 서비스
- 보다 자주 다니고 믿을 수 있는 버스 서비스
- 주문형, 마이크로트랜짓/승차 공유 서비스확대(예: OC Flex, Uber/Lyft 등)
- 개선된 자전거 및 보행자 전용 도로 및 자전거 편의시설
- 지역 커뮤니티 셔틀/트롤리 서비스

확인 ✓

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2 → **자동차 이외의 교통 수단을 선택하면 배기 가스와 교통 체증을 줄이는 데 도움이 될 수 있습니다. 아래 자동차 이외의 교통 수단들 중 선호하는 순위를 정하십시오.**
(가장 높은 순위부터 가장 낮은 순위로.) *
*답변이 필요합니다.

선택지의 순위를 정하려면 드래그 앤드 드롭하세요

- 주요 위치에 무료 자전거 주차장
- 믿을 수 있는 주문형, 마이크로트랜짓//승차 공유 서비스(예: OC Flex, Uber/Lyft 등)
- 자전거 공유, 전기 자전거, 전기 스쿠터 서비스
- 여러 교통 수단들 간에 손쉬운 연결(예: Metrolink에서 자전거 공유 서비스로)
- 여러 교통 수단에서 사용 가능한 유니버설 패스
- 차량 교통으로부터 분리를 포함한 더 강화된 걷기와 자전거 안전

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3 → **거리를 사용하는 모든 사람들을 위하여 안전하고 편안한 환경을 마련해 주는 것은 더 많은 사람들이 걷고, 자전거 타고, 대중 교통을 이용하도록 하기 위한 한 방법입니다. 안전하고 이용하기 쉬운 거리를 만들기 위해 아래 사항들이 얼마나 중요합니까?** *
답변이 필요합니다. 모바일 장치에서 가로로 봅니다.

	매우 중요함	중요	어느정도 중요	약간 중요	중요하지 않음
보행자가 차량들과 분리되어 편안하게 걸을 수 있을 만큼 넓은 인도.	○	○	○	○	○
모든 연령과 경험 수준의 라이더들에게 안전한 자전거 전용 도로/집.	○	○	○	○	○
필요할 때 보행자들의 길 건너는 시간을 연장.	○	○	○	○	○
버스가 자동차 이동 시간과 경쟁할 수 있도록 전용 버스 차선.	○	○	○	○	○
대피소, 벤치 및 교목과 같은 편의 시설을 길을 안전하고 접근 가능한 대중 교통 정류장으로 편안함과 편의성, 그리고 가시성을 높인다.	○	○	○	○	○
보행자와 자전거 이용자의 안전을 높이는 등별 교차로, 연석 확장 및 기타 요소.	○	○	○	○	○

확인 ✓

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4 → **나홀로 운전 이외의 이동 옵션을 권장하기 위해 다양한 인센티브가 고려되고 있습니다. 아래 인센티브로 다른 이동 옵션을 선택할 가능성이 얼마나 높은가요? ***

**답변이 필요합니다. 모바일 장치에서 가로로 봅니다.*

	매우 높다	꽤 높다	가능하다	높지 않다	전혀 없다
카풀 및 밴풀 보조금	○	○	○	○	○
Metrolink 및 버스 패스 보조금	○	○	○	○	○
마이크로트랜짓/승차 공유(OC Flex 및 Uber/Lyft) 보조금	○	○	○	○	○
자전거 공유 보조금	○	○	○	○	○
재택근무 보조금	○	○	○	○	○

확인 ✓

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5 → **직장이나 학교에 나홀로 운전할 때 주차하는 데 하루 10 달러를 내야 한다고 가정하겠습니다. 주차료를 지불하지 않기 위해 아래와 같은 대안을 고려할 가능성이 얼마나 높은가요? ***

**답변이 필요합니다. 모바일 장치에서 가로로 봅니다.*

	매우 높다	꽤 높다	가능하다	높지 않다	전혀 없다
카풀 또는 밴풀	○	○	○	○	○
대중교통 이용(메트로링크 및 버스 등)	○	○	○	○	○
마이크로트랜짓/승차 공유(OC Flex 및 Uber/Lyft)	○	○	○	○	○
걷기 또는 자전거	○	○	○	○	○
재택근무	○	○	○	○	○

확인 ✓

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6 → **의견을 주셔서 감사합니다! 본인에 대하여 좀 말씀해 주시기 바랍니다.**

직장 우편번호는 어떻게 됩니까?

(선택)

여기에 답변을 입력하십시오...

확인 ✓ Enter ↵를 누르십시오

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7 → **집 우편번호는 어떻게 되나요?**

(선택)

여기에 답변을 입력하십시오...

확인 ✓ Enter ↵를 누르십시오

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8 → **연령대는 어떻게 되십니까?**

(선택)

- A 16-24 세
- B 25-34 세
- C 35-44 세
- D 45-54 세
- E 55-64 세
- F 65-74 세
- G 75 세 이상

확인 ✓

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9 → **가계 총 소득은 얼마입니까?**

(선택)

- A 30,000불 미만
- B 30,000 - 49,999 불
- C 50,000 - 79,999 불
- D 80,000 - 109,000 불
- E 110,000 - 169,000 불
- F 170,000 불 이상
- G 답하고 싶지 않음

확인 ✓

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10 → **어떤 인종 그룹에 속하신다고 생각하십니까?**

(선택)

- A 백인
- B 라틴계/히스패닉
- C 흑인
- D 아메리칸 인디언 또는 알래스카 원주민
- E 아시안
- F 태평양 도서인
- G 중동인
- H 혼혈인
- I 기타
- J 답하고 싶지 않음

확인 ✓

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11 → **프로젝트 업데이트 및 미팅 초대를 받으려면 등록하십시오**

(선택)

somebody@example.com

제출 Ctrl + Enter ↵를 누르십시오

SOUTH ORANGE COUNTY
MULTIMODAL TRANSPORTATION STUDY

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OCTA

SOUTH ORANGE COUNTY
MULTIMODAL TRANSPORTATION STUDY

Nghiên Cứu về Chuyên Chở Đa Phương Thức của Nam Quận Cam (South Orange) muốn biết cần cải tiến điều gì cho chuyên chở đến năm 2045 và sau đó. Tập trung ưu tiên cho công bằng, an toàn, và chuyên chở cư dân thay cho đi lại bằng xe riêng.

Xin làm khảo sát ngắn này và chia sẻ cho chúng tôi biết cách tận dụng tốt nhất tuyến đường hiện có và những lựa chọn nào có lợi nhất cho nhu cầu đi lại của quý vị.

Takes 4 minutes

Tiếp tục press Enter

OCTA

1 → **Thực tế là việc cấp quỹ trong tương lai có giới hạn, hãy xếp hạng các loại dịch vụ chuyên chở sau đây theo mức độ ưu tiên cấp quỹ.**
(Xếp hạng từ mức ưu tiên cao nhất đến thấp nhất.) *

** Yêu cầu trả lời.*

Drag and drop to rank options

- Xe lửa phục vụ thường xuyên và tin cậy hơn
- Xe buýt phục vụ thường xuyên và tin cậy hơn
- Mở rộng dịch vụ theo yêu cầu, microtransit/đi chung xe (như OC Flex, Uber/Lyft)
- Cải tiến đường/lối đi cho xe đạp và người đi bộ và các tiện ích cho xe đạp
- Dịch vụ đưa đón/xe điện cộng đồng địa phương

OK ✓

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OCTA

2 → **Chọn cách đi lại không dùng xe để giảm khí thải và tắc nghẽn. Xếp các mục sau đây theo mức độ quý vị khả dĩ ưu tiên chọn làm cách thức đi lại không dùng xe.**
(Xếp hạng từ mức khả dĩ ưu tiên nhiều nhất đến ít nhất.) *

** Yêu cầu trả lời.*

Drag and drop to rank options

- Bãi đậu xe đạp an toàn và miễn phí ở những địa điểm quan trọng
- Dịch vụ theo yêu cầu, microtransit/đi chung xe đáng tin cậy (như OC Flex, Uber/Lyft)
- Dễ dùng dịch vụ chia sẻ xe đạp, xe đạp điện, scooter điện
- Dễ kết nối giữa các dịch vụ chuyên chở (như Metrolink với chia sẻ xe đạp)
- Vé phổ thông dùng cho nhiều dịch vụ chuyên chở
- Tăng các biện pháp an toàn cho người đi bộ và đi xe đạp, bao gồm cả việc tách biệt khỏi các phương tiện đi lại

OK ✓

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OCTA

3 → **Có môi trường an toàn và thoải mái cho tất cả những người đi trên đường phố là cách để khuyến khích mọi người đi bộ, đi xe đạp, và dùng phương tiện công cộng nhiều hơn. Những điều sau đây có vai trò quan trọng ra sao để mở mang các đường phố an toàn và dễ đi lại?** *

** Yêu cầu trả lời. Xem ở chế độ ngang dành cho thiết bị di động.*

	Rất quan trọng	Quan trọng	Tương đối quan trọng	Hơi quan trọng	Không quan trọng
Vỉa hè rộng để người đi bộ có thể đi thoải mái, tách biệt khỏi dòng xe cộ.	○	○	○	○	○
Làn đường/lối đi cho xe đạp an toàn cho người đi ở mọi độ tuổi và khả năng đi xe.	○	○	○	○	○
Tăng thêm thời gian cho người đi bộ qua đường, khi cần.	○	○	○	○	○
Làn đường dành riêng cho xe buýt để xe buýt có thể cạnh tranh thời gian đi lại với xe riêng.	○	○	○	○	○

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Tăng thêm thời gian cho người đi bộ qua đường, khi cần.	○	○	○	○	○
Làn đường dành riêng cho xe buýt để xe buýt có thể cạnh tranh thời gian đi lại với xe riêng.	○	○	○	○	○
Các trạm dừng của phương tiện công cộng an toàn và dễ dùng, có các tiện ích như nhà tạm trú, ghế dài, và ánh sáng để tăng tiện nghi, tiện lợi, và tầm nhìn.	○	○	○	○	○
Vòng xuyến, mở rộng vỉa hè, và các yếu tố khác tăng an toàn cho người đi bộ và đi xe đạp.	○	○	○	○	○

OK ✓

Powered by Typeform

4→ **Nhiều biện pháp khích lệ đang được xem xét để khuyến khích cách đi lại khác việc lái xe một mình.**
Các biện pháp khích lệ sau đây có thể khuyến khích quý vị chọn cách đi lại thay thế ra sao? *

* Yêu cầu trả lời. Xem ở chế độ ngang dành cho thiết bị di động.

	Chắc chắn	Có lẽ	Có thể	Có lẽ không	Nhất định là không
Trợ cấp đi chung xe nhà và xe van	○	○	○	○	○
Trợ cấp cho Metrolink và vé xe buýt	○	○	○	○	○
Trợ cấp khi dùng dịch vụ microtransit/đi chung xe (OC Flex và Uber/Lyft)	○	○	○	○	○
Trợ cấp khi dùng dịch vụ chia sẻ xe đạp	○	○	○	○	○
Trợ cấp cho làm việc từ xa	○	○	○	○	○

OK ✓

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5→ **Giả sử trong tương lai quý vị phải trả $10 phí mỗi ngày để đậu xe khi lái xe một mình đi làm/đi học. Quý vị có chọn cách thay thế sau đây để tránh phải trả tiền đậu xe không? ***

** Yêu cầu trả lời. Xem ở chế độ ngang dành cho thiết bị di động.*

	Chắc chắn	Có lẽ	Có thể	Có lẽ không	Nhất định là không
Đi chung xe nhà hoặc xe van	○	○	○	○	○
Dùng phương tiện công cộng (như Metrolink và xe buýt)	○	○	○	○	○
Microtransit/đi chung xe (OC Flex và Uber/Lyft)	○	○	○	○	○
Đi bộ hoặc xe đạp	○	○	○	○	○
Làm việc từ xa	○	○	○	○	○

OK ✓

Powered by Typeform

6→ **Cảm ơn quý vị cho biết ý kiến! Bây giờ, xin quý vị cho chúng tôi biết đôi chút về bản thân.**

Mã zip nơi làm việc của quý vị là gì nếu quý vị có?
(Tùy ý)

Type your answer here...

OK ✓ press Enter ↵

Powered by Typeform

7 → **Mã zip nhà của quý vị là gì?**

(Tùy ý)

Type your answer here...

OK ✓ press Enter ↵

Powered by Typeform

8 → **Độ tuổi của quý vị là bao nhiêu?**

(Tùy ý)

- A 16-24
- B 25-34
- C 35-44
- D 45-54
- E 55-64
- F 65-74
- G 75 tuổi trở lên

OK ✓

Powered by Typeform

9 → **Tổng số thu nhập trong hộ gia đình hàng năm của quý vị là bao nhiêu?**

(Tùy ý)

- A Dưới 30.000
- B 30.000 - 49.999
- C 50.000 - 79.999
- D 80.000 - 109.000
- E 110.000 - 169.000
- F 170.000 trở lên
- G Không thích trả lời

OK ✓

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10 → **Quý vị coi mình là một phần của hoặc cảm thấy gần gũi nhất với nhóm dân tộc nào?**

(Tùy ý)

- A Caucasian / Da trắng
- B Người gốc La tinh / gốc Tây Ban Nha
- C Người Mỹ gốc Phi châu / Da đen
- D Người Mỹ Da đỏ hoặc thổ dân Alaska
- E Á châu
- F Người đảo Thái Bình Dương
- G Người Trung Đông
- H Người Hợp chủng
- I Khác
- J Không thích trả lời

OK ✓

Powered by Typeform

11 → Ghi danh để được thông tin cập nhật về dự án và mời họp

(Tùy ý)

name@example.com

Submit press Ctrl + Enter

SOUTH ORANGE COUNTY
MULTIMODAL TRANSPORTATION STUDY

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Appendix A

Appendix A.2 Paper Survey (English)

SOUTH ORANGE COUNTY
MULTIMODAL TRANSPORTATION STUDY

The South Orange County Multimodal Transportation Study is looking at what kind of **transportation improvements** are needed by the year 2045 and beyond. The focus is on prioritizing **equity**, **safety**, and **moving people** rather than moving cars.

Please take this brief survey and share how we make the most out of the existing roadway footprint and what kinds of options you would find most beneficial for your travel needs.

1. **Recognizing that future funding is limited, rank the following types of transportation services for funding priority.** ***(Rank from highest to lowest priority, 1 being the highest.)***

    a. More frequent and reliable train service _____

    b. More frequent and reliable bus service _____

    c. Expanded on-demand, microtransit/shared ride services (such as OC Flex, Uber/Lyft) _____

    d. Improved bike and pedestrian paths/trails and bike amenities _____

    e. Local community shuttles/trolley services _____

OCTA

2. **Choosing a non-car travel option can help reduce emissions and congestion. Prioritize the following in order of how likely you would consider a non-car travel option. *(Rank from most to least likely, 1 being the most likely.)***

   a. Free and secure bike parking at key locations

   b. Reliable on-demand, microtransit/shared ride services (such as OC Flex, Uber/Lyft) _____

   c. Availability of bikeshare, e-bikes, e-scooters _____

   d. Easy connections between multiple transportation services (such as Metrolink to bikeshare) _____

   e. Universal fare pass that works across multiple transportation services _____

   f. Increased walking and biking safety measures, including separation from vehicle traffic _____

3. **Providing a safe and comfortable environment for all people who use the street is one way to encourage more walking, bicycling, and transit ridership. How important are the following for creating safe and easy-to-use streets? *(Check the box that applies.)***

	Very Important	Important	Moderately Important	Slightly Important	Unimportant
Sidewalks wide enough to allow pedestrians to walk comfortably, separated from traffic.					
Bicycle lanes/paths that are safe for riders of all ages and experience levels.					
Extended pedestrian street crossing times when needed.					
Dedicated bus lanes so that buses can compete with car travel times.					
Safe and accessible transit stops, with amenities such as shelters, benches, and lighting to increase comfort, convenience, and visibility.					
Street roundabouts, curb extensions, and other elements that increase safety for pedestrians and bicyclists.					

OCTA

4. **Various incentives are being considered to encourage use of travel options other than driving alone. How likely would the following incentives encourage you to consider alternative travel options? *(Check the box that applies.)***

	Definitely	Probably	Possibly	Probably Not	Definitely Not
Carpool and vanpool subsidies					
Metrolink and bus pass subsidies					
Microtransit/shared ride (OC Flex and Uber/Lyft) subsidies					
Bikeshare subsidies					
Telework subsidies					

5. **Assume in the future that you are charged $10 per day to park your car when driving alone to work/school. How likely would you consider the following alternative options to avoid paying to park? *(Check the box that applies.)***

	Definitely	Probably	Possibly	Probably Not	Definitely Not
Carpool or vanpool					
Take transit (such as Metrolink and bus)					
Microtransit/shared ride (OC Flex and Uber/Lyft)					
Walk or bike					
Telework					

Thanks for your input! Now, please tell us a little about yourself. (Optional)

1. What is your worksite zip code if you have one?
2. What is your home zip code?
3. What is your age range?
    a. 16-24
    b. 25-34
    c. 35-44
    d. 45-54
    e. 55-64
    f. 65-74
    g. 75 or older

OCTA

4. What is your combined annual household income?
    a. Less than 30,000
    b. 30,000 – 49,999
    c. 50,000 – 79,999
    d. 80,000 – 109,000
    e. 110,000 – 169,000
    f. 170,000 or more
    g. Prefer not to answer

5. What ethnic group do you consider yourself a part of or feel closest to?
    a. Caucasian/White
    b. Latino/Hispanic
    c. African American/Black
    d. American Indian or Alaskan Native
    e. Asian
    f. Pacific Islander
    g. Middle Eastern
    h. Mixed Heritage
    i. Other
    j. Prefer not to answer

6. Sign up to receive project updates and meeting invites
    a. Email Address_____

OCTA

Appendix B
Survey Results

Appendix B.1 Compiled Survey Results

Appendix B

Appendix B.1 Compiled Survey Results

ENGLISH & SPANISH #	*Recognizing that future funding is limited, rank the following types of transportation services for funding priority.* (Rank from highest to lowest priority.)	*Choosing a non-car travel option can help reduce emissions and congestion. Prioritize the following in order of how likely you would consider a non-car travel option.* (Rank from most to least likely.)	Sidewalks wide enough to allow pedestrians to walk comfortably, separated from traffic.	Bicycle lanes/paths that are safe for riders of all ages and experience levels.	Extended pedestrian street crossing times when needed.	Dedicated bus lanes so that buses can compete with car travel times.	Safe and accessible transit stops, with amenities such as shelters, benches, and lighting to increase comfort, convenience, and visibility.	Street roundabouts, curb extensions, and other elements that increase safety for pedestrians and bicyclists.	Carpool and vanpool subsidies	Metrolink and bus pass subsidies	Microtransit/shared ride (OC Flex and Uber/Lyft) subsidies	Bikeshare subsidies	Telework subsidies	Carpool or vanpool	Take transit (such as Metrolink and bus)	Microtransit/shared ride (OC Flex and Uber/Lyft)	Walk or bike	Telework	*Thanks for your input! Now, please tell us a little about yourself. * * What is your worksite zip code if you have one?*	*What is your home zip code?*	*What is your age range? *	*What is your combined annual household income? *	*What ethnic group do you consider yourself a part of or feel closest to? *	*Sign up to receive project updates and meeting invites *	Start Date (UTC)	Submit Date (UTC)	Network ID
l6joyknrqlkkgjuq6tl6joykn9wmaliq	More frequent and reliable bus service,Expanded on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft),More frequent and reliable train service,Improved bike and pedestrian paths/trails and bike amenities,Local community shuttles/trolley services	Reliable on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft),Increased walking and biking safety measures\, including separation from vehicle traffic,Easy connections between multiple transportation services (such as Metrolink to bikeshare),Universal fare pass that works across multiple transportation services,Availability of bikeshare\, e-bikes\, e-scooters,Free and secure bike parking at key locations	Very Important	Very Important	Slightly Important	Important	Very Important	Slightly Important	Definitely	Definitely	Definitely	Probably Not	Possibly	Possibly	Definitely	Definitely	Probably Not	Definitely	92614	92691	25-34	170,000 or more	Caucasian/White		4/15/2022 23:50	4/15/2022 23:54	16ffe21f1f
83ok9tsvfy9xng2983ok4nvryyodj3wv	Improved bike and pedestrian paths/trails and bike amenities,Local community shuttles/trolley services,Expanded on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft),More frequent and reliable bus service,More frequent and reliable train service	Increased walking and biking safety measures\, including separation from vehicle traffic,Availability of bikeshare\, e-bikes\, e-scooters,Free and secure bike parking at key locations,Reliable on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft),Universal fare pass that works across multiple transportation services,Easy connections between multiple transportation services (such as Metrolink to bikeshare)	Important	Very Important	Moderately Important	Moderately Important	Moderately Important	Important	Probably Not	Probably Not	Probably Not	Probably Not	Definitely Not	Definitely Not	Definitely Not	Definitely Not	Definitely Not	Definitely Not	92656	92653	25-34	110,000 â€“ 169,000	Latino/Hispanic		4/15/2022 23:38	4/15/2022 23:43	d263056de7
58xjcqytp5nqyp76iv58xjch8isjb7hm	More frequent and reliable train service,Improved bike and pedestrian paths/trails and bike amenities,Local community shuttles/trolley services,More frequent and reliable bus service,Expanded on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft)	Increased walking and biking safety measures\, including separation from vehicle traffic,Free and secure bike parking at key locations,Universal fare pass that works across multiple transportation services,Availability of bikeshare\, e-bikes\, e-scooters,Easy connections between multiple transportation services (such as Metrolink to bikeshare),Reliable on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft)	Very Important	Very Important	Very Important	Important	Important	Important	Probably Not	Definitely	Probably Not	Definitely	Probably Not	Probably Not	Definitely	Probably Not	Definitely	Possibly	92870	92870	16-24	50,000 â€“ 79,999	Caucasian/White	katetoller10@gmail.com	4/15/2022 6:16	4/15/2022 6:20	a00496026f
in4o4hzvti7nsuzxnxin4o846jk43cuz	More frequent and reliable train service,Expanded on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft),Local community shuttles/trolley services,More frequent and reliable bus service,Improved bike and pedestrian paths/trails and bike amenities	Easy connections between multiple transportation services (such as Metrolink to bikeshare),Universal fare pass that works across multiple transportation services,Reliable on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft),Free and secure bike parking at key locations,Availability of bikeshare\, e-bikes\, e-scooters,Increased walking and biking safety measures\, including separation from vehicle traffic	Very Important	Very Important	Very Important	Very Important	Very Important	Important	Probably Not	Definitely	Probably	Definitely Not	Definitely	Possibly	Definitely	Probably	Definitely Not	Definitely	92612	92612	55-64	170,000 or more	Caucasian/White		4/14/2022 21:17	4/14/2022 21:20	8e64d85b5d
cntkf74uu60ukvcntkf7j7untlsb6oaw	More frequent and reliable bus service,More frequent and reliable train service,Local community shuttles/trolley services,Improved bike and pedestrian paths/trails and bike amenities,Expanded on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft)	Availability of bikeshare\, e-bikes\, e-scooters,Universal fare pass that works across multiple transportation services,Increased walking and biking safety measures\, including separation from vehicle traffic,Easy connections between multiple transportation services (such as Metrolink to bikeshare),Free and secure bike parking at key locations,Reliable on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft)	Very Important	Moderately Important	Moderately Important	Moderately Important	Important	Important	Possibly	Definitely	Probably	Possibly	Probably	Probably Not	Possibly	Probably Not	Definitely	Probably	92603		35-44	110,000 â€“ 169,000	Caucasian/White		4/14/2022 21:15	4/14/2022 21:19	4dbfe52c52
kgnmr6ecoi4tfo5jbkgnmrb1zsll8htj	Expanded on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft),Local community shuttles/trolley services,More frequent and reliable train service,More frequent and reliable bus service,Improved bike and pedestrian paths/trails and bike amenities	Easy connections between multiple transportation services (such as Metrolink to bikeshare),Universal fare pass that works across multiple transportation services,Free and secure bike parking at key locations,Reliable on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft),Availability of bikeshare\, e-bikes\, e-scooters,Increased walking and biking safety measures\, including separation from vehicle traffic	Very Important	Important	Moderately Important	Moderately Important	Slightly Important	Moderately Important	Possibly	Possibly	Possibly	Possibly	Definitely	Possibly	Probably	Probably Not	Probably Not	Definitely	92653	92612	25-34	30,000 â€“ 49,999	Asian		4/14/2022 4:17	4/14/2022 7:06	6ed4428888
zsbw1sugfphrpj90zsbw9z21mn78s55m	More frequent and reliable train service,More frequent and reliable bus service,Improved bike and pedestrian paths/trails and bike amenities,Local community shuttles/trolley services,Expanded on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft)	Easy connections between multiple transportation services (such as Metrolink to bikeshare),Increased walking and biking safety measures\, including separation from vehicle traffic,Reliable on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft),Availability of bikeshare\, e-bikes\, e-scooters,Free and secure bike parking at key locations,Universal fare pass that works across multiple transportation services	Very Important	Very Important	Important	Very Important	Important	Very Important	Definitely	Probably	Probably	Possibly	Possibly	Definitely	Probably	Probably	Probably	Probably	92624	92624	75 or older	Prefer not to answer	Asian		4/14/2022 5:42	4/14/2022 5:46	f7537374d0
6etq6b72gbezrp1u3rzqtgeb6etq6b7l	More frequent and reliable bus service,Improved bike and pedestrian paths/trails and bike amenities,Local community shuttles/trolley services,More frequent and reliable train service,Expanded on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft)	Easy connections between multiple transportation services (such as Metrolink to bikeshare),Free and secure bike parking at key locations,Increased walking and biking safety measures\, including separation from vehicle traffic,Universal fare pass that works across multiple transportation services,Reliable on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft),Availability of bikeshare\, e-bikes\, e-scooters	Moderately Important	Moderately Important	Moderately Important	Very Important	Very Important	Very Important	Possibly	Probably	Possibly	Definitely	Probably Not	Probably	Definitely	Possibly	Definitely	Possibly	92627	92627	16-24	Less than 30,000	Latino/Hispanic	rocioantonio81890@yahoo.com	4/13/2022 23:31	4/13/2022 23:38	7c82da3735
nlihc6d9814mvj2wrukt3qnlihc6987i	Improved bike and pedestrian paths/trails and bike amenities,Local community shuttles/trolley services,Expanded on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft),More frequent and reliable train service,More frequent and reliable bus service	Universal fare pass that works across multiple transportation services,Reliable on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft),Availability of bikeshare\, e-bikes\, e-scooters,Easy connections between multiple transportation services (such as Metrolink to bikeshare),Increased walking and biking safety measures\, including separation from vehicle traffic,Free and secure bike parking at key locations	Important	Very Important	Slightly Important	Unimportant	Slightly Important	Important	Probably Not	Possibly	Probably	Probably	Definitely	Possibly	Probably Not	Probably Not	Probably	Definitely	92693	92675	45-54	170,000 or more	Caucasian/White	mbalsamo@ranchomv.com	4/13/2022 19:52	4/13/2022 20:00	3a965899bd
kfx9vqy94rs173idrhbkfx9vlzij58rk	More frequent and reliable train service,Local community shuttles/trolley services,More frequent and reliable bus service,Improved bike and pedestrian paths/trails and bike amenities,Expanded on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft)	Universal fare pass that works across multiple transportation services,Reliable on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft),Easy connections between multiple transportation services (such as Metrolink to bikeshare),Free and secure bike parking at key locations,Availability of bikeshare\, e-bikes\, e-scooters,Increased walking and biking safety measures\, including separation from vehicle traffic	Very Important	Very Important	Moderately Important	Moderately Important	Very Important	Important	Probably Not	Probably	Definitely	Probably Not	Definitely Not	Definitely	Probably	Definitely	Possibly	Probably Not	92672	92672	75 or older	170,000 or more	Caucasian/White		4/13/2022 1:55	4/13/2022 2:07	da8893e89d
j7hvx1bcp6dr6al7wlvrcj7hvx1nxgpb	More frequent and reliable train service,More frequent and reliable bus service,Expanded on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft),Local community shuttles/trolley services,Improved bike and pedestrian paths/trails and bike amenities	Easy connections between multiple transportation services (such as Metrolink to bikeshare),Universal fare pass that works across multiple transportation services,Reliable on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft),Increased walking and biking safety measures\, including separation from vehicle traffic,Availability of bikeshare\, e-bikes\, e-scooters,Free and secure bike parking at key locations	Very Important	Important	Very Important	Important	Very Important	Important	Definitely	Definitely	Definitely	Probably	Probably	Definitely	Definitely	Probably	Probably	Probably	90071	92706	65-74	80,000 â€“ 109,000	Asian		4/13/2022 1:15	4/13/2022 1:23	b8909a3c6e
vjyu2emum9avtdg7rcvjyuewek7tcmts	More frequent and reliable bus service,More frequent and reliable train service,Expanded on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft),Improved bike and pedestrian paths/trails and bike amenities,Local community shuttles/trolley services	Universal fare pass that works across multiple transportation services,Reliable on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft),Easy connections between multiple transportation services (such as Metrolink to bikeshare),Increased walking and biking safety measures\, including separation from vehicle traffic,Free and secure bike parking at key locations,Availability of bikeshare\, e-bikes\, e-scooters	Very Important	Very Important	Very Important	Slightly Important	Very Important	Very Important	Probably	Definitely	Definitely	Probably	Definitely	Definitely	Definitely	Definitely	Definitely	Definitely	92637	92675	65-74	170,000 or more	Caucasian/White		4/13/2022 0:03	4/13/2022 0:09	b6c34d45cd
33npn1swidyuvam133nc9vgdvhgh5dln	More frequent and reliable train service,Improved bike and pedestrian paths/trails and bike amenities,Local community shuttles/trolley services,Expanded on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft),More frequent and reliable bus service	Free and secure bike parking at key locations,Availability of bikeshare\, e-bikes\, e-scooters,Increased walking and biking safety measures\, including separation from vehicle traffic,Universal fare pass that works across multiple transportation services,Easy connections between multiple transportation services (such as Metrolink to bikeshare),Reliable on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft)	Very Important	Important	Slightly Important	Unimportant	Important	Unimportant	Possibly	Probably	Possibly	Possibly	Possibly	Probably Not	Probably	Probably	Definitely	Definitely			45-54	80,000 â€“ 109,000	Caucasian/White	helpmewithit@live.com	4/12/2022 21:17	4/12/2022 21:31	e956218357
qqff7vssn5tx8zt1qqffpjqrijfqh82d	Expanded on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft),Local community shuttles/trolley services,More frequent and reliable bus service,More frequent and reliable train service,Improved bike and pedestrian paths/trails and bike amenities	Reliable on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft),Universal fare pass that works across multiple transportation services,Easy connections between multiple transportation services (such as Metrolink to bikeshare),Increased walking and biking safety measures\, including separation from vehicle traffic,Free and secure bike parking at key locations,Availability of bikeshare\, e-bikes\, e-scooters	Very Important	Important	Important	Important	Moderately Important	Moderately Important	Probably Not	Probably	Definitely	Possibly	Probably Not	Probably Not	Possibly	Definitely	Probably Not	Possibly		94109	45-54	Less than 30,000	Caucasian/White		4/12/2022 20:01	4/12/2022 20:06	398f52a82c
ddybc8w2qvwi4i08ddybelf0orrjvntd	Expanded on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft),More frequent and reliable train service,More frequent and reliable bus service,Improved bike and pedestrian paths/trails and bike amenities,Local community shuttles/trolley services	Easy connections between multiple transportation services (such as Metrolink to bikeshare),Free and secure bike parking at key locations,Reliable on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft),Availability of bikeshare\, e-bikes\, e-scooters,Universal fare pass that works across multiple transportation services,Increased walking and biking safety measures\, including separation from vehicle traffic	Important	Very Important	Moderately Important	Important	Important	Moderately Important	Definitely	Probably	Definitely	Possibly	Possibly	Probably	Probably	Probably	Possibly	Possibly	92630	92691	75 or older	80,000 â€“ 109,000	Caucasian/White	OTC@cms4visa.com	4/12/2022 18:46	4/12/2022 18:51	93dbab7648
m5l40kdu8agzqtebp3j4aim5l40kdui1	More frequent and reliable train service,Expanded on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft),Improved bike and pedestrian paths/trails and bike amenities,More frequent and reliable bus service,Local community shuttles/trolley services	Increased walking and biking safety measures\, including separation from vehicle traffic,Free and secure bike parking at key locations,Reliable on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft),Availability of bikeshare\, e-bikes\, e-scooters,Easy connections between multiple transportation services (such as Metrolink to bikeshare),Universal fare pass that works across multiple transportation services	Very Important	Very Important	Slightly Important	Slightly Important	Moderately Important	Important	Probably Not	Probably Not	Probably Not	Possibly	Probably	Probably Not	Probably Not	Probably Not	Possibly	Definitely	92614	92705	65-74	170,000 or more	Caucasian/White		4/12/2022 18:41	4/12/2022 18:46	d8c46a9065
4k598u6qw6427b73204ymwo4k598u69q	Improved bike and pedestrian paths/trails and bike amenities,Local community shuttles/trolley services,More frequent and reliable train service,More frequent and reliable bus service,Expanded on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft)	Availability of bikeshare\, e-bikes\, e-scooters,Easy connections between multiple transportation services (such as Metrolink to bikeshare),Increased walking and biking safety measures\, including separation from vehicle traffic,Free and secure bike parking at key locations,Universal fare pass that works across multiple transportation services,Reliable on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft)	Very Important	Very Important	Very Important	Very Important	Very Important	Very Important	Probably Not	Definitely	Probably	Possibly	Definitely Not	Probably Not	Probably	Probably	Probably	Definitely Not	91501	92656	45-54	Prefer not to answer	Caucasian/White		4/12/2022 16:41	4/12/2022 16:52	a55f449de8
2n6jsupzhzud90re8e2n6juhu2u8hqt2	Local community shuttles/trolley services,More frequent and reliable train service,Expanded on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft),More frequent and reliable bus service,Improved bike and pedestrian paths/trails and bike amenities	Easy connections between multiple transportation services (such as Metrolink to bikeshare),Universal fare pass that works across multiple transportation services,Reliable on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft),Availability of bikeshare\, e-bikes\, e-scooters,Free and secure bike parking at key locations,Increased walking and biking safety measures\, including separation from vehicle traffic	Very Important	Very Important	Important	Moderately Important	Very Important	Important	Definitely Not	Definitely Not	Definitely Not	Definitely Not	Definitely Not	Definitely	Probably	Probably	Possibly	Definitely	92673	92673	45-54	170,000 or more	Caucasian/White	kbswebb@live.com	4/12/2022 16:30	4/12/2022 16:35	da0aec0cdc
64g9ctxm2cif33p64g9cwhtvy2ofa17i	Local community shuttles/trolley services,Expanded on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft),More frequent and reliable bus service,More frequent and reliable train service,Improved bike and pedestrian paths/trails and bike amenities	Reliable on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft),Free and secure bike parking at key locations,Universal fare pass that works across multiple transportation services,Easy connections between multiple transportation services (such as Metrolink to bikeshare),Availability of bikeshare\, e-bikes\, e-scooters,Increased walking and biking safety measures\, including separation from vehicle traffic	Important	Unimportant	Moderately Important	Unimportant	Moderately Important	Unimportant	Definitely Not	Definitely Not	Probably Not	Definitely Not	Possibly	Probably Not	Definitely Not	Possibly	Probably Not	Probably	92672	92673	65-74	170,000 or more	Caucasian/White	JohnBrantuk@msn.com	4/12/2022 15:09	4/12/2022 15:13	1a96d660c1
mvtrrvkmj3n3u0dhemvtx66quzztg965	Expanded on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft),Improved bike and pedestrian paths/trails and bike amenities,Local community shuttles/trolley services,More frequent and reliable train service,More frequent and reliable bus service	Availability of bikeshare\, e-bikes\, e-scooters,Free and secure bike parking at key locations,Increased walking and biking safety measures\, including separation from vehicle traffic,Reliable on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft),Easy connections between multiple transportation services (such as Metrolink to bikeshare),Universal fare pass that works across multiple transportation services	Very Important	Moderately Important	Slightly Important	Moderately Important	Slightly Important	Moderately Important	Definitely	Possibly	Probably	Probably Not	Probably Not	Probably	Definitely	Definitely	Definitely	Possibly		92677	75 or older	50,000 â€“ 79,999	Prefer not to answer		4/12/2022 14:55	4/12/2022 15:10	62b0889608
oexzmd9qvatj6ithfoexzf3mi01521ey	More frequent and reliable train service,Improved bike and pedestrian paths/trails and bike amenities,More frequent and reliable bus service,Local community shuttles/trolley services,Expanded on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft)	Easy connections between multiple transportation services (such as Metrolink to bikeshare),Increased walking and biking safety measures\, including separation from vehicle traffic,Reliable on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft),Universal fare pass that works across multiple transportation services,Free and secure bike parking at key locations,Availability of bikeshare\, e-bikes\, e-scooters	Very Important	Important	Moderately Important	Unimportant	Very Important	Unimportant	Probably Not	Possibly	Possibly	Probably Not	Probably Not	Probably Not	Possibly	Possibly	Probably Not	Possibly	90007	92603	55-64	80,000 â€“ 109,000	Caucasian/White	jloper@palmtreecommunities.com	4/12/2022 7:05	4/12/2022 7:09	b85e03a4a4
r2jyz7czxlgyk34d3r2jypm4f9avtw0p	Local community shuttles/trolley services,Expanded on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft),Improved bike and pedestrian paths/trails and bike amenities,More frequent and reliable train service,More frequent and reliable bus service	Reliable on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft),Free and secure bike parking at key locations,Universal fare pass that works across multiple transportation services,Easy connections between multiple transportation services (such as Metrolink to bikeshare),Increased walking and biking safety measures\, including separation from vehicle traffic,Availability of bikeshare\, e-bikes\, e-scooters	Important	Very Important	Important	Moderately Important	Important	Moderately Important	Possibly	Possibly	Probably	Possibly	Probably Not	Possibly	Possibly	Probably	Possibly	Possibly	92672	92672	75 or older	170,000 or more	Caucasian/White	JACKIE@JLANDRETH.COM	4/12/2022 3:31	4/12/2022 3:39	c905251c24
ak33y1hwvqgnvxkcak33y1ev3hxyqe9h	Local community shuttles/trolley services,More frequent and reliable bus service,More frequent and reliable train service,Expanded on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft),Improved bike and pedestrian paths/trails and bike amenities	Reliable on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft),Easy connections between multiple transportation services (such as Metrolink to bikeshare),Universal fare pass that works across multiple transportation services,Increased walking and biking safety measures\, including separation from vehicle traffic,Free and secure bike parking at key locations,Availability of bikeshare\, e-bikes\, e-scooters	Very Important	Very Important	Very Important	Very Important	Very Important	Important	Possibly	Definitely	Definitely	Definitely Not	Definitely Not	Probably	Definitely	Definitely	Possibly	Definitely Not		92637	75 or older	Prefer not to answer	Caucasian/White	rvevelyn@comline.com	4/12/2022 2:52	4/12/2022 2:58	9976f4e71c
319y2uo7ewydwmirg8oh319y280z8ws9	More frequent and reliable train service,More frequent and reliable bus service,Expanded on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft),Improved bike and pedestrian paths/trails and bike amenities,Local community shuttles/trolley services	Easy connections between multiple transportation services (such as Metrolink to bikeshare),Universal fare pass that works across multiple transportation services,Increased walking and biking safety measures\, including separation from vehicle traffic,Reliable on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft),Free and secure bike parking at key locations,Availability of bikeshare\, e-bikes\, e-scooters	Very Important	Very Important	Very Important	Very Important	Very Important	Important	Probably Not	Definitely	Possibly	Possibly	Probably Not	Probably Not	Definitely	Probably Not	Definitely	Definitely Not	92675	92675	65-74	30,000 â€“ 49,999	Caucasian/White	mjwernet50@gmail.com	4/12/2022 1:45	4/12/2022 1:46	ab0dd170d0
x0exm5l5crk4w7t0wix0xempmf81ocy3	More frequent and reliable train service,More frequent and reliable bus service,Local community shuttles/trolley services,Improved bike and pedestrian paths/trails and bike amenities,Expanded on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft)	Universal fare pass that works across multiple transportation services,Easy connections between multiple transportation services (such as Metrolink to bikeshare),Increased walking and biking safety measures\, including separation from vehicle traffic,Availability of bikeshare\, e-bikes\, e-scooters,Reliable on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft),Free and secure bike parking at key locations	Important	Important	Moderately Important	Very Important	Very Important	Very Important	Probably Not	Definitely	Probably Not	Probably	Probably	Probably	Definitely	Probably	Possibly	Possibly	92679	92637	55-64	110,000 â€“ 169,000	Caucasian/White	ecoprincess2@gmail.com	4/12/2022 0:53	4/12/2022 1:01	5da252098f
ah4t7nrtctb5kbpfyaah4t7l2yotry0r	Improved bike and pedestrian paths/trails and bike amenities,More frequent and reliable bus service,More frequent and reliable train service,Local community shuttles/trolley services,Expanded on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft)	Increased walking and biking safety measures\, including separation from vehicle traffic,Free and secure bike parking at key locations,Availability of bikeshare\, e-bikes\, e-scooters,Universal fare pass that works across multiple transportation services,Easy connections between multiple transportation services (such as Metrolink to bikeshare),Reliable on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft)	Very Important	Very Important	Important	Important	Important	Important	Possibly	Definitely	Possibly	Probably	Probably Not	Probably	Definitely	Probably	Definitely	Probably	92801	92801	45-54	Less than 30,000	Latino/Hispanic	uzpichin@gmail.com	4/12/2022 0:29	4/12/2022 0:36	51d66c1de7
469z0uvb94typa5i585469z0uvwohyzd	Expanded on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft),Improved bike and pedestrian paths/trails and bike amenities,Local community shuttles/trolley services,More frequent and reliable train service,More frequent and reliable bus service	Reliable on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft),Universal fare pass that works across multiple transportation services,Increased walking and biking safety measures\, including separation from vehicle traffic,Easy connections between multiple transportation services (such as Metrolink to bikeshare),Free and secure bike parking at key locations,Availability of bikeshare\, e-bikes\, e-scooters	Important	Important	Slightly Important	Unimportant	Moderately Important	Moderately Important	Possibly	Possibly	Probably	Definitely Not	Definitely Not	Probably Not	Probably Not	Probably	Probably	Definitely Not	92672	92672	65-74	Prefer not to answer	Caucasian/White		4/11/2022 23:40	4/11/2022 23:47	e2838969b7
fgj9r95pqqzrsnbz3tp7efgj9r95pjrr	Expanded on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft),Local community shuttles/trolley services,More frequent and reliable train service,More frequent and reliable bus service,Improved bike and pedestrian paths/trails and bike amenities	Reliable on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft),Increased walking and biking safety measures\, including separation from vehicle traffic,Easy connections between multiple transportation services (such as Metrolink to bikeshare),Universal fare pass that works across multiple transportation services,Free and secure bike parking at key locations,Availability of bikeshare\, e-bikes\, e-scooters	Very Important	Very Important	Very Important	Important	Very Important	Unimportant	Possibly	Possibly	Definitely	Probably Not	Definitely	Possibly	Possibly	Definitely	Possibly	Definitely	92672	92672	75 or older	Prefer not to answer	Caucasian/White	offline-repay-0p@icloud.com	4/11/2022 23:15	4/11/2022 23:21	35d3f300b7
b1dnraayx1hyyekw0ib1dnrazx3beoet	Improved bike and pedestrian paths/trails and bike amenities,Local community shuttles/trolley services,More frequent and reliable train service,More frequent and reliable bus service,Expanded on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft)	Increased walking and biking safety measures\, including separation from vehicle traffic,Free and secure bike parking at key locations,Availability of bikeshare\, e-bikes\, e-scooters,Easy connections between multiple transportation services (such as Metrolink to bikeshare),Reliable on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft),Universal fare pass that works across multiple transportation services	Very Important	Very Important	Important	Very Important	Important	Important	Definitely Not	Probably Not	Possibly	Probably Not	Definitely Not	Possibly	Possibly	Possibly	Possibly	Possibly	92701	92677	35-44	110,000 â€“ 169,000	Caucasian/White		4/11/2022 21:49	4/11/2022 23:07	c33a591881
yb84ey894pv3pue7lyb84gfmqdiyxju3	Expanded on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft),Local community shuttles/trolley services,More frequent and reliable bus service,Improved bike and pedestrian paths/trails and bike amenities,More frequent and reliable train service	Reliable on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft),Free and secure bike parking at key locations,Availability of bikeshare\, e-bikes\, e-scooters,Universal fare pass that works across multiple transportation services,Easy connections between multiple transportation services (such as Metrolink to bikeshare),Increased walking and biking safety measures\, including separation from vehicle traffic	Important	Important	Moderately Important	Slightly Important	Moderately Important	Important	Probably	Definitely	Probably	Probably Not	Probably Not	Definitely	Probably	Probably	Possibly	Possibly	92675	92675	65-74	170,000 or more	Caucasian/White		4/11/2022 22:59	4/11/2022 23:03	c2503b48df
9b09yjjk1ow8xhd1fej8av9b09yjjk4i	More frequent and reliable train service,Local community shuttles/trolley services,Expanded on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft),Improved bike and pedestrian paths/trails and bike amenities,More frequent and reliable bus service	Universal fare pass that works across multiple transportation services,Reliable on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft),Free and secure bike parking at key locations,Easy connections between multiple transportation services (such as Metrolink to bikeshare),Availability of bikeshare\, e-bikes\, e-scooters,Increased walking and biking safety measures\, including separation from vehicle traffic	Moderately Important	Important	Slightly Important	Slightly Important	Slightly Important	Unimportant	Definitely Not	Probably	Probably	Definitely Not	Definitely Not	Definitely Not	Possibly	Probably Not	Possibly	Definitely	92630	92630	65-74	110,000 â€“ 169,000	Caucasian/White	mwick01@earthlink.net	4/11/2022 22:44	4/11/2022 22:56	28e6e480d3
qjajdu387uru27jv1qjajdusfx96a8wt	Improved bike and pedestrian paths/trails and bike amenities,More frequent and reliable train service,More frequent and reliable bus service,Local community shuttles/trolley services,Expanded on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft)	Increased walking and biking safety measures\, including separation from vehicle traffic,Free and secure bike parking at key locations,Availability of bikeshare\, e-bikes\, e-scooters,Easy connections between multiple transportation services (such as Metrolink to bikeshare),Universal fare pass that works across multiple transportation services,Reliable on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft)	Important	Very Important	Important	Important	Important	Very Important	Probably Not	Probably Not	Probably Not	Definitely	Probably Not	Possibly	Possibly	Possibly	Definitely	Possibly	92704	92802	25-34	30,000 â€“ 49,999	Caucasian/White		4/11/2022 22:51	4/11/2022 22:55	6efc8ced38
nt4pen7gpsakn9a05j9ernt4penyb4io	More frequent and reliable train service,More frequent and reliable bus service,Improved bike and pedestrian paths/trails and bike amenities,Local community shuttles/trolley services,Expanded on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft)	Free and secure bike parking at key locations,Easy connections between multiple transportation services (such as Metrolink to bikeshare),Increased walking and biking safety measures\, including separation from vehicle traffic,Availability of bikeshare\, e-bikes\, e-scooters,Universal fare pass that works across multiple transportation services,Reliable on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft)	Very Important	Important	Important	Moderately Important	Important	Important	Probably	Possibly	Definitely	Probably	Definitely	Definitely	Probably	Probably	Definitely	Definitely	90731	92672	55-64	110,000 â€“ 169,000	Latino/Hispanic	drenotme@hotmail.com	4/11/2022 22:47	4/11/2022 22:55	2c08937ce9
2tleyf8mmp5tflaa3g12tleyw00xemq5	More frequent and reliable train service,More frequent and reliable bus service,Local community shuttles/trolley services,Improved bike and pedestrian paths/trails and bike amenities,Expanded on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft)	Easy connections between multiple transportation services (such as Metrolink to bikeshare),Universal fare pass that works across multiple transportation services,Free and secure bike parking at key locations,Increased walking and biking safety measures\, including separation from vehicle traffic,Reliable on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft),Availability of bikeshare\, e-bikes\, e-scooters	Very Important	Very Important	Very Important	Very Important	Very Important	Very Important	Possibly	Definitely	Probably	Probably	Definitely	Possibly	Definitely	Probably	Definitely	Definitely	92677	92677	25-34	30,000 â€“ 49,999	Mixed Heritage		4/11/2022 22:33	4/11/2022 22:36	9b1a818d35
e7g8e47wmfnona7hx28te7g8lxt9m4f5	Local community shuttles/trolley services,More frequent and reliable bus service,More frequent and reliable train service,Improved bike and pedestrian paths/trails and bike amenities,Expanded on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft)	Increased walking and biking safety measures\, including separation from vehicle traffic,Easy connections between multiple transportation services (such as Metrolink to bikeshare),Free and secure bike parking at key locations,Reliable on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft),Availability of bikeshare\, e-bikes\, e-scooters,Universal fare pass that works across multiple transportation services	Important	Very Important	Very Important	Very Important	Important	Moderately Important	Probably Not	Probably Not	Probably Not	Definitely Not	Possibly	Definitely Not	Definitely Not	Definitely Not	Definitely Not	Definitely Not	92678	92678	45-54	50,000 â€“ 79,999	Mixed Heritage	surfinfoool@yahoo.com	4/11/2022 22:16	4/11/2022 22:22	b814c31caa
3x7bk2ipr12o93x7i57zj1mx29sh1i3c	Improved bike and pedestrian paths/trails and bike amenities,Local community shuttles/trolley services,More frequent and reliable train service,Expanded on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft),More frequent and reliable bus service	Free and secure bike parking at key locations,Availability of bikeshare\, e-bikes\, e-scooters,Easy connections between multiple transportation services (such as Metrolink to bikeshare),Increased walking and biking safety measures\, including separation from vehicle traffic,Universal fare pass that works across multiple transportation services,Reliable on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft)	Very Important	Very Important	Very Important	Important	Important	Very Important	Probably Not	Definitely	Possibly	Probably	Probably Not	Possibly	Probably	Possibly	Probably	Probably	92672	92672	55-64	110,000 â€“ 169,000	Mixed Heritage		4/11/2022 22:12	4/11/2022 22:16	04d5c2f6cc
sh0a7i5513lmnicsh0a3o7k6c98x0rgv	Local community shuttles/trolley services,More frequent and reliable bus service,Improved bike and pedestrian paths/trails and bike amenities,More frequent and reliable train service,Expanded on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft)	Universal fare pass that works across multiple transportation services,Availability of bikeshare\, e-bikes\, e-scooters,Easy connections between multiple transportation services (such as Metrolink to bikeshare),Free and secure bike parking at key locations,Increased walking and biking safety measures\, including separation from vehicle traffic,Reliable on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft)	Very Important	Very Important	Very Important	Very Important	Very Important	Very Important	Possibly	Possibly	Definitely	Definitely	Definitely	Possibly	Definitely	Possibly	Probably	Definitely	92697	92679	45-54	Prefer not to answer	Caucasian/White		4/11/2022 22:06	4/11/2022 22:09	c834a62d34
f1xwlqs5fdrbzk3u8f1xwzk2seckcjwu	More frequent and reliable train service,Local community shuttles/trolley services,Expanded on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft),Improved bike and pedestrian paths/trails and bike amenities,More frequent and reliable bus service	Reliable on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft),Easy connections between multiple transportation services (such as Metrolink to bikeshare),Increased walking and biking safety measures\, including separation from vehicle traffic,Availability of bikeshare\, e-bikes\, e-scooters,Universal fare pass that works across multiple transportation services,Free and secure bike parking at key locations	Very Important	Very Important	Very Important	Very Important	Important	Important	Probably Not	Probably Not	Definitely	Probably Not	Definitely Not	Probably Not	Possibly	Definitely	Probably Not	Definitely	92657	92657	65-74	80,000 â€“ 109,000	Caucasian/White		4/11/2022 21:56	4/11/2022 22:06	47b91ce942

ENGLISH & SPANISH #	*Recognizing that future funding is limited, rank the following types of transportation services for funding priority.* (Rank from highest to lowest priority.)	*Choosing a non-car travel option can help reduce emissions and congestion. Prioritize the following in order of how likely you would consider a non-car travel option.* (Rank from most to least likely.)
nweg4xww0qh5sz3fdlxnweg4xx456o2s	More frequent and reliable train service,Local community shuttles/trolley services,More frequent and reliable bus service,Expanded on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft),Improved bike and pedestrian paths/trails and bike amenities	Easy connections between multiple transportation services (such as Metrolink to bikeshare),Increased walking and biking safety measures\, including separation from vehicle traffic,Universal fare pass that works across multiple transportation services,Reliable on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft),Free and secure bike parking at key locations,Availability of bikeshare\, e-bikes\, e-scooters
r69acodxglywxl7hlu8r69acegxgcymr	More frequent and reliable train service,Improved bike and pedestrian paths/trails and bike amenities,More frequent and reliable bus service,Local community shuttles/trolley services,Expanded on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft)	Universal fare pass that works across multiple transportation services,Easy connections between multiple transportation services (such as Metrolink to bikeshare),Reliable on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft),Increased walking and biking safety measures\, including separation from vehicle traffic,Free and secure bike parking at key locations,Availability of bikeshare\, e-bikes\, e-scooters
qdzomiit5eogmsth3tggqdzom31bbvhv	Local community shuttles/trolley services,Expanded on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft),More frequent and reliable bus service,More frequent and reliable train service,Improved bike and pedestrian paths/trails and bike amenities	Reliable on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft),Availability of bikeshare\, e-bikes\, e-scooters,Easy connections between multiple transportation services (such as Metrolink to bikeshare),Universal fare pass that works across multiple transportation services,Free and secure bike parking at key locations,Increased walking and biking safety measures\, including separation from vehicle traffic
15qz5t4scius5lcu15qmlb27w6qisnml	Improved bike and pedestrian paths/trails and bike amenities,More frequent and reliable train service,Local community shuttles/trolley services,More frequent and reliable bus service,Expanded on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft)	Increased walking and biking safety measures\, including separation from vehicle traffic,Easy connections between multiple transportation services (such as Metrolink to bikeshare),Free and secure bike parking at key locations,Universal fare pass that works across multiple transportation services,Availability of bikeshare\, e-bikes\, e-scooters,Reliable on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft)
no99lz3wjfd7rbzr1gsno996sc34gwdx	More frequent and reliable bus service,Local community shuttles/trolley services,Improved bike and pedestrian paths/trails and bike amenities,Expanded on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft),More frequent and reliable train service	Universal fare pass that works across multiple transportation services,Increased walking and biking safety measures\, including separation from vehicle traffic,Easy connections between multiple transportation services (such as Metrolink to bikeshare),Availability of bikeshare\, e-bikes\, e-scooters,Free and secure bike parking at key locations,Reliable on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft)
c9u5qq2uarhmsp6umc9u5qkdlep3sbn6	Local community shuttles/trolley services,More frequent and reliable bus service,Improved bike and pedestrian paths/trails and bike amenities,More frequent and reliable train service,Expanded on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft)	Easy connections between multiple transportation services (such as Metrolink to bikeshare),Increased walking and biking safety measures\, including separation from vehicle traffic,Free and secure bike parking at key locations,Reliable on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft),Availability of bikeshare\, e-bikes\, e-scooters,Universal fare pass that works across multiple transportation services
orolc27kt2a7y5xuqnnorolctmm67stc	Improved bike and pedestrian paths/trails and bike amenities,Local community shuttles/trolley services,More frequent and reliable train service,Expanded on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft),More frequent and reliable bus service	Free and secure bike parking at key locations,Availability of bikeshare\, e-bikes\, e-scooters,Easy connections between multiple transportation services (such as Metrolink to bikeshare),Increased walking and biking safety measures\, including separation from vehicle traffic,Universal fare pass that works across multiple transportation services,Reliable on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft)
k6rfwrm28vp0q0wrogb7btlsk6rfws8a	More frequent and reliable bus service,Improved bike and pedestrian paths/trails and bike amenities,More frequent and reliable train service,Local community shuttles/trolley services,Expanded on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft)	Increased walking and biking safety measures\, including separation from vehicle traffic,Universal fare pass that works across multiple transportation services,Free and secure bike parking at key locations,Easy connections between multiple transportation services (such as Metrolink to bikeshare),Availability of bikeshare\, e-bikes\, e-scooters,Reliable on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft)
u8onv0yitdvrjh7u8owtxhbq4nf1t1we	Local community shuttles/trolley services,More frequent and reliable bus service,More frequent and reliable train service,Expanded on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft),Improved bike and pedestrian paths/trails and bike amenities	Universal fare pass that works across multiple transportation services,Easy connections between multiple transportation services (such as Metrolink to bikeshare),Increased walking and biking safety measures\, including separation from vehicle traffic,Free and secure bike parking at key locations,Reliable on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft),Availability of bikeshare\, e-bikes\, e-scooters
fz6ivqfc9jc4cscckj1w8fz6ivqfaiho	More frequent and reliable train service,More frequent and reliable bus service,Improved bike and pedestrian paths/trails and bike amenities,Local community shuttles/trolley services,Expanded on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft)	Universal fare pass that works across multiple transportation services,Easy connections between multiple transportation services (such as Metrolink to bikeshare),Increased walking and biking safety measures\, including separation from vehicle traffic,Free and secure bike parking at key locations,Availability of bikeshare\, e-bikes\, e-scooters,Reliable on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft)
iayiy0f1cww1gxpypqsiayiy0fezahue	More frequent and reliable bus service,Improved bike and pedestrian paths/trails and bike amenities,Expanded on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft),More frequent and reliable train service,Local community shuttles/trolley services	Easy connections between multiple transportation services (such as Metrolink to bikeshare),Free and secure bike parking at key locations,Availability of bikeshare\, e-bikes\, e-scooters,Universal fare pass that works across multiple transportation services,Reliable on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft),Increased walking and biking safety measures\, including separation from vehicle traffic
cd2iukxxqdgmwd6yc9mcd2iuyf4nag5e	Local community shuttles/trolley services,Improved bike and pedestrian paths/trails and bike amenities,More frequent and reliable train service,More frequent and reliable bus service,Expanded on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft)	Free and secure bike parking at key locations,Easy connections between multiple transportation services (such as Metrolink to bikeshare),Availability of bikeshare\, e-bikes\, e-scooters,Universal fare pass that works across multiple transportation services,Increased walking and biking safety measures\, including separation from vehicle traffic,Reliable on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft)
e6elkkdbkmurs9vow5ne6el5isgru74j	Local community shuttles/trolley services,Expanded on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft),More frequent and reliable train service,Improved bike and pedestrian paths/trails and bike amenities,More frequent and reliable bus service	Reliable on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft),Availability of bikeshare\, e-bikes\, e-scooters,Easy connections between multiple transportation services (such as Metrolink to bikeshare),Increased walking and biking safety measures\, including separation from vehicle traffic,Free and secure bike parking at key locations,Universal fare pass that works across multiple transportation services
wcy1d964mgpd8d2dwcy1dago19jvi0e0	More frequent and reliable train service,More frequent and reliable bus service,Local community shuttles/trolley services,Expanded on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft),Improved bike and pedestrian paths/trails and bike amenities	Increased walking and biking safety measures\, including separation from vehicle traffic,Universal fare pass that works across multiple transportation services,Free and secure bike parking at key locations,Reliable on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft),Easy connections between multiple transportation services (such as Metrolink to bikeshare),Availability of bikeshare\, e-bikes\, e-scooters
om0gm3egsa808a2zgjmvupxom0gm3exl	More frequent and reliable bus service,Improved bike and pedestrian paths/trails and bike amenities,Expanded on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft),More frequent and reliable train service,Local community shuttles/trolley services	Increased walking and biking safety measures\, including separation from vehicle traffic,Reliable on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft),Availability of bikeshare\, e-bikes\, e-scooters,Easy connections between multiple transportation services (such as Metrolink to bikeshare),Free and secure bike parking at key locations,Universal fare pass that works across multiple transportation services
1q9y1wwryqc256w9ooa1q9y1nvjale0j	Local community shuttles/trolley services,Expanded on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft),More frequent and reliable train service,More frequent and reliable bus service,Improved bike and pedestrian paths/trails and bike amenities	Reliable on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft),Easy connections between multiple transportation services (such as Metrolink to bikeshare),Availability of bikeshare\, e-bikes\, e-scooters,Universal fare pass that works across multiple transportation services,Increased walking and biking safety measures\, including separation from vehicle traffic,Free and secure bike parking at key locations
m4bggpsymstjpviykijewm4bgg1uivek	More frequent and reliable bus service,More frequent and reliable train service,Expanded on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft),Improved bike and pedestrian paths/trails and bike amenities,Local community shuttles/trolley services	Easy connections between multiple transportation services (such as Metrolink to bikeshare),Reliable on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft),Increased walking and biking safety measures\, including separation from vehicle traffic,Free and secure bike parking at key locations,Availability of bikeshare\, e-bikes\, e-scooters,Universal fare pass that works across multiple transportation services
demj1zbiqp88flx6smskrdemj1zfzo02	More frequent and reliable train service,More frequent and reliable bus service,Local community shuttles/trolley services,Expanded on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft),Improved bike and pedestrian paths/trails and bike amenities	Availability of bikeshare\, e-bikes\, e-scooters,Free and secure bike parking at key locations,Reliable on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft),Universal fare pass that works across multiple transportation services,Easy connections between multiple transportation services (such as Metrolink to bikeshare),Increased walking and biking safety measures\, including separation from vehicle traffic
xwd135eko37e7m1tu04h28vwxwd135ek	Local community shuttles/trolley services,More frequent and reliable train service,Expanded on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft),More frequent and reliable bus service,Improved bike and pedestrian paths/trails and bike amenities	Easy connections between multiple transportation services (such as Metrolink to bikeshare),Reliable on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft),Universal fare pass that works across multiple transportation services,Free and secure bike parking at key locations,Availability of bikeshare\, e-bikes\, e-scooters,Increased walking and biking safety measures\, including separation from vehicle traffic
r9f9aclv0lghegt8r9f9ahg8xdo8pe3p	Improved bike and pedestrian paths/trails and bike amenities,Local community shuttles/trolley services,Expanded on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft),More frequent and reliable bus service,More frequent and reliable train service	Increased walking and biking safety measures\, including separation from vehicle traffic,Free and secure bike parking at key locations,Reliable on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft),Availability of bikeshare\, e-bikes\, e-scooters,Universal fare pass that works across multiple transportation services,Easy connections between multiple transportation services (such as Metrolink to bikeshare)
1c77sqt2ue65pdkb1c77sh37p077gt4r	More frequent and reliable bus service,More frequent and reliable train service,Expanded on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft),Improved bike and pedestrian paths/trails and bike amenities,Local community shuttles/trolley services	Universal fare pass that works across multiple transportation services,Easy connections between multiple transportation services (such as Metrolink to bikeshare),Increased walking and biking safety measures\, including separation from vehicle traffic,Free and secure bike parking at key locations,Reliable on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft),Availability of bikeshare\, e-bikes\, e-scooters
e8oucbyia3bxush9j9ie8oucbwm8cx7t	Expanded on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft),Local community shuttles/trolley services,Improved bike and pedestrian paths/trails and bike amenities,More frequent and reliable bus service,More frequent and reliable train service	Reliable on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft),Increased walking and biking safety measures\, including separation from vehicle traffic,Free and secure bike parking at key locations,Availability of bikeshare\, e-bikes\, e-scooters,Universal fare pass that works across multiple transportation services,Easy connections between multiple transportation services (such as Metrolink to bikeshare)
ettffbhapn61pblettff2nvgkpzq1ro2	More frequent and reliable train service,Expanded on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft),Improved bike and pedestrian paths/trails and bike amenities,More frequent and reliable bus service,Local community shuttles/trolley services	Universal fare pass that works across multiple transportation services,Easy connections between multiple transportation services (such as Metrolink to bikeshare),Free and secure bike parking at key locations,Availability of bikeshare\, e-bikes\, e-scooters,Reliable on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft),Increased walking and biking safety measures\, including separation from vehicle traffic
j847wwzvh6uyo0a830j847wyprz5yv0c	Expanded on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft),Improved bike and pedestrian paths/trails and bike amenities,Local community shuttles/trolley services,More frequent and reliable train service,More frequent and reliable bus service	Increased walking and biking safety measures\, including separation from vehicle traffic,Free and secure bike parking at key locations,Reliable on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft),Availability of bikeshare\, e-bikes\, e-scooters,Easy connections between multiple transportation services (such as Metrolink to bikeshare),Universal fare pass that works across multiple transportation services
ejiz3ia1yw71ahyfciwk0ejiz3pre5vk	Expanded on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft),Local community shuttles/trolley services,More frequent and reliable train service,Improved bike and pedestrian paths/trails and bike amenities,More frequent and reliable bus service	Reliable on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft),Universal fare pass that works across multiple transportation services,Free and secure bike parking at key locations,Easy connections between multiple transportation services (such as Metrolink to bikeshare),Availability of bikeshare\, e-bikes\, e-scooters,Increased walking and biking safety measures\, including separation from vehicle traffic
hwuqemoh4saekfrud0hwuqerfbdi3gr5	Expanded on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft),Local community shuttles/trolley services,More frequent and reliable bus service,Improved bike and pedestrian paths/trails and bike amenities,More frequent and reliable train service	Universal fare pass that works across multiple transportation services,Reliable on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft),Easy connections between multiple transportation services (such as Metrolink to bikeshare),Free and secure bike parking at key locations,Availability of bikeshare\, e-bikes\, e-scooters,Increased walking and biking safety measures\, including separation from vehicle traffic
ytubx0g4sdijytub41eu34gi7s87s41e	Improved bike and pedestrian paths/trails and bike amenities,More frequent and reliable train service,Local community shuttles/trolley services,More frequent and reliable bus service,Expanded on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft)	Easy connections between multiple transportation services (such as Metrolink to bikeshare),Increased walking and biking safety measures\, including separation from vehicle traffic,Free and secure bike parking at key locations,Universal fare pass that works across multiple transportation services,Reliable on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft),Availability of bikeshare\, e-bikes\, e-scooters
betu89804bt9dapbetu89pc32y5jbvgu	Expanded on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft),Local community shuttles/trolley services,Improved bike and pedestrian paths/trails and bike amenities,More frequent and reliable train service,More frequent and reliable bus service	Increased walking and biking safety measures\, including separation from vehicle traffic,Free and secure bike parking at key locations,Reliable on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft),Availability of bikeshare\, e-bikes\, e-scooters,Easy connections between multiple transportation services (such as Metrolink to bikeshare),Universal fare pass that works across multiple transportation services
krfkjpp6ug7p83b34krrc21uowu3ykth	More frequent and reliable bus service,Local community shuttles/trolley services,More frequent and reliable train service,Improved bike and pedestrian paths/trails and bike amenities,Expanded on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft)	Reliable on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft),Availability of bikeshare\, e-bikes\, e-scooters,Free and secure bike parking at key locations,Easy connections between multiple transportation services (such as Metrolink to bikeshare),Increased walking and biking safety measures\, including separation from vehicle traffic,Universal fare pass that works across multiple transportation services
9nwh8lubhv3jzt395ca9nwh8lebb5u1r	More frequent and reliable train service,More frequent and reliable bus service,Expanded on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft),Improved bike and pedestrian paths/trails and bike amenities,Local community shuttles/trolley services	Free and secure bike parking at key locations,Reliable on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft),Universal fare pass that works across multiple transportation services,Increased walking and biking safety measures\, including separation from vehicle traffic,Easy connections between multiple transportation services (such as Metrolink to bikeshare),Availability of bikeshare\, e-bikes\, e-scooters
2clh9scn06fkjmca9i2clh9vxh50atei	Local community shuttles/trolley services,Improved bike and pedestrian paths/trails and bike amenities,Expanded on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft),More frequent and reliable train service,More frequent and reliable bus service	Universal fare pass that works across multiple transportation services,Easy connections between multiple transportation services (such as Metrolink to bikeshare),Reliable on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft),Availability of bikeshare\, e-bikes\, e-scooters,Increased walking and biking safety measures\, including separation from vehicle traffic,Free and secure bike parking at key locations
iap4hw7xkbxm4i74osojiap458mgr05j	Local community shuttles/trolley services,More frequent and reliable train service,More frequent and reliable bus service,Expanded on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft),Improved bike and pedestrian paths/trails and bike amenities	Availability of bikeshare\, e-bikes\, e-scooters,Increased walking and biking safety measures\, including separation from vehicle traffic,Universal fare pass that works across multiple transportation services,Free and secure bike parking at key locations,Reliable on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft),Easy connections between multiple transportation services (such as Metrolink to bikeshare)
tgwrzn74tnxfmouo2fisdtgwrz67wi1f	More frequent and reliable train service,Improved bike and pedestrian paths/trails and bike amenities,Expanded on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft),Local community shuttles/trolley services,More frequent and reliable bus service	Reliable on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft),Easy connections between multiple transportation services (such as Metrolink to bikeshare),Free and secure bike parking at key locations,Availability of bikeshare\, e-bikes\, e-scooters,Universal fare pass that works across multiple transportation services,Increased walking and biking safety measures\, including separation from vehicle traffic
ha139ond36gifdb8r1qiha139onazl69	Local community shuttles/trolley services,More frequent and reliable train service,More frequent and reliable bus service,Expanded on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft),Improved bike and pedestrian paths/trails and bike amenities	Availability of bikeshare\, e-bikes\, e-scooters,Free and secure bike parking at key locations,Reliable on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft),Easy connections between multiple transportation services (such as Metrolink to bikeshare),Universal fare pass that works across multiple transportation services,Increased walking and biking safety measures\, including separation from vehicle traffic
m7khl1iy9rz59aqxlum7khl1nddjblej	Local community shuttles/trolley services,More frequent and reliable bus service,Improved bike and pedestrian paths/trails and bike amenities,Expanded on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft),More frequent and reliable train service	Universal fare pass that works across multiple transportation services,Availability of bikeshare\, e-bikes\, e-scooters,Free and secure bike parking at key locations,Increased walking and biking safety measures\, including separation from vehicle traffic,Reliable on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft),Easy connections between multiple transportation services (such as Metrolink to bikeshare)
ku4v1495i5nwogeniwku4v140gzf0s19	Local community shuttles/trolley services,More frequent and reliable train service,Improved bike and pedestrian paths/trails and bike amenities,More frequent and reliable bus service,Expanded on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft)	Free and secure bike parking at key locations,Easy connections between multiple transportation services (such as Metrolink to bikeshare),Increased walking and biking safety measures\, including separation from vehicle traffic,Universal fare pass that works across multiple transportation services,Reliable on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft),Availability of bikeshare\, e-bikes\, e-scooters
3u5srltmjyqlol0etbv13u5sr1p815yz	Improved bike and pedestrian paths/trails and bike amenities,More frequent and reliable bus service,More frequent and reliable train service,Expanded on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft),Local community shuttles/trolley services	Increased walking and biking safety measures\, including separation from vehicle traffic,Easy connections between multiple transportation services (such as Metrolink to bikeshare),Universal fare pass that works across multiple transportation services,Free and secure bike parking at key locations,Reliable on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft),Availability of bikeshare\, e-bikes\, e-scooters
ollajvk3ig1b4d35funq7ollajvivg3j	Improved bike and pedestrian paths/trails and bike amenities,More frequent and reliable train service,More frequent and reliable bus service,Local community shuttles/trolley services,Expanded on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft)	Increased walking and biking safety measures\, including separation from vehicle traffic,Easy connections between multiple transportation services (such as Metrolink to bikeshare),Universal fare pass that works across multiple transportation services,Reliable on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft),Free and secure bike parking at key locations,Availability of bikeshare\, e-bikes\, e-scooters

ENGLISH & SPANISH #	Sidewalks wide enough to allow pedestrians to walk comfortably, separated from traffic.	Bicycle lanes/paths that are safe for riders of all ages and experience levels.	Extended pedestrian street crossing times when needed.	Dedicated bus lanes so that buses can compete with car travel times.	Safe and accessible transit stops, with amenities such as shelters, benches, and lighting to increase comfort, convenience, and visibility.	Street roundabouts, curb extensions, and other elements that increase safety for pedestrians and bicyclists.	Carpool and vanpool subsidies	Metrolink and bus pass subsidies	Microtransit/shared ride (OC Flex and Uber/Lyft) subsidies	Bikeshare subsidies	Telework subsidies	Carpool or vanpool	Take transit (such as Metrolink and bus)	Microtransit/shared ride (OC Flex and Uber/Lyft)	Walk or bike	Telework	*Thanks for your input! Now, please tell us a little about yourself. * * What is your worksite zip code if you have one?*	*What is your home zip code?*	*What is your age range? *	*What is your combined annual household income? *	*What ethnic group do you consider yourself a part of or feel closest to? *	*Sign up to receive project updates and meeting invites *	Start Date (UTC)	Submit Date (UTC)	Network ID
nweg4xww0qh5sz3fdlxnweg4xx456o2s	Very Important	Important	Important	Important	Moderately Important	Important	Probably Not	Probably Not	Possibly	Probably Not	Probably	Probably	Possibly	Probably	Possibly	Definitely	92656	92695	35-44	170,000 or more	Asian	ssumitani@pm.me	4/11/2022 21:41	4/11/2022 21:44	f4eb00e1f2
r69acodxglywxl7hlu8r69acegxgcymr	Very Important	Very Important	Very Important	Very Important	Very Important	Important	Possibly	Definitely	Probably	Possibly	Possibly	Possibly	Definitely	Probably	Definitely	Probably		62675	65-74	50,000 â€“ 79,999	Caucasian/White		4/11/2022 21:18	4/11/2022 21:41	5eedc7bf62
qdzomiit5eogmsth3tggqdzom31bbvhv	Important	Important	Moderately Important	Very Important	Important	Very Important	Probably	Possibly	Definitely	Probably Not	Probably	Probably	Probably	Definitely	Probably Not	Definitely	92693	92660	35-44	Prefer not to answer	Caucasian/White		4/11/2022 18:52	4/11/2022 21:26	3a965899bd
15qz5t4scius5lcu15qmlb27w6qisnml	Very Important	Very Important	Slightly Important	Slightly Important	Very Important	Very Important	Probably Not	Probably Not	Definitely Not	Possibly	Definitely	Possibly	Definitely Not	Definitely Not	Probably Not	Definitely Not	92691	92614	35-44	80,000 â€“ 109,000	Caucasian/White	manns@svusd.org	4/11/2022 20:59	4/11/2022 21:02	5306c5ff4e
no99lz3wjfd7rbzr1gsno996sc34gwdx	Very Important	Very Important	Very Important	Moderately Important	Very Important	Important	Possibly	Definitely	Probably Not	Probably Not	Probably Not	Definitely	Definitely	Probably	Probably	Possibly	92618	92618	65-74	30,000 â€“ 49,999	Asian	tdtran1208@yahoo.com	4/11/2022 20:56	4/11/2022 21:02	8469d9668a
c9u5qq2uarhmsp6umc9u5qkdlep3sbn6	Important	Very Important	Moderately Important	Moderately Important	Moderately Important	Slightly Important	Probably Not	Probably Not	Probably Not	Probably Not	Probably Not	Probably Not	Probably Not	Possibly	Definitely	Possibly	92697	92617	35-44	170,000 or more	Caucasian/White	barb.jusiak@gmail.com	4/11/2022 20:54	4/11/2022 21:00	dbdde22f3d
orolc27kt2a7y5xuqnnorolctmm67stc	Very Important	Very Important	Important	Moderately Important	Important	Very Important	Possibly	Probably	Probably	Definitely	Definitely	Probably	Probably	Probably	Definitely	Definitely	92612	92691	55-64	170,000 or more	Caucasian/White	trawl-oblong-0v@icloud.com	4/11/2022 20:45	4/11/2022 20:49	705b14a1cf
k6rfwrm28vp0q0wrogb7btlsk6rfws8a	Very Important	Very Important	Important	Very Important	Very Important	Very Important	Possibly	Probably	Probably	Definitely	Possibly	Probably	Definitely	Possibly	Definitely	Probably	92617	92612	16-24	Less than 30,000	Asian	fongjl1@uci.edu	4/11/2022 20:32	4/11/2022 20:35	49924b939c
u8onv0yitdvrjh7u8owtxhbq4nf1t1we	Very Important	Important	Very Important	Very Important	Important	Very Important	Probably Not	Possibly	Probably	Probably	Definitely	Definitely	Possibly	Possibly	Possibly	Definitely	92673	92673	75 or older	Prefer not to answer	Caucasian/White	maryanncomes@gmail.com	4/11/2022 20:25	4/11/2022 20:31	3387b14c7d
fz6ivqfc9jc4cscckj1w8fz6ivqfaiho	Very Important	Very Important	Important	Moderately Important	Important	Important	Possibly	Definitely	Probably Not	Possibly	Definitely	Probably	Probably	Probably Not	Probably	Probably	92629	92675	45-54	110,000 â€“ 169,000	Latino/Hispanic		4/11/2022 20:27	4/11/2022 20:30	d7b0a465a7
iayiy0f1cww1gxpypqsiayiy0fezahue	Very Important	Very Important	Very Important	Important	Important	Very Important	Definitely	Definitely	Probably	Definitely	Definitely	Definitely	Definitely	Possibly	Definitely	Possibly	92647	92647	45-54	30,000 â€“ 49,999	Latino/Hispanic	malehuerta@hotmail.com	4/11/2022 20:04	4/11/2022 20:14	21e7828343
cd2iukxxqdgmwd6yc9mcd2iuyf4nag5e	Very Important	Very Important	Very Important	Important	Very Important	Very Important	Possibly	Definitely	Possibly	Possibly	Possibly	Probably Not	Possibly	Probably Not	Probably	Probably	92677	92677	65-74	110,000 â€“ 169,000	Caucasian/White	xxtrasafe@yahoo.com	4/11/2022 20:05	4/11/2022 20:07	4954f1de97
e6elkkdbkmurs9vow5ne6el5isgru74j	Very Important	Important	Moderately Important	Slightly Important	Moderately Important	Important	Probably Not	Probably Not	Possibly	Probably Not	Probably	Probably Not	Definitely Not	Probably	Probably Not	Probably	92675	92692	55-64	170,000 or more	Mixed Heritage	yatesjim082@gmail.com	4/11/2022 19:56	4/11/2022 20:03	3a965899bd
wcy1d964mgpd8d2dwcy1dago19jvi0e0	Very Important	Important	Slightly Important	Important	Important	Moderately Important	Possibly	Definitely	Possibly	Definitely Not	Probably	Possibly	Definitely	Probably Not	Definitely Not	Definitely	92703	92679	55-64	110,000 â€“ 169,000	Prefer not to answer		4/11/2022 19:55	4/11/2022 20:00	b96a33377b
om0gm3egsa808a2zgjmvupxom0gm3exl	Important	Very Important	Important	Important	Important	Very Important	Possibly	Possibly	Possibly	Possibly	Possibly	Possibly	Possibly	Possibly	Probably	Probably		92673	65-74	170,000 or more	Caucasian/White		4/11/2022 19:47	4/11/2022 19:51	b755c8e33f
1q9y1wwryqc256w9ooa1q9y1nvjale0j	Very Important	Important	Important	Moderately Important	Moderately Important	Important	Probably Not	Probably Not	Probably	Probably Not	Possibly	Probably	Possibly	Definitely	Possibly	Probably	92673	92673	65-74	170,000 or more	Caucasian/White	registrations@ranewkirk.com	4/11/2022 19:38	4/11/2022 19:44	2cb009ff9d
m4bggpsymstjpviykijewm4bgg1uivek	Very Important	Very Important	Very Important	Important	Very Important	Important	Probably	Definitely	Definitely	Probably Not	Definitely	Probably	Definitely	Definitely	Probably Not	Definitely		92692	75 or older	Prefer not to answer	Caucasian/White	nxkingston@cox.net	4/11/2022 19:36	4/11/2022 19:43	b7597c7346
demj1zbiqp88flx6smskrdemj1zfzo02	Important	Moderately Important	Very Important	Very Important	Moderately Important	Important	Possibly	Probably	Probably Not	Possibly	Definitely	Possibly	Probably Not	Possibly	Possibly	Definitely		92629	75 or older	110,000 â€“ 169,000	Caucasian/White		4/11/2022 19:14	4/11/2022 19:17	c0279ce145
xwd135eko37e7m1tu04h28vwxwd135ek	Slightly Important	Moderately Important	Slightly Important	Important	Very Important	Very Important	Definitely Not	Possibly	Probably	Definitely Not	Definitely	Probably Not	Possibly	Probably Not	Possibly	Definitely	92691	92691	55-64	170,000 or more	Caucasian/White	d.j.campbell1961@gmail.com	4/11/2022 19:01	4/11/2022 19:07	73f74705db
r9f9aclv0lghegt8r9f9ahg8xdo8pe3p	Moderately Important	Moderately Important	Slightly Important	Slightly Important	Slightly Important	Moderately Important	Definitely Not	Definitely Not	Definitely Not	Definitely Not	Definitely Not	Definitely Not	Definitely Not	Definitely Not	Definitely Not	Definitely Not	3						4/11/2022 18:50	4/11/2022 19:02	4b6452b8b8
1c77sqt2ue65pdkb1c77sh37p077gt4r	Moderately Important	Important	Very Important	Very Important	Very Important	Moderately Important	Probably	Definitely	Possibly	Possibly	Definitely	Probably	Definitely	Probably Not	Possibly	Definitely			65-74	50,000 â€“ 79,999	Caucasian/White		4/11/2022 18:53	4/11/2022 19:00	b80b4a8439
e8oucbyia3bxush9j9ie8oucbwm8cx7t	Slightly Important	Moderately Important	Unimportant	Unimportant	Unimportant	Slightly Important	Definitely Not	Definitely Not	Possibly	Possibly	Possibly	Definitely Not	Definitely Not	Probably	Probably	Probably	92629	92629	45-54	Prefer not to answer	Middle Eastern		4/11/2022 18:46	4/11/2022 18:49	793f1b350f
ettffbhapn61pblettff2nvgkpzq1ro2	Very Important	Very Important	Important	Moderately Important	Important	Slightly Important	Possibly	Probably	Probably	Possibly	Definitely	Probably Not	Probably	Possibly	Definitely Not	Definitely	92885	92692	45-54	170,000 or more	Caucasian/White	tarambarri@gmail.com	4/11/2022 18:37	4/11/2022 18:41	5c41ecba5a
j847wwzvh6uyo0a830j847wyprz5yv0c	Very Important	Very Important	Important	Important	Very Important	Very Important	Possibly	Possibly	Definitely	Probably	Probably	Definitely Not	Definitely Not	Definitely Not	Definitely	Definitely	92656	92656	55-64	170,000 or more	Other		4/11/2022 18:13	4/11/2022 18:20	c4ef14569b
ejiz3ia1yw71ahyfciwk0ejiz3pre5vk	Very Important	Unimportant	Moderately Important	Unimportant	Unimportant	Slightly Important	Definitely Not	Definitely Not	Definitely Not	Definitely Not	Probably Not	Definitely Not	Definitely Not	Definitely Not	Probably Not	Probably Not			75 or older	Less than 30,000	Prefer not to answer		4/11/2022 18:12	4/11/2022 18:19	effd43a245
hwuqemoh4saekfrud0hwuqerfbdi3gr5	Unimportant	Moderately Important	Unimportant	Unimportant	Very Important	Slightly Important	Probably Not	Possibly	Probably	Definitely Not	Definitely Not	Possibly	Probably Not	Possibly	Definitely Not	Possibly		92676	65-74	Prefer not to answer	African American/Black		4/11/2022 18:12	4/11/2022 18:16	01d99a9c3f
ytubx0g4sdijytub41eu34gi7s87s41e	Very Important	Very Important	Important	Moderately Important	Important	Moderately Important	Possibly	Probably Not	Probably Not	Possibly	Probably Not	Possibly	Probably Not	Probably Not	Possibly	Probably	92672	92672	55-64	170,000 or more	Caucasian/White	susangoggins@gmail.com	4/11/2022 18:05	4/11/2022 18:14	2e4167545d
betu89804bt9dapbetu89pc32y5jbvgu	Important	Very Important	Slightly Important	Slightly Important	Slightly Important	Very Important	Probably Not	Possibly	Definitely	Probably	Probably	Possibly	Possibly	Definitely	Probably	Definitely	92675	92675	75 or older	Prefer not to answer		larrykramerccl@gmail.com	4/11/2022 18:08	4/11/2022 18:13	a723d0fd02
krfkjpp6ug7p83b34krrc21uowu3ykth	Very Important	Very Important	Important	Moderately Important	Very Important	Important	Probably Not	Definitely	Possibly	Probably	Probably Not	Probably Not	Probably Not	Probably Not	Probably Not	Definitely Not		92694	65-74	Prefer not to answer	Caucasian/White	lori.galvin91@gmail.com	4/11/2022 18:06	4/11/2022 18:11	c6cf049308
9nwh8lubhv3jzt395ca9nwh8lebb5u1r	Important	Moderately Important	Moderately Important	Unimportant	Unimportant	Unimportant	Definitely Not	Definitely Not	Definitely Not	Definitely Not	Definitely Not	Definitely Not	Definitely Not	Definitely Not	Possibly	Possibly	92672	92677	45-54	Prefer not to answer	Prefer not to answer	asickmf@hotmail.com	4/11/2022 17:59	4/11/2022 18:03	4ebe86e254
2clh9scn06fkjmca9i2clh9vxh50atei	Important	Moderately Important	Important	Unimportant	Important	Unimportant	Probably Not	Definitely	Definitely	Probably Not	Probably Not	Probably Not	Probably Not	Probably Not	Probably Not	Definitely Not	92660	92677	45-54	80,000 â€“ 109,000	Prefer not to answer		4/10/2022 2:32	4/10/2022 2:44	8715aa5d40
iap4hw7xkbxm4i74osojiap458mgr05j	Very Important	Very Important	Very Important	Very Important	Very Important	Unimportant	Definitely	Definitely	Definitely	Definitely	Definitely	Definitely Not	Definitely Not	Definitely Not	Possibly	Definitely	92688	92679	65-74	50,000 â€“ 79,999	Caucasian/White	PIFA@ATT.NET	4/9/2022 21:34	4/9/2022 21:44	857d008dfe
tgwrzn74tnxfmouo2fisdtgwrz67wi1f	Very Important	Very Important	Very Important	Very Important	Very Important	Very Important	Definitely	Definitely	Definitely	Definitely	Definitely	Probably	Probably	Probably	Probably	Probably	92868	92868	25-34	80,000 â€“ 109,000	Latino/Hispanic	joelh9063111@gmail.com	4/9/2022 18:50	4/9/2022 18:53	6b03d5d96c
ha139ond36gifdb8r1qiha139onazl69	Very Important	Very Important	Very Important	Very Important	Important	Important	Definitely	Probably	Definitely	Possibly	Possibly	Possibly	Probably	Possibly	Possibly	Definitely		90732	45-54	170,000 or more	Caucasian/White	ore.barley0n@icloud.com	4/9/2022 18:43	4/9/2022 18:45	b264d6f756
m7khl1iy9rz59aqxlum7khl1nddjblej	Very Important	Very Important	Very Important	Important	Very Important	Very Important	Definitely	Probably Not	Possibly	Probably	Probably Not	Definitely	Probably Not	Probably Not	Definitely	Definitely Not	92677	92677	16-24	Less than 30,000	Latino/Hispanic		4/9/2022 18:31	4/9/2022 18:35	f4ea651894
ku4v1495i5nwogeniwku4v140gzf0s19	Very Important	Very Important	Very Important	Very Important	Very Important	Very Important	Definitely	Definitely	Probably Not	Probably Not	Definitely	Probably	Definitely	Probably	Definitely	Definitely	92675	92675	35-44	170,000 or more	Caucasian/White		4/9/2022 18:23	4/9/2022 18:29	391953de17
3u5srltmjyqlol0etbv13u5sr1p815yz	Very Important	Very Important	Important	Important	Very Important	Moderately Important	Possibly	Definitely	Possibly	Definitely	Definitely	Definitely	Definitely	Possibly	Definitely	Definitely	92675	92675	65-74	50,000 â€“ 79,999	Asian	niplated@yahoo.com	4/9/2022 18:00	4/9/2022 18:07	be5b26b8fd
ollajvk3ig1b4d35funq7ollajvivg3j	Very Important	Very Important	Very Important	Very Important	Very Important	Very Important	Definitely	Definitely	Possibly	Probably	Definitely	Definitely	Probably	Possibly	Probably Not	Definitely	92705	92612	25-34	170,000 or more	Asian		4/9/2022 3:11	4/9/2022 3:14	cc09227ffc

ENGLISH & SPANISH #	*Recognizing that future funding is limited, rank the following types of transportation services for funding priority.* (Rank from highest to lowest priority.)	*Choosing a non-car travel option can help reduce emissions and congestion. Prioritize the following in order of how likely you would consider a non-car travel option.* (Rank from most to least likely.)	Sidewalks wide enough to allow pedestrians to walk comfortably, separated from traffic.	Bicycle lanes/paths that are safe for riders of all ages and experience levels.	Extended pedestrian street crossing times when needed.	Dedicated bus lanes so that buses can compete with car travel times.	Safe and accessible transit stops, with amenities such as shelters, benches, and lighting to increase comfort, convenience, and visibility.	Street roundabouts, curb extensions, and other elements that increase safety for pedestrians and bicyclists.	Carpool and vanpool subsidies	Metrolink and bus pass subsidies	Microtransit/shared ride (OC Flex and Uber/Lyft) subsidies	Bikeshare subsidies	Telework subsidies	Carpool or vanpool	Take transit (such as Metrolink and bus)	Microtransit/shared ride (OC Flex and Uber/Lyft)	Walk or bike	Telework	*Thanks for your input! Now, please tell us a little about yourself. * * What is your worksite zip code if you have one?*	*What is your home zip code?*	*What is your age range? *	*What is your combined annual household income? *	*What ethnic group do you consider yourself a part of or feel closest to? *	*Sign up to receive project updates and meeting invites *	Start Date (UTC)	Submit Date (UTC)	Network ID
1jv9tchrq9000f5qwd41jv9tchepabzh	More frequent and reliable bus service,More frequent and reliable train service,Improved bike and pedestrian paths/trails and bike amenities,Local community shuttles/trolley services,Expanded on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft)	Easy connections between multiple transportation services (such as Metrolink to bikeshare),Increased walking and biking safety measures\, including separation from vehicle traffic,Free and secure bike parking at key locations,Reliable on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft),Universal fare pass that works across multiple transportation services,Availability of bikeshare\, e-bikes\, e-scooters	Very Important	Very Important	Important	Moderately Important	Very Important	Moderately Important	Possibly	Definitely	Definitely	Probably Not	Definitely	Possibly	Probably	Possibly	Definitely Not	Probably	92623	92831	45-54	80,000 â€“ 109,000	Caucasian/White	psgordon@uci.edu	4/8/2022 21:34	4/8/2022 21:39	500981ba91
rry69eenfqfb9o19iy5grry69eus1htd	More frequent and reliable train service,Local community shuttles/trolley services,Improved bike and pedestrian paths/trails and bike amenities,More frequent and reliable bus service,Expanded on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft)	Easy connections between multiple transportation services (such as Metrolink to bikeshare),Increased walking and biking safety measures\, including separation from vehicle traffic,Universal fare pass that works across multiple transportation services,Free and secure bike parking at key locations,Reliable on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft),Availability of bikeshare\, e-bikes\, e-scooters	Very Important	Very Important	Very Important	Unimportant	Slightly Important	Important	Possibly	Probably Not	Probably Not	Definitely Not	Possibly	Probably Not	Probably Not	Probably Not	Probably Not	Definitely	92697	92692	55-64	Prefer not to answer	Prefer not to answer	clindsel@uci.edu	4/8/2022 20:33	4/8/2022 20:37	95de0b44c2
jsj081y5hu13j4li6vezhjsj081yxew6	More frequent and reliable bus service,More frequent and reliable train service,Expanded on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft),Local community shuttles/trolley services,Improved bike and pedestrian paths/trails and bike amenities	Universal fare pass that works across multiple transportation services,Easy connections between multiple transportation services (such as Metrolink to bikeshare),Free and secure bike parking at key locations,Reliable on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft),Availability of bikeshare\, e-bikes\, e-scooters,Increased walking and biking safety measures\, including separation from vehicle traffic	Very Important	Very Important	Important	Important	Very Important	Important	Definitely	Definitely	Definitely	Probably	Probably	Definitely	Definitely	Definitely	Definitely	Definitely	92697	92780	35-44	50,000 â€“ 79,999	Asian		4/8/2022 20:25	4/8/2022 20:29	372408ddfe
bqrxe5zi3tebqrf5lg5l8uf3hxfuzg2m	More frequent and reliable bus service,Improved bike and pedestrian paths/trails and bike amenities,More frequent and reliable train service,Local community shuttles/trolley services,Expanded on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft)	Easy connections between multiple transportation services (such as Metrolink to bikeshare),Increased walking and biking safety measures\, including separation from vehicle traffic,Universal fare pass that works across multiple transportation services,Free and secure bike parking at key locations,Availability of bikeshare\, e-bikes\, e-scooters,Reliable on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft)	Very Important	Very Important	Moderately Important	Very Important	Slightly Important	Very Important	Definitely Not	Definitely	Definitely Not	Definitely	Definitely Not	Definitely	Definitely	Definitely	Definitely	Definitely	92617	92617	25-34	80,000 â€“ 109,000	Caucasian/White	NKOUCHEK@UCI.EDU	4/8/2022 18:38	4/8/2022 18:43	47558666b4
n1nhmcez8pbzp2v5in1nhmqlvk9govwi	Improved bike and pedestrian paths/trails and bike amenities,More frequent and reliable bus service,More frequent and reliable train service,Local community shuttles/trolley services,Expanded on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft)	Availability of bikeshare\, e-bikes\, e-scooters,Easy connections between multiple transportation services (such as Metrolink to bikeshare),Universal fare pass that works across multiple transportation services,Increased walking and biking safety measures\, including separation from vehicle traffic,Free and secure bike parking at key locations,Reliable on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft)	Moderately Important	Very Important	Important	Important	Very Important	Moderately Important	Possibly	Probably	Probably	Probably	Definitely	Possibly	Probably	Definitely	Probably	Definitely	92623	92627	35-44	50,000 â€“ 79,999	Caucasian/White		4/8/2022 17:57	4/8/2022 18:01	2280b221ea
zdzpth4z411j355ozdzpt9rdbdk6mkxf	Improved bike and pedestrian paths/trails and bike amenities,Expanded on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft),More frequent and reliable bus service,More frequent and reliable train service,Local community shuttles/trolley services	Availability of bikeshare\, e-bikes\, e-scooters,Free and secure bike parking at key locations,Increased walking and biking safety measures\, including separation from vehicle traffic,Reliable on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft),Easy connections between multiple transportation services (such as Metrolink to bikeshare),Universal fare pass that works across multiple transportation services	Very Important	Very Important	Important	Very Important	Important	Very Important	Probably Not	Definitely Not	Definitely Not	Definitely	Definitely	Probably Not	Probably Not	Probably Not	Definitely	Definitely	92612	92617	55-64	Prefer not to answer	Caucasian/White		4/8/2022 17:56	4/8/2022 17:58	99b0e98a4e
nmyt1k1bhuf4q1b6zpugnmyt1ygyhw9f	Local community shuttles/trolley services,Expanded on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft),More frequent and reliable bus service,Improved bike and pedestrian paths/trails and bike amenities,More frequent and reliable train service	Free and secure bike parking at key locations,Availability of bikeshare\, e-bikes\, e-scooters,Reliable on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft),Easy connections between multiple transportation services (such as Metrolink to bikeshare),Universal fare pass that works across multiple transportation services,Increased walking and biking safety measures\, including separation from vehicle traffic	Very Important	Very Important	Important	Important	Important	Very Important	Probably	Definitely Not	Probably	Definitely	Definitely	Definitely	Definitely Not	Possibly	Definitely	Definitely			55-64	50,000 â€“ 79,999	Caucasian/White		4/8/2022 17:47	4/8/2022 17:52	cf2040ed4e
qgnx47k9y0zuqw4qgnx49wfsk6gw0g0e	More frequent and reliable bus service,Improved bike and pedestrian paths/trails and bike amenities,More frequent and reliable train service,Expanded on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft),Local community shuttles/trolley services	Free and secure bike parking at key locations,Reliable on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft),Increased walking and biking safety measures\, including separation from vehicle traffic,Easy connections between multiple transportation services (such as Metrolink to bikeshare),Availability of bikeshare\, e-bikes\, e-scooters,Universal fare pass that works across multiple transportation services	Moderately Important	Very Important	Unimportant	Slightly Important	Slightly Important	Unimportant	Possibly	Probably	Probably	Definitely Not	Probably	Probably	Possibly	Probably Not	Definitely	Definitely	92617	92617	16-24	Less than 30,000	Caucasian/White		4/8/2022 17:09	4/8/2022 17:12	d63b48c0a4
7pk08yfnbd96id6hn17pk08yqt1j3s6k	Local community shuttles/trolley services,Improved bike and pedestrian paths/trails and bike amenities,Expanded on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft),More frequent and reliable train service,More frequent and reliable bus service	Universal fare pass that works across multiple transportation services,Reliable on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft),Easy connections between multiple transportation services (such as Metrolink to bikeshare),Increased walking and biking safety measures\, including separation from vehicle traffic,Free and secure bike parking at key locations,Availability of bikeshare\, e-bikes\, e-scooters	Very Important	Very Important	Very Important	Important	Important	Very Important	Probably Not	Probably Not	Possibly	Probably Not	Definitely	Possibly	Possibly	Possibly	Possibly	Definitely	92623	92651	45-54	80,000 â€“ 109,000	Caucasian/White		4/8/2022 16:59	4/8/2022 17:03	3db4eece5c
4m6evwgqdy95wqmv7yb4m6evtfgedc3q	More frequent and reliable train service,More frequent and reliable bus service,Expanded on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft),Improved bike and pedestrian paths/trails and bike amenities,Local community shuttles/trolley services	Easy connections between multiple transportation services (such as Metrolink to bikeshare),Universal fare pass that works across multiple transportation services,Reliable on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft),Free and secure bike parking at key locations,Availability of bikeshare\, e-bikes\, e-scooters,Increased walking and biking safety measures\, including separation from vehicle traffic	Very Important	Very Important	Very Important	Moderately Important	Important	Moderately Important	Possibly	Definitely	Probably Not	Probably Not	Definitely	Possibly	Probably	Probably Not	Definitely Not	Definitely	92697	92688	35-44	110,000 â€“ 169,000	Asian		4/8/2022 16:01	4/8/2022 16:07	3d109cad3c
sdwh8uv6djuhpno569sdwhks0s7wye2e	More frequent and reliable train service,More frequent and reliable bus service,Improved bike and pedestrian paths/trails and bike amenities,Expanded on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft),Local community shuttles/trolley services	Easy connections between multiple transportation services (such as Metrolink to bikeshare),Universal fare pass that works across multiple transportation services,Reliable on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft),Availability of bikeshare\, e-bikes\, e-scooters,Increased walking and biking safety measures\, including separation from vehicle traffic,Free and secure bike parking at key locations	Very Important	Very Important	Very Important	Very Important	Very Important	Very Important	Definitely	Definitely	Possibly	Definitely Not	Definitely Not	Probably	Definitely	Possibly	Definitely	Definitely	92617	92617	55-64	170,000 or more	Latino/Hispanic		4/8/2022 15:46	4/8/2022 15:51	7c82bb5c49
ixxca8ba6sdbng5gjb2ixxca85vr88z8	More frequent and reliable bus service,More frequent and reliable train service,Improved bike and pedestrian paths/trails and bike amenities,Local community shuttles/trolley services,Expanded on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft)	Easy connections between multiple transportation services (such as Metrolink to bikeshare),Universal fare pass that works across multiple transportation services,Increased walking and biking safety measures\, including separation from vehicle traffic,Free and secure bike parking at key locations,Availability of bikeshare\, e-bikes\, e-scooters,Reliable on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft)	Very Important	Very Important	Important	Important	Important	Very Important	Possibly	Definitely	Probably	Probably	Probably Not	Definitely	Definitely	Possibly	Definitely	Probably Not	92697	92617	16-24	50,000 â€“ 79,999	Caucasian/White	osheppar@uci.edu	4/8/2022 15:45	4/8/2022 15:49	0facec5a1e
ejyumk5n2i9btwz6esq4ejyumk5v659n	Local community shuttles/trolley services,Expanded on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft),More frequent and reliable train service,More frequent and reliable bus service,Improved bike and pedestrian paths/trails and bike amenities	Reliable on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft),Universal fare pass that works across multiple transportation services,Easy connections between multiple transportation services (such as Metrolink to bikeshare),Availability of bikeshare\, e-bikes\, e-scooters,Increased walking and biking safety measures\, including separation from vehicle traffic,Free and secure bike parking at key locations	Very Important	Very Important	Important	Important	Important	Moderately Important	Probably Not	Definitely Not	Probably Not	Definitely Not	Definitely	Probably Not	Definitely Not	Definitely Not	Definitely Not	Probably	92697	92630	35-44	170,000 or more	Caucasian/White		4/8/2022 15:28	4/8/2022 15:31	abbeda3888
c6k2cjux1qg5hgjlzc6k2cj1yov3iudo	Local community shuttles/trolley services,Improved bike and pedestrian paths/trails and bike amenities,More frequent and reliable bus service,More frequent and reliable train service,Expanded on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft)	Easy connections between multiple transportation services (such as Metrolink to bikeshare),Increased walking and biking safety measures\, including separation from vehicle traffic,Free and secure bike parking at key locations,Universal fare pass that works across multiple transportation services,Reliable on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft),Availability of bikeshare\, e-bikes\, e-scooters	Very Important	Very Important	Very Important	Very Important	Very Important	Very Important	Probably Not	Possibly	Probably Not	Possibly	Definitely	Possibly	Possibly	Probably Not	Definitely	Definitely							4/8/2022 15:25	4/8/2022 15:28	50393f721e
6p4ttlf77xp2cyryz85o6p4qb5owfbos	More frequent and reliable train service,Local community shuttles/trolley services,More frequent and reliable bus service,Improved bike and pedestrian paths/trails and bike amenities,Expanded on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft)	Universal fare pass that works across multiple transportation services,Easy connections between multiple transportation services (such as Metrolink to bikeshare),Availability of bikeshare\, e-bikes\, e-scooters,Increased walking and biking safety measures\, including separation from vehicle traffic,Free and secure bike parking at key locations,Reliable on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft)	Important	Very Important	Moderately Important	Moderately Important	Very Important	Moderately Important	Probably	Definitely	Possibly	Probably	Definitely	Probably	Probably	Possibly	Possibly	Definitely	92697	92688	55-64	50,000 â€“ 79,999	Mixed Heritage	gverdugo@uci.edu	4/8/2022 15:10	4/8/2022 15:16	33736a0be2
p9yo1v1rsaeuf9zzvssu7jrzp9yo1v16	More frequent and reliable train service,More frequent and reliable bus service,Local community shuttles/trolley services,Expanded on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft),Improved bike and pedestrian paths/trails and bike amenities	Easy connections between multiple transportation services (such as Metrolink to bikeshare),Universal fare pass that works across multiple transportation services,Reliable on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft),Availability of bikeshare\, e-bikes\, e-scooters,Increased walking and biking safety measures\, including separation from vehicle traffic,Free and secure bike parking at key locations	Moderately Important	Moderately Important	Slightly Important	Unimportant	Slightly Important	Slightly Important	Probably Not	Possibly	Probably Not	Probably Not	Probably	Probably Not	Probably Not	Definitely Not	Definitely Not	Probably	92697	92010	45-54	Prefer not to answer	Prefer not to answer		4/8/2022 13:57	4/8/2022 14:02	c07bbb2c7b
akma8lxwhpwfi1uak2xjakma8lx8o6ci	Local community shuttles/trolley services,More frequent and reliable bus service,Improved bike and pedestrian paths/trails and bike amenities,Expanded on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft),More frequent and reliable train service	Availability of bikeshare\, e-bikes\, e-scooters,Reliable on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft),Easy connections between multiple transportation services (such as Metrolink to bikeshare),Universal fare pass that works across multiple transportation services,Increased walking and biking safety measures\, including separation from vehicle traffic,Free and secure bike parking at key locations	Very Important	Very Important	Important	Very Important	Very Important	Important	Probably	Definitely	Definitely	Probably	Definitely	Probably	Probably	Probably	Probably	Definitely	92697	92612	25-34	Prefer not to answer	Prefer not to answer	nainabest8@gmail.com	4/8/2022 5:47	4/8/2022 5:51	7af77abf57
pi936tflwga45709ym5qpi93615ex9h0	More frequent and reliable bus service,Local community shuttles/trolley services,Expanded on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft),More frequent and reliable train service,Improved bike and pedestrian paths/trails and bike amenities	Availability of bikeshare\, e-bikes\, e-scooters,Free and secure bike parking at key locations,Easy connections between multiple transportation services (such as Metrolink to bikeshare),Reliable on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft),Universal fare pass that works across multiple transportation services,Increased walking and biking safety measures\, including separation from vehicle traffic	Very Important	Very Important	Moderately Important	Very Important	Very Important	Slightly Important	Definitely	Definitely	Definitely	Definitely	Definitely	Definitely	Definitely	Definitely	Probably Not	Definitely		92805	35-44	50,000 â€“ 79,999	Middle Eastern		4/8/2022 1:32	4/8/2022 1:42	628f3fc153
j26k24mo5cjhcvif9rio7dj26k24moqp	More frequent and reliable bus service,Local community shuttles/trolley services,More frequent and reliable train service,Expanded on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft),Improved bike and pedestrian paths/trails and bike amenities	Universal fare pass that works across multiple transportation services,Availability of bikeshare\, e-bikes\, e-scooters,Easy connections between multiple transportation services (such as Metrolink to bikeshare),Free and secure bike parking at key locations,Reliable on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft),Increased walking and biking safety measures\, including separation from vehicle traffic	Very Important	Very Important	Very Important	Very Important	Very Important	Very Important	Definitely	Definitely	Probably	Definitely	Definitely	Probably	Definitely	Possibly	Probably	Definitely Not			16-24		Mixed Heritage		4/8/2022 1:33	4/8/2022 1:38	9102df2d9c
xhyo3ks9v58xkae68v61exhyo3khz0nv	More frequent and reliable bus service,More frequent and reliable train service,Improved bike and pedestrian paths/trails and bike amenities,Local community shuttles/trolley services,Expanded on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft)	Universal fare pass that works across multiple transportation services,Increased walking and biking safety measures\, including separation from vehicle traffic,Easy connections between multiple transportation services (such as Metrolink to bikeshare),Availability of bikeshare\, e-bikes\, e-scooters,Free and secure bike parking at key locations,Reliable on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft)	Very Important	Very Important	Very Important	Very Important	Very Important	Very Important	Probably	Definitely	Probably	Possibly	Probably Not	Probably	Probably	Probably Not	Possibly	Probably			16-24	Prefer not to answer	Asian		4/8/2022 1:31	4/8/2022 1:37	39c351fab8
s3c4zrncqaa6vjcznyt5is3c4zrpiypw	Local community shuttles/trolley services,More frequent and reliable train service,More frequent and reliable bus service,Expanded on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft),Improved bike and pedestrian paths/trails and bike amenities	Universal fare pass that works across multiple transportation services,Reliable on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft),Easy connections between multiple transportation services (such as Metrolink to bikeshare),Free and secure bike parking at key locations,Availability of bikeshare\, e-bikes\, e-scooters,Increased walking and biking safety measures\, including separation from vehicle traffic	Very Important	Very Important	Very Important	Slightly Important	Very Important	Very Important	Possibly	Definitely	Definitely	Probably	Probably	Definitely	Definitely	Definitely	Possibly	Probably Not	92617	92376	16-24	Less than 30,000	Latino/Hispanic		4/8/2022 1:15	4/8/2022 1:20	bf098634a8
00j39d5u909mdvzuk5fo300j39h1dpvd	More frequent and reliable bus service,More frequent and reliable train service,Improved bike and pedestrian paths/trails and bike amenities,Local community shuttles/trolley services,Expanded on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft)	Universal fare pass that works across multiple transportation services,Easy connections between multiple transportation services (such as Metrolink to bikeshare),Availability of bikeshare\, e-bikes\, e-scooters,Increased walking and biking safety measures\, including separation from vehicle traffic,Free and secure bike parking at key locations,Reliable on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft)	Very Important	Very Important	Very Important	Important	Important	Important	Possibly	Probably Not	Probably Not	Probably Not	Probably Not	Possibly	Probably Not	Possibly	Definitely Not	Probably Not	92612	92683	35-44	50,000 â€“ 79,999	Caucasian/White		4/8/2022 0:51	4/8/2022 0:56	060f28f690
d8n9ucm443p7ittxoaohd8n9ucmrr22d	More frequent and reliable bus service,More frequent and reliable train service,Improved bike and pedestrian paths/trails and bike amenities,Local community shuttles/trolley services,Expanded on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft)	Easy connections between multiple transportation services (such as Metrolink to bikeshare),Universal fare pass that works across multiple transportation services,Increased walking and biking safety measures\, including separation from vehicle traffic,Free and secure bike parking at key locations,Availability of bikeshare\, e-bikes\, e-scooters,Reliable on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft)	Important	Important	Important	Very Important	Very Important	Important	Probably Not	Probably	Definitely Not	Possibly	Definitely	Probably Not	Probably	Definitely Not	Probably	Definitely	92697	92618	45-54	80,000 â€“ 109,000	Caucasian/White	kmccanna@uci.edu	4/8/2022 0:43	4/8/2022 0:47	d1fb82ba97
8nq5ek3abmuatr0s8nq5ek3fjs4hi76r	More frequent and reliable train service,More frequent and reliable bus service,Local community shuttles/trolley services,Improved bike and pedestrian paths/trails and bike amenities,Expanded on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft)	Easy connections between multiple transportation services (such as Metrolink to bikeshare),Increased walking and biking safety measures\, including separation from vehicle traffic,Free and secure bike parking at key locations,Availability of bikeshare\, e-bikes\, e-scooters,Universal fare pass that works across multiple transportation services,Reliable on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft)	Important	Very Important	Moderately Important	Very Important	Very Important	Very Important	Probably Not	Definitely	Probably Not	Definitely	Definitely	Probably Not	Definitely	Probably Not	Possibly	Possibly	92612	92679	16-24	50,000 â€“ 79,999	Middle Eastern	nausirfiras@gmail.com	4/8/2022 0:34	4/8/2022 0:38	f3c24c9849
8h1qhh7jg8hgx7b6euutuu9gx7b6d00y	More frequent and reliable bus service,Improved bike and pedestrian paths/trails and bike amenities,Expanded on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft),Local community shuttles/trolley services,More frequent and reliable train service	Availability of bikeshare\, e-bikes\, e-scooters,Easy connections between multiple transportation services (such as Metrolink to bikeshare),Increased walking and biking safety measures\, including separation from vehicle traffic,Free and secure bike parking at key locations,Universal fare pass that works across multiple transportation services,Reliable on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft)	Very Important	Very Important	Very Important	Very Important	Very Important	Important	Definitely	Definitely	Probably	Definitely	Probably	Possibly	Definitely	Possibly	Probably	Possibly	92612	92612		Prefer not to answer	Asian		4/8/2022 0:34	4/8/2022 0:38	46899bd348
j8s8luu3df9wpc66j8s8lu9bou6ay16b	More frequent and reliable train service,More frequent and reliable bus service,Improved bike and pedestrian paths/trails and bike amenities,Local community shuttles/trolley services,Expanded on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft)	Free and secure bike parking at key locations,Increased walking and biking safety measures\, including separation from vehicle traffic,Easy connections between multiple transportation services (such as Metrolink to bikeshare),Availability of bikeshare\, e-bikes\, e-scooters,Universal fare pass that works across multiple transportation services,Reliable on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft)	Very Important	Very Important	Moderately Important	Moderately Important	Moderately Important	Moderately Important	Possibly	Definitely	Probably	Probably	Possibly	Probably Not	Definitely	Possibly	Probably	Definitely		92620	65-74	80,000 â€“ 109,000	Asian		4/7/2022 21:24	4/7/2022 21:34	c7eea1cb59
43j973nt7fq0jq6y7l143j971i8r0pxo	Improved bike and pedestrian paths/trails and bike amenities,Local community shuttles/trolley services,Expanded on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft),More frequent and reliable train service,More frequent and reliable bus service	Increased walking and biking safety measures\, including separation from vehicle traffic,Free and secure bike parking at key locations,Availability of bikeshare\, e-bikes\, e-scooters,Reliable on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft),Easy connections between multiple transportation services (such as Metrolink to bikeshare),Universal fare pass that works across multiple transportation services	Very Important	Very Important	Unimportant	Unimportant	Unimportant	Very Important	Definitely Not	Definitely Not	Possibly	Probably	Definitely	Possibly	Probably Not	Possibly	Definitely	Definitely	92694	92694	45-54	80,000 â€“ 109,000		todd.stearns@yahoo.com	4/7/2022 18:48	4/7/2022 18:54	14b6c999ff
dnreqcndyyqgkghdw8ildnreqc7dykad	More frequent and reliable train service,More frequent and reliable bus service,Local community shuttles/trolley services,Improved bike and pedestrian paths/trails and bike amenities,Expanded on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft)	Easy connections between multiple transportation services (such as Metrolink to bikeshare),Universal fare pass that works across multiple transportation services,Increased walking and biking safety measures\, including separation from vehicle traffic,Availability of bikeshare\, e-bikes\, e-scooters,Free and secure bike parking at key locations,Reliable on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft)	Very Important	Very Important	Slightly Important	Very Important	Very Important	Moderately Important	Definitely Not	Definitely	Probably Not	Definitely Not	Probably Not	Definitely Not	Possibly	Definitely Not	Definitely Not	Possibly	92688	92887	25-34	50,000 â€“ 79,999	Caucasian/White	hewilson@ucdavis.edu	4/7/2022 6:38	4/7/2022 6:44	f8801b562a
jl070vpvq0y5zvtjl07vm8edr38y76dg	Expanded on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft),Local community shuttles/trolley services,More frequent and reliable train service,More frequent and reliable bus service,Improved bike and pedestrian paths/trails and bike amenities	Reliable on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft),Easy connections between multiple transportation services (such as Metrolink to bikeshare),Universal fare pass that works across multiple transportation services,Increased walking and biking safety measures\, including separation from vehicle traffic,Availability of bikeshare\, e-bikes\, e-scooters,Free and secure bike parking at key locations	Very Important	Moderately Important	Very Important	Important	Important	Moderately Important	Probably	Probably Not	Definitely	Probably Not	Probably Not	Probably	Possibly	Probably	Definitely Not	Probably Not	92637	92637	65-74	Prefer not to answer	Caucasian/White		4/5/2022 22:26	4/5/2022 22:34	001d7ff6d5
erft6xrxdrudka5fayft4erft6xravea	More frequent and reliable train service,Expanded on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft),More frequent and reliable bus service,Improved bike and pedestrian paths/trails and bike amenities,Local community shuttles/trolley services	Reliable on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft),Easy connections between multiple transportation services (such as Metrolink to bikeshare),Universal fare pass that works across multiple transportation services,Increased walking and biking safety measures\, including separation from vehicle traffic,Free and secure bike parking at key locations,Availability of bikeshare\, e-bikes\, e-scooters	Very Important	Very Important	Very Important	Very Important	Important	Moderately Important	Possibly	Definitely	Definitely	Definitely Not	Possibly	Probably	Definitely	Definitely	Probably Not	Possibly	92691		55-64	170,000 or more	Caucasian/White	sassyfax@gmail.com	4/5/2022 22:03	4/5/2022 22:07	50db6b5a91
e09z2zw895yogcqcje01lkzopqzzw5fg	Improved bike and pedestrian paths/trails and bike amenities,Local community shuttles/trolley services,More frequent and reliable train service,More frequent and reliable bus service,Expanded on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft)	Increased walking and biking safety measures\, including separation from vehicle traffic,Free and secure bike parking at key locations,Easy connections between multiple transportation services (such as Metrolink to bikeshare),Universal fare pass that works across multiple transportation services,Availability of bikeshare\, e-bikes\, e-scooters,Reliable on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft)	Very Important	Very Important	Moderately Important	Moderately Important	Moderately Important	Important	Probably Not	Possibly	Definitely Not	Possibly	Definitely Not	Definitely Not	Definitely Not	Definitely Not	Definitely	Probably	92604	92604	65-74	Prefer not to answer	Caucasian/White		4/5/2022 18:06	4/5/2022 18:11	3d73831a19
efzidk6li16468axxefzidk638kdy11v	More frequent and reliable train service,Local community shuttles/trolley services,Improved bike and pedestrian paths/trails and bike amenities,More frequent and reliable bus service,Expanded on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft)	Easy connections between multiple transportation services (such as Metrolink to bikeshare),Universal fare pass that works across multiple transportation services,Increased walking and biking safety measures\, including separation from vehicle traffic,Free and secure bike parking at key locations,Availability of bikeshare\, e-bikes\, e-scooters,Reliable on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft)	Very Important	Very Important	Important	Very Important	Moderately Important	Very Important	Possibly	Possibly	Definitely Not	Probably Not	Probably Not	Possibly	Possibly	Definitely Not	Possibly	Probably	92807	92835	25-34	80,000 â€“ 109,000	Caucasian/White		4/5/2022 17:58	4/5/2022 18:01	13c5db4632
tojm6z6xgml9oevh04ptojm68wakjn54	Local community shuttles/trolley services,Improved bike and pedestrian paths/trails and bike amenities,More frequent and reliable train service,Expanded on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft),More frequent and reliable bus service	Increased walking and biking safety measures\, including separation from vehicle traffic,Free and secure bike parking at key locations,Easy connections between multiple transportation services (such as Metrolink to bikeshare),Availability of bikeshare\, e-bikes\, e-scooters,Universal fare pass that works across multiple transportation services,Reliable on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft)	Very Important	Very Important	Very Important	Very Important	Very Important	Very Important	Probably	Probably	Probably Not	Definitely	Definitely	Definitely	Possibly	Probably Not	Definitely	Definitely	92656	92656	45-54	110,000 â€“ 169,000	Caucasian/White	shannonbryant@me.com	4/5/2022 9:34	4/5/2022 9:39	81857aafe2
vtrguy4ibxbr5jj6f5s2vtrguy0083uh	Local community shuttles/trolley services,More frequent and reliable train service,More frequent and reliable bus service,Expanded on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft),Improved bike and pedestrian paths/trails and bike amenities	Universal fare pass that works across multiple transportation services,Free and secure bike parking at key locations,Reliable on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft),Easy connections between multiple transportation services (such as Metrolink to bikeshare),Increased walking and biking safety measures\, including separation from vehicle traffic,Availability of bikeshare\, e-bikes\, e-scooters	Important	Important	Important	Important	Very Important	Very Important	Possibly	Possibly	Possibly	Probably Not	Possibly	Possibly	Possibly	Possibly	Definitely Not	Possibly		92869	45-54	Prefer not to answer	Latino/Hispanic		4/5/2022 1:18	4/5/2022 1:24	257d1e0f0e
kir4w1j9guny8tqt2rvkir4wbmek0dxb	Expanded on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft),Local community shuttles/trolley services,More frequent and reliable bus service,Improved bike and pedestrian paths/trails and bike amenities,More frequent and reliable train service	Reliable on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft),Availability of bikeshare\, e-bikes\, e-scooters,Free and secure bike parking at key locations,Easy connections between multiple transportation services (such as Metrolink to bikeshare),Universal fare pass that works across multiple transportation services,Increased walking and biking safety measures\, including separation from vehicle traffic	Important	Very Important	Very Important	Important	Important	Moderately Important	Possibly	Probably	Definitely	Probably	Possibly	Probably	Definitely	Definitely	Probably	Possibly		92675	75 or older	170,000 or more	Caucasian/White		4/4/2022 5:33	4/4/2022 5:41	5f29f872d3
ucc40ha2y2wiwt8cncucc44jvszged36	Local community shuttles/trolley services,More frequent and reliable bus service,Expanded on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft),More frequent and reliable train service,Improved bike and pedestrian paths/trails and bike amenities	Universal fare pass that works across multiple transportation services,Reliable on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft),Easy connections between multiple transportation services (such as Metrolink to bikeshare),Free and secure bike parking at key locations,Availability of bikeshare\, e-bikes\, e-scooters,Increased walking and biking safety measures\, including separation from vehicle traffic	Very Important	Important	Important	Very Important	Very Important	Very Important	Probably	Definitely	Definitely	Probably	Probably	Possibly	Definitely	Definitely	Possibly	Possibly		92637	75 or older	Prefer not to answer	Caucasian/White	rvevelyn@comline.com	4/4/2022 0:00	4/4/2022 0:05	9976f4e71c
j067s5h0titl8ahj0650m3cbt410o977	More frequent and reliable bus service,Local community shuttles/trolley services,More frequent and reliable train service,Improved bike and pedestrian paths/trails and bike amenities,Expanded on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft)	Easy connections between multiple transportation services (such as Metrolink to bikeshare),Availability of bikeshare\, e-bikes\, e-scooters,Increased walking and biking safety measures\, including separation from vehicle traffic,Free and secure bike parking at key locations,Universal fare pass that works across multiple transportation services,Reliable on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft)	Very Important	Very Important	Important	Very Important	Important	Moderately Important	Probably Not	Definitely	Probably Not	Definitely	Definitely	Possibly	Definitely	Probably Not	Definitely	Definitely	92614	92614	55-64	110,000 â€“ 169,000	Caucasian/White		4/3/2022 19:11	4/3/2022 19:16	7ec4e7398b
y3rjahmg3dhy5nnx04y3rjv2oof1du6c	More frequent and reliable bus service,More frequent and reliable train service,Local community shuttles/trolley services,Expanded on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft),Improved bike and pedestrian paths/trails and bike amenities	Universal fare pass that works across multiple transportation services,Easy connections between multiple transportation services (such as Metrolink to bikeshare),Reliable on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft),Availability of bikeshare\, e-bikes\, e-scooters,Free and secure bike parking at key locations,Increased walking and biking safety measures\, including separation from vehicle traffic	Important	Important	Important	Very Important	Very Important	Important	Possibly	Definitely	Probably	Possibly	Possibly	Possibly	Definitely	Probably	Probably	Possibly	92692	92692	16-24	Less than 30,000	Caucasian/White		4/2/2022 19:17	4/2/2022 19:21	1a169233b9

ENGLISH & SPANISH #	*Recognizing that future funding is limited, rank the following types of transportation services for funding priority.* (Rank from highest to lowest priority.)	*Choosing a non-car travel option can help reduce emissions and congestion. Prioritize the following in order of how likely you would consider a non-car travel option.* (Rank from most to least likely.)	Sidewalks wide enough to allow pedestrians to walk comfortably, separated from traffic.	Bicycle lanes/paths that are safe for riders of all ages and experience levels.	Extended pedestrian street crossing times when needed.	Dedicated bus lanes so that buses can compete with car travel times.	Safe and accessible transit stops, with amenities such as shelters, benches, and lighting to increase comfort, convenience, and visibility.	Street roundabouts, curb extensions, and other elements that increase safety for pedestrians and bicyclists.	Carpool and vanpool subsidies	Metrolink and bus pass subsidies	Microtransit/shared ride (OC Flex and Uber/Lyft) subsidies	Bikeshare subsidies	Telework subsidies	Carpool or vanpool	Take transit (such as Metrolink and bus)	Microtransit/shared ride (OC Flex and Uber/Lyft)	Walk or bike	Telework	*Thanks for your input! Now, please tell us a little about yourself. * * What is your worksite zip code if you have one?*	*What is your home zip code?*	*What is your age range? *	*What is your combined annual household income? *	*What ethnic group do you consider yourself a part of or feel closest to? *	*Sign up to receive project updates and meeting invites *	Start Date (UTC)	Submit Date (UTC)	Network ID
avi0pvbrtehx184fmzavi0pcp6fzwb8h	More frequent and reliable train service,Local community shuttles/trolley services,Improved bike and pedestrian paths/trails and bike amenities,Expanded on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft),More frequent and reliable bus service	Increased walking and biking safety measures\, including separation from vehicle traffic,Universal fare pass that works across multiple transportation services,Easy connections between multiple transportation services (such as Metrolink to bikeshare),Availability of bikeshare\, e-bikes\, e-scooters,Reliable on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft),Free and secure bike parking at key locations	Very Important	Very Important	Very Important	Very Important	Very Important	Very Important	Definitely	Definitely	Definitely	Probably	Probably	Definitely	Definitely	Definitely	Definitely	Definitely	92656	92656	55-64	110,000 â€“ 169,000	Asian		4/2/2022 19:00	4/2/2022 19:00	59f7674330
h16z7j4fwkoujxw42h16zgyf95sx0tse	Expanded on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft),Improved bike and pedestrian paths/trails and bike amenities,More frequent and reliable bus service,Local community shuttles/trolley services,More frequent and reliable train service	Universal fare pass that works across multiple transportation services,Free and secure bike parking at key locations,Easy connections between multiple transportation services (such as Metrolink to bikeshare),Increased walking and biking safety measures\, including separation from vehicle traffic,Availability of bikeshare\, e-bikes\, e-scooters,Reliable on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft)	Very Important	Very Important	Very Important	Very Important	Very Important	Very Important	Definitely	Definitely	Definitely	Definitely	Definitely	Definitely	Definitely	Definitely	Definitely	Definitely	92804	92652	65-74	Prefer not to answer	Caucasian/White		4/2/2022 18:37	4/2/2022 18:44	59f7674330
zj3hunl18ylzjiunl80gvtjhzj3hunl5	Improved bike and pedestrian paths/trails and bike amenities,More frequent and reliable bus service,Local community shuttles/trolley services,More frequent and reliable train service,Expanded on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft)	Easy connections between multiple transportation services (such as Metrolink to bikeshare),Increased walking and biking safety measures\, including separation from vehicle traffic,Free and secure bike parking at key locations,Universal fare pass that works across multiple transportation services,Reliable on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft),Availability of bikeshare\, e-bikes\, e-scooters	Very Important	Very Important	Important	Moderately Important	Important	Important	Definitely	Definitely	Possibly	Possibly	Possibly	Definitely	Possibly	Probably Not	Definitely	Probably Not	92656	92656	45-54	Prefer not to answer	Asian		4/2/2022 18:03	4/2/2022 18:08	f2b29ae490
jewnpoko2akgilasx00njewnpz0jzfz2	Improved bike and pedestrian paths/trails and bike amenities,More frequent and reliable bus service,Local community shuttles/trolley services,More frequent and reliable train service,Expanded on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft)	Reliable on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft),Free and secure bike parking at key locations,Increased walking and biking safety measures\, including separation from vehicle traffic,Availability of bikeshare\, e-bikes\, e-scooters,Easy connections between multiple transportation services (such as Metrolink to bikeshare),Universal fare pass that works across multiple transportation services	Important	Very Important	Moderately Important	Unimportant	Unimportant	Unimportant	Probably	Probably	Definitely Not	Definitely	Probably	Probably	Probably	Probably	Definitely	Possibly	92656	92656	45-54	110,000 â€“ 169,000	Caucasian/White		4/2/2022 18:05	4/2/2022 18:08	517749e19e
ul850bws656dr7dvkul850byihc93bmm	More frequent and reliable train service,More frequent and reliable bus service,Expanded on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft),Local community shuttles/trolley services,Improved bike and pedestrian paths/trails and bike amenities	Increased walking and biking safety measures\, including separation from vehicle traffic,Free and secure bike parking at key locations,Reliable on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft),Availability of bikeshare\, e-bikes\, e-scooters,Easy connections between multiple transportation services (such as Metrolink to bikeshare),Universal fare pass that works across multiple transportation services	Very Important	Important	Important	Important	Important	Moderately Important	Definitely	Definitely	Definitely	Definitely	Definitely	Definitely	Probably	Probably	Possibly	Possibly	92656	92656	45-54	50,000 â€“ 79,999	Middle Eastern		4/2/2022 17:47	4/2/2022 17:53	f2b29ae490
tdztx1oqhis7mhpvkmz22sgqtdztx1oq	More frequent and reliable train service,Improved bike and pedestrian paths/trails and bike amenities,Local community shuttles/trolley services,More frequent and reliable bus service,Expanded on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft)	Free and secure bike parking at key locations,Availability of bikeshare\, e-bikes\, e-scooters,Easy connections between multiple transportation services (such as Metrolink to bikeshare),Increased walking and biking safety measures\, including separation from vehicle traffic,Reliable on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft),Universal fare pass that works across multiple transportation services	Moderately Important	Important	Important	Slightly Important	Important	Very Important	Probably	Probably	Definitely	Probably	Definitely	Definitely	Probably	Probably	Probably	Definitely		92637	35-44	Prefer not to answer	Caucasian/White		4/2/2022 16:12	4/2/2022 16:31	f2b29ae490
e3mys4qugpw57ge3mysh3r5bln9lhtbp	More frequent and reliable bus service,Local community shuttles/trolley services,Improved bike and pedestrian paths/trails and bike amenities,Expanded on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft),More frequent and reliable train service	Reliable on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft),Universal fare pass that works across multiple transportation services,Free and secure bike parking at key locations,Increased walking and biking safety measures\, including separation from vehicle traffic,Easy connections between multiple transportation services (such as Metrolink to bikeshare),Availability of bikeshare\, e-bikes\, e-scooters	Important	Important	Moderately Important	Slightly Important	Moderately Important	Moderately Important	Probably	Probably	Probably	Possibly	Definitely	Probably	Probably	Probably Not	Definitely	Definitely			25-34	30,000 â€“ 49,999	Caucasian/White		4/2/2022 14:59	4/2/2022 16:22	f2b29ae490
1r13b74489l18w1r13b7jkf9c2uour1r	More frequent and reliable train service,Improved bike and pedestrian paths/trails and bike amenities,Expanded on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft),More frequent and reliable bus service,Local community shuttles/trolley services	Increased walking and biking safety measures\, including separation from vehicle traffic,Universal fare pass that works across multiple transportation services,Free and secure bike parking at key locations,Reliable on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft),Easy connections between multiple transportation services (such as Metrolink to bikeshare),Availability of bikeshare\, e-bikes\, e-scooters	Very Important	Very Important	Important	Very Important	Important	Very Important	Possibly	Definitely	Definitely	Probably Not	Probably	Possibly	Definitely	Probably	Definitely	Definitely	90017	92606	45-54	110,000 â€“ 169,000	Caucasian/White		4/2/2022 0:05	4/2/2022 0:11	a23079d98d
lith86ai7e5hlvrlith888jsyg2ej9q4	Improved bike and pedestrian paths/trails and bike amenities,More frequent and reliable bus service,Local community shuttles/trolley services,More frequent and reliable train service,Expanded on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft)	Easy connections between multiple transportation services (such as Metrolink to bikeshare),Increased walking and biking safety measures\, including separation from vehicle traffic,Universal fare pass that works across multiple transportation services,Free and secure bike parking at key locations,Availability of bikeshare\, e-bikes\, e-scooters,Reliable on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft)	Very Important	Very Important	Important	Important	Moderately Important	Moderately Important	Possibly	Definitely	Possibly	Probably	Probably	Possibly	Probably	Possibly	Possibly	Possibly	92673	92629	45-54	170,000 or more	Latino/Hispanic		4/1/2022 21:01	4/1/2022 21:18	cbcdebc294
efs3yhoiiamxomfj3kefs3kzq9f164ri	Improved bike and pedestrian paths/trails and bike amenities,More frequent and reliable train service,Local community shuttles/trolley services,More frequent and reliable bus service,Expanded on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft)	Increased walking and biking safety measures\, including separation from vehicle traffic,Free and secure bike parking at key locations,Easy connections between multiple transportation services (such as Metrolink to bikeshare),Reliable on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft),Universal fare pass that works across multiple transportation services,Availability of bikeshare\, e-bikes\, e-scooters	Very Important	Very Important	Slightly Important	Unimportant	Important	Very Important	Probably Not	Probably Not	Probably Not	Probably Not	Probably Not	Probably Not	Probably	Definitely Not	Probably	Definitely Not	92780	92780	55-64	110,000 â€“ 169,000	Caucasian/White	kimkeelin@yahoo.com	4/1/2022 14:19	4/1/2022 14:37	5caf3f8d68
4xh65a46ktm0p6x805g24xh65m3r00w4	Improved bike and pedestrian paths/trails and bike amenities,More frequent and reliable train service,More frequent and reliable bus service,Expanded on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft),Local community shuttles/trolley services	Free and secure bike parking at key locations,Easy connections between multiple transportation services (such as Metrolink to bikeshare),Availability of bikeshare\, e-bikes\, e-scooters,Increased walking and biking safety measures\, including separation from vehicle traffic,Universal fare pass that works across multiple transportation services,Reliable on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft)	Important	Very Important	Important	Important	Very Important	Very Important	Definitely Not	Definitely	Definitely Not	Definitely	Definitely	Definitely Not	Definitely	Definitely Not	Definitely	Definitely			55-64	Prefer not to answer	Prefer not to answer		3/31/2022 21:22	3/31/2022 21:26	462a6a07d2
uym86b43noif5qgx1tbuym85jujif4z3	Improved bike and pedestrian paths/trails and bike amenities,Local community shuttles/trolley services,More frequent and reliable train service,More frequent and reliable bus service,Expanded on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft)	Increased walking and biking safety measures\, including separation from vehicle traffic,Free and secure bike parking at key locations,Easy connections between multiple transportation services (such as Metrolink to bikeshare),Universal fare pass that works across multiple transportation services,Availability of bikeshare\, e-bikes\, e-scooters,Reliable on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft)	Very Important	Very Important	Very Important	Unimportant	Unimportant	Very Important	Definitely Not	Probably Not	Probably Not	Definitely	Definitely Not	Definitely Not	Definitely Not	Definitely Not	Definitely	Definitely Not	92870	92870	55-64	Prefer not to answer	Caucasian/White	david_m_moore@roadrunner.com	3/31/2022 16:23	3/31/2022 16:27	3317ad3d70
uutnb1zr1o2g8kv1iuutnb4bzq0xyjim	Improved bike and pedestrian paths/trails and bike amenities,More frequent and reliable bus service,More frequent and reliable train service,Expanded on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft),Local community shuttles/trolley services	Increased walking and biking safety measures\, including separation from vehicle traffic,Free and secure bike parking at key locations,Availability of bikeshare\, e-bikes\, e-scooters,Reliable on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft),Easy connections between multiple transportation services (such as Metrolink to bikeshare),Universal fare pass that works across multiple transportation services	Very Important	Very Important	Moderately Important	Moderately Important	Moderately Important	Very Important	Probably Not	Possibly	Possibly	Definitely	Probably Not	Probably Not	Probably	Possibly	Definitely	Definitely		92691	55-64	80,000 â€“ 109,000	Other	ross.perotoss@gmail.com	3/31/2022 14:13	3/31/2022 14:17	7c9f14b247
4jwy02p8ruy7060t64jwy0m1z27w8dme	More frequent and reliable bus service,Local community shuttles/trolley services,Expanded on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft),Improved bike and pedestrian paths/trails and bike amenities,More frequent and reliable train service	Easy connections between multiple transportation services (such as Metrolink to bikeshare),Universal fare pass that works across multiple transportation services,Reliable on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft),Increased walking and biking safety measures\, including separation from vehicle traffic,Free and secure bike parking at key locations,Availability of bikeshare\, e-bikes\, e-scooters	Very Important	Very Important	Very Important	Important	Very Important	Important	Definitely	Probably	Probably	Probably	Definitely	Definitely	Definitely	Probably	Probably	Definitely		92694	65-74	80,000 â€“ 109,000	Caucasian/White	Cynthia_mccarthy@swbell.net	3/31/2022 7:19	3/31/2022 7:23	69f87ddf05
8dj56chocn66jyjwfoml8dj56choh6gi	Improved bike and pedestrian paths/trails and bike amenities,More frequent and reliable bus service,Local community shuttles/trolley services,More frequent and reliable train service,Expanded on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft)	Increased walking and biking safety measures\, including separation from vehicle traffic,Free and secure bike parking at key locations,Availability of bikeshare\, e-bikes\, e-scooters,Easy connections between multiple transportation services (such as Metrolink to bikeshare),Universal fare pass that works across multiple transportation services,Reliable on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft)	Important	Very Important	Very Important	Important	Important	Important	Probably	Probably	Possibly	Probably	Definitely	Definitely	Probably	Possibly	Definitely	Definitely	92866	92866	55-64	110,000 â€“ 169,000	Caucasian/White	rNewcomb@socal.rr.com	3/31/2022 6:05	3/31/2022 6:14	3810690aa1
ckbo41uvjl0xjhmbdwmpckbo41yq5xmo	More frequent and reliable train service,More frequent and reliable bus service,Improved bike and pedestrian paths/trails and bike amenities,Local community shuttles/trolley services,Expanded on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft)	Easy connections between multiple transportation services (such as Metrolink to bikeshare),Free and secure bike parking at key locations,Universal fare pass that works across multiple transportation services,Increased walking and biking safety measures\, including separation from vehicle traffic,Reliable on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft),Availability of bikeshare\, e-bikes\, e-scooters	Very Important	Very Important	Important	Important	Important	Very Important	Possibly	Probably	Probably Not	Definitely	Definitely	Probably	Definitely	Possibly	Probably	Definitely	92612	92630	35-44	Prefer not to answer	Asian	eykimura@ucla.edu	3/31/2022 4:03	3/31/2022 4:07	a210f5644b
fjnl9mof6mp7m6fjnbuxtg6qt7651f07	More frequent and reliable train service,Local community shuttles/trolley services,Expanded on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft),Improved bike and pedestrian paths/trails and bike amenities,More frequent and reliable bus service	Easy connections between multiple transportation services (such as Metrolink to bikeshare),Reliable on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft),Free and secure bike parking at key locations,Availability of bikeshare\, e-bikes\, e-scooters,Universal fare pass that works across multiple transportation services,Increased walking and biking safety measures\, including separation from vehicle traffic	Important	Very Important	Moderately Important	Important	Moderately Important	Important	Probably	Probably	Definitely	Possibly	Definitely	Probably	Definitely	Definitely	Probably	Definitely	92618	92656	45-54	80,000 â€“ 109,000	Mixed Heritage	Pellizzon@gmail.com	3/31/2022 2:56	3/31/2022 3:04	41900b3220
nn2ag2bvvm8pltdnn2aal2tqhsoz7j8w	Improved bike and pedestrian paths/trails and bike amenities,More frequent and reliable bus service,More frequent and reliable train service,Expanded on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft),Local community shuttles/trolley services	Free and secure bike parking at key locations,Increased walking and biking safety measures\, including separation from vehicle traffic,Reliable on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft),Availability of bikeshare\, e-bikes\, e-scooters,Easy connections between multiple transportation services (such as Metrolink to bikeshare),Universal fare pass that works across multiple transportation services	Very Important	Important	Moderately Important	Moderately Important	Moderately Important	Moderately Important	Probably	Probably	Probably	Possibly	Possibly	Probably	Probably	Possibly	Probably	Possibly	92694	92694	65-74	110,000 â€“ 169,000	Caucasian/White	mark.m@calvarysouthoc.com	3/31/2022 2:39	3/31/2022 2:43	7cb799c63a
zrosadievw8z9nezryrbz0ufzv61x9n7	Local community shuttles/trolley services,Improved bike and pedestrian paths/trails and bike amenities,More frequent and reliable bus service,More frequent and reliable train service,Expanded on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft)	Increased walking and biking safety measures\, including separation from vehicle traffic,Easy connections between multiple transportation services (such as Metrolink to bikeshare),Universal fare pass that works across multiple transportation services,Free and secure bike parking at key locations,Availability of bikeshare\, e-bikes\, e-scooters,Reliable on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft)	Moderately Important	Very Important	Important	Moderately Important	Moderately Important	Important	Probably Not	Probably	Probably	Definitely	Definitely	Probably Not	Possibly	Possibly	Definitely	Definitely	92651	92651	65-74	Less than 30,000	Caucasian/White	lagunastreets@gmail.com	3/31/2022 1:48	3/31/2022 1:57	c11d03d0ee
mby1igmf6ok4r7ibbmby16nfjxbg6xb4	Improved bike and pedestrian paths/trails and bike amenities,Local community shuttles/trolley services,More frequent and reliable train service,More frequent and reliable bus service,Expanded on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft)	Increased walking and biking safety measures\, including separation from vehicle traffic,Free and secure bike parking at key locations,Easy connections between multiple transportation services (such as Metrolink to bikeshare),Availability of bikeshare\, e-bikes\, e-scooters,Universal fare pass that works across multiple transportation services,Reliable on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft)	Very Important	Very Important	Important	Important	Important	Very Important	Definitely Not	Possibly	Definitely Not	Possibly	Definitely	Definitely Not	Definitely Not	Definitely Not	Definitely Not	Definitely	92620	92672	35-44	80,000 â€“ 109,000	Caucasian/White	shbesseling@outlook.com	3/31/2022 0:53	3/31/2022 0:56	3b0048dfdf
el31g8hw9qg4y7crel31gy26joww3w1s	More frequent and reliable train service,Local community shuttles/trolley services,Expanded on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft),Improved bike and pedestrian paths/trails and bike amenities,More frequent and reliable bus service	Reliable on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft),Easy connections between multiple transportation services (such as Metrolink to bikeshare),Free and secure bike parking at key locations,Increased walking and biking safety measures\, including separation from vehicle traffic,Universal fare pass that works across multiple transportation services,Availability of bikeshare\, e-bikes\, e-scooters	Very Important	Very Important	Very Important	Moderately Important	Very Important	Very Important	Definitely Not	Definitely Not	Definitely	Definitely Not	Probably	Possibly	Definitely Not	Probably	Definitely Not	Definitely		92673	45-54	Prefer not to answer	Prefer not to answer	rebeckynelson@hotmail.com	3/31/2022 0:08	3/31/2022 0:12	04f882092c
m7tf4uc1n3igs6w0km1m7tf32nz5cz9m	More frequent and reliable train service,More frequent and reliable bus service,Local community shuttles/trolley services,Improved bike and pedestrian paths/trails and bike amenities,Expanded on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft)	Free and secure bike parking at key locations,Availability of bikeshare\, e-bikes\, e-scooters,Universal fare pass that works across multiple transportation services,Easy connections between multiple transportation services (such as Metrolink to bikeshare),Increased walking and biking safety measures\, including separation from vehicle traffic,Reliable on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft)	Important	Important	Moderately Important	Important	Important	Important	Possibly	Possibly	Possibly	Probably	Probably	Possibly	Possibly	Possibly	Probably	Possibly	92697	92620	25-34	110,000 â€“ 169,000	Other		3/30/2022 22:14	3/30/2022 22:46	8477eafbaa
bvgwim1ke0rdr9dxy2s8wbvgwim1s5g2	Expanded on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft),More frequent and reliable train service,Local community shuttles/trolley services,More frequent and reliable bus service,Improved bike and pedestrian paths/trails and bike amenities	Reliable on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft),Easy connections between multiple transportation services (such as Metrolink to bikeshare),Universal fare pass that works across multiple transportation services,Increased walking and biking safety measures\, including separation from vehicle traffic,Free and secure bike parking at key locations,Availability of bikeshare\, e-bikes\, e-scooters	Very Important	Important	Very Important	Slightly Important	Very Important	Moderately Important	Probably Not	Definitely	Definitely	Possibly	Possibly	Possibly	Definitely	Definitely	Possibly	Possibly	92868	92653	55-64	Prefer not to answer	Caucasian/White		3/30/2022 22:30	3/30/2022 22:38	b78e227849
1kv9v3r82fir94a1kvrtj24chbed8jbq	Improved bike and pedestrian paths/trails and bike amenities,Local community shuttles/trolley services,Expanded on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft),More frequent and reliable bus service,More frequent and reliable train service	Easy connections between multiple transportation services (such as Metrolink to bikeshare),Availability of bikeshare\, e-bikes\, e-scooters,Free and secure bike parking at key locations,Reliable on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft),Increased walking and biking safety measures\, including separation from vehicle traffic,Universal fare pass that works across multiple transportation services	Very Important	Very Important	Very Important	Very Important	Very Important	Very Important	Definitely	Definitely	Definitely	Definitely	Definitely	Definitely	Definitely	Definitely	Definitely	Definitely	92626	92626	35-44	170,000 or more	Latino/Hispanic	andreamarr@gmail.com	3/30/2022 21:08	3/30/2022 21:10	f71972316a
9pdt84b7bmune4kxifs9pdtkx2xn3y8l	More frequent and reliable bus service,Expanded on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft),More frequent and reliable train service,Improved bike and pedestrian paths/trails and bike amenities,Local community shuttles/trolley services	Free and secure bike parking at key locations,Universal fare pass that works across multiple transportation services,Reliable on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft),Availability of bikeshare\, e-bikes\, e-scooters,Easy connections between multiple transportation services (such as Metrolink to bikeshare),Increased walking and biking safety measures\, including separation from vehicle traffic	Very Important	Very Important	Very Important	Very Important	Very Important	Very Important	Probably Not	Probably Not	Probably Not	Probably Not	Probably Not	Possibly	Probably Not	Possibly	Probably Not	Probably Not	92637	92691	75 or older	110,000 â€“ 169,000	Latino/Hispanic	tanyamc4re@gmail.com	3/30/2022 20:55	3/30/2022 20:59	072114b9cc
3pnuybxvgli3qoyy4wm3pnuyb4z2e62x	Expanded on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft),More frequent and reliable bus service,Local community shuttles/trolley services,Improved bike and pedestrian paths/trails and bike amenities,More frequent and reliable train service	Reliable on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft),Easy connections between multiple transportation services (such as Metrolink to bikeshare),Free and secure bike parking at key locations,Availability of bikeshare\, e-bikes\, e-scooters,Universal fare pass that works across multiple transportation services,Increased walking and biking safety measures\, including separation from vehicle traffic	Important	Important	Important	Important	Important	Important	Possibly	Possibly	Probably	Possibly	Definitely	Probably	Possibly	Probably	Possibly	Definitely	90045	92708	25-34	170,000 or more	Latino/Hispanic		3/30/2022 17:36	3/30/2022 17:40	0c6c150142
8qlw2s2z0kpt35jpj6iy8qlw2s29d5xu	More frequent and reliable train service,Local community shuttles/trolley services,Expanded on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft),Improved bike and pedestrian paths/trails and bike amenities,More frequent and reliable bus service	Reliable on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft),Easy connections between multiple transportation services (such as Metrolink to bikeshare),Availability of bikeshare\, e-bikes\, e-scooters,Free and secure bike parking at key locations,Universal fare pass that works across multiple transportation services,Increased walking and biking safety measures\, including separation from vehicle traffic	Very Important	Very Important	Very Important	Very Important	Very Important	Important	Definitely	Definitely	Probably	Definitely	Probably	Probably	Possibly	Possibly	Definitely	Definitely	92663	92663	65-74	Prefer not to answer	Caucasian/White	alandiner@yahoo.com	3/30/2022 17:29	3/30/2022 17:33	7a1294f70c
zniu4feojfqmbtflzniuues3xc8qk863	More frequent and reliable bus service,More frequent and reliable train service,Local community shuttles/trolley services,Expanded on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft),Improved bike and pedestrian paths/trails and bike amenities	Reliable on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft),Easy connections between multiple transportation services (such as Metrolink to bikeshare),Increased walking and biking safety measures\, including separation from vehicle traffic,Free and secure bike parking at key locations,Availability of bikeshare\, e-bikes\, e-scooters,Universal fare pass that works across multiple transportation services	Very Important	Very Important	Very Important	Very Important	Very Important	Very Important	Possibly	Definitely	Definitely	Possibly	Possibly	Probably Not	Definitely	Definitely	Definitely	Definitely	92653	92653	75 or older	Less than 30,000	Caucasian/White	emg0892@aol.com	3/30/2022 16:45	3/30/2022 16:51	8a4306c5b1
bn17qegpvstz3ybn17qe2lswkvq4yj3u	Improved bike and pedestrian paths/trails and bike amenities,More frequent and reliable bus service,More frequent and reliable train service,Expanded on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft),Local community shuttles/trolley services	Increased walking and biking safety measures\, including separation from vehicle traffic,Free and secure bike parking at key locations,Availability of bikeshare\, e-bikes\, e-scooters,Easy connections between multiple transportation services (such as Metrolink to bikeshare),Universal fare pass that works across multiple transportation services,Reliable on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft)	Moderately Important	Very Important	Slightly Important	Important	Moderately Important	Moderately Important	Definitely Not	Definitely Not	Definitely Not	Definitely Not	Definitely Not	Probably Not	Definitely Not	Definitely Not	Probably	Definitely	92620	92620	65-74	170,000 or more	Caucasian/White		3/30/2022 16:33	3/30/2022 16:39	31d64dc3c7
reiim8a0ug5q9jo7h5greiim8rhe98s4	Expanded on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft),Local community shuttles/trolley services,Improved bike and pedestrian paths/trails and bike amenities,More frequent and reliable train service,More frequent and reliable bus service	Reliable on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft),Increased walking and biking safety measures\, including separation from vehicle traffic,Availability of bikeshare\, e-bikes\, e-scooters,Free and secure bike parking at key locations,Universal fare pass that works across multiple transportation services,Easy connections between multiple transportation services (such as Metrolink to bikeshare)	Important	Moderately Important	Slightly Important	Unimportant	Unimportant	Slightly Important	Definitely Not	Definitely Not	Possibly	Probably Not	Probably	Probably Not	Definitely Not	Possibly	Possibly	Probably	92691	92691	55-64	110,000 â€“ 169,000	Caucasian/White	hrhaslett@yahoo.com	3/30/2022 15:47	3/30/2022 15:56	0d520ad11a
kcy0prnkios4v7rmzykcy0pr4lyegpw3	Improved bike and pedestrian paths/trails and bike amenities,Local community shuttles/trolley services,Expanded on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft),More frequent and reliable train service,More frequent and reliable bus service	Reliable on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft),Increased walking and biking safety measures\, including separation from vehicle traffic,Free and secure bike parking at key locations,Availability of bikeshare\, e-bikes\, e-scooters,Easy connections between multiple transportation services (such as Metrolink to bikeshare),Universal fare pass that works across multiple transportation services	Important	Important	Moderately Important	Unimportant	Slightly Important	Important	Definitely Not	Definitely Not	Probably Not	Probably Not	Probably Not	Definitely Not	Definitely Not	Definitely Not	Probably Not	Probably Not	92675	92675	45-54	Prefer not to answer	Prefer not to answer		3/29/2022 23:10	3/29/2022 23:14	ce87fa97f0
rhxusk6q3z4f42sqc0rhxuspbsfmsui1	Improved bike and pedestrian paths/trails and bike amenities,Local community shuttles/trolley services,Expanded on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft),More frequent and reliable train service,More frequent and reliable bus service	Increased walking and biking safety measures\, including separation from vehicle traffic,Reliable on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft),Universal fare pass that works across multiple transportation services,Easy connections between multiple transportation services (such as Metrolink to bikeshare),Availability of bikeshare\, e-bikes\, e-scooters,Free and secure bike parking at key locations	Slightly Important	Very Important	Slightly Important	Unimportant	Unimportant	Very Important	Definitely	Possibly	Possibly	Possibly	Definitely	Definitely	Possibly	Possibly	Definitely	Definitely	92821	92629	45-54	110,000 â€“ 169,000	Prefer not to answer	dzaveski@yahoo.com	3/29/2022 22:04	3/29/2022 22:45	0b97346b26
2b08sejvtizsdofn8y2r2b08sejvyipf	Improved bike and pedestrian paths/trails and bike amenities,More frequent and reliable train service,More frequent and reliable bus service,Local community shuttles/trolley services,Expanded on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft)	Easy connections between multiple transportation services (such as Metrolink to bikeshare),Availability of bikeshare\, e-bikes\, e-scooters,Free and secure bike parking at key locations,Increased walking and biking safety measures\, including separation from vehicle traffic,Universal fare pass that works across multiple transportation services,Reliable on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft)	Very Important	Very Important	Very Important	Important	Very Important	Very Important	Possibly	Definitely	Probably Not	Probably	Definitely Not	Definitely Not	Probably	Definitely Not	Definitely	Possibly	92604	92868	35-44	50,000 â€“ 79,999	African American/Black		3/29/2022 22:26	3/29/2022 22:34	9a0b56579a
3ikhn3fwwg2lgs22t3ikhtj642qq5iyh	Local community shuttles/trolley services,Expanded on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft),More frequent and reliable train service,More frequent and reliable bus service,Improved bike and pedestrian paths/trails and bike amenities	Reliable on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft),Easy connections between multiple transportation services (such as Metrolink to bikeshare),Universal fare pass that works across multiple transportation services,Free and secure bike parking at key locations,Increased walking and biking safety measures\, including separation from vehicle traffic,Availability of bikeshare\, e-bikes\, e-scooters	Very Important	Moderately Important	Important	Moderately Important	Moderately Important	Important	Probably Not	Probably	Probably	Definitely Not	Possibly	Probably Not	Possibly	Possibly	Probably Not	Definitely	90620	90620	65-74	170,000 or more	Caucasian/White	retireddivision@gmail.com	3/29/2022 22:02	3/29/2022 22:06	98afd0ce31
0xwa5o68mgw0xhj6o64olqip08hj6o6e	Local community shuttles/trolley services,Expanded on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft),Improved bike and pedestrian paths/trails and bike amenities,More frequent and reliable train service,More frequent and reliable bus service	Reliable on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft),Easy connections between multiple transportation services (such as Metrolink to bikeshare),Availability of bikeshare\, e-bikes\, e-scooters,Increased walking and biking safety measures\, including separation from vehicle traffic,Universal fare pass that works across multiple transportation services,Free and secure bike parking at key locations	Very Important	Very Important	Very Important	Important	Important	Important	Probably	Probably	Definitely	Probably	Definitely	Definitely	Probably	Definitely	Possibly	Definitely	92703	92694	45-54	170,000 or more	Prefer not to answer		3/29/2022 21:39	3/29/2022 21:45	16b92c7974
v42qz1hz8una56av42qz1w30r1ysi32u	More frequent and reliable train service,Improved bike and pedestrian paths/trails and bike amenities,Local community shuttles/trolley services,More frequent and reliable bus service,Expanded on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft)	Free and secure bike parking at key locations,Easy connections between multiple transportation services (such as Metrolink to bikeshare),Universal fare pass that works across multiple transportation services,Availability of bikeshare\, e-bikes\, e-scooters,Increased walking and biking safety measures\, including separation from vehicle traffic,Reliable on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft)	Important	Very Important	Moderately Important	Slightly Important	Moderately Important	Important	Probably Not	Probably Not	Probably Not	Possibly	Probably	Possibly	Possibly	Probably Not	Possibly	Possibly	90846	92677	55-64	170,000 or more	Caucasian/White	ryonan@netscape.net	3/29/2022 3:40	3/29/2022 3:46	71fa9814fb
yz87e8o5kd0lqvalh81lsyz87e8o5kgg	Improved bike and pedestrian paths/trails and bike amenities,Local community shuttles/trolley services,More frequent and reliable train service,Expanded on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft),More frequent and reliable bus service	Increased walking and biking safety measures\, including separation from vehicle traffic,Availability of bikeshare\, e-bikes\, e-scooters,Free and secure bike parking at key locations,Reliable on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft),Easy connections between multiple transportation services (such as Metrolink to bikeshare),Universal fare pass that works across multiple transportation services	Moderately Important	Very Important	Moderately Important	Very Important	Very Important	Very Important	Definitely	Definitely	Definitely	Probably Not	Probably Not	Possibly	Possibly	Possibly	Possibly	Possibly	90680	92677	45-54	Prefer not to answer	Caucasian/White	dirk@urbanunited.CO	3/28/2022 22:11	3/28/2022 22:58	9b23ee9222
huducg647yq9jtlhudtni2rl0dlb7bcc	More frequent and reliable train service,More frequent and reliable bus service,Improved bike and pedestrian paths/trails and bike amenities,Expanded on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft),Local community shuttles/trolley services	Free and secure bike parking at key locations,Availability of bikeshare\, e-bikes\, e-scooters,Easy connections between multiple transportation services (such as Metrolink to bikeshare),Increased walking and biking safety measures\, including separation from vehicle traffic,Reliable on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft),Universal fare pass that works across multiple transportation services	Very Important	Very Important	Moderately Important	Moderately Important	Very Important	Important	Probably Not	Possibly	Possibly	Possibly	Probably	Probably	Probably	Possibly	Probably	Probably	92694	92694	65-74	110,000 â€“ 169,000	Caucasian/White		3/28/2022 20:29	3/28/2022 20:33	271e2b36b7

ENGLISH & SPANISH #	*Recognizing that future funding is limited, rank the following types of transportation services for funding priority.* (Rank from highest to lowest priority.)	*Choosing a non-car travel option can help reduce emissions and congestion. Prioritize the following in order of how likely you would consider a non-car travel option.* (Rank from most to least likely.)	Sidewalks wide enough to allow pedestrians to walk comfortably, separated from traffic.	Bicycle lanes/paths that are safe for riders of all ages and experience levels.	Extended pedestrian street crossing times when needed.	Dedicated bus lanes so that buses can compete with car travel times.	Safe and accessible transit stops, with amenities such as shelters, benches, and lighting to increase comfort, convenience, and visibility.	Street roundabouts, curb extensions, and other elements that increase safety for pedestrians and bicyclists.	Carpool and vanpool subsidies	Metrolink and bus pass subsidies	Microtransit/shared ride (OC Flex and Uber/Lyft) subsidies	Bikeshare subsidies	Telework subsidies	Carpool or vanpool	Take transit (such as Metrolink and bus)	Microtransit/shared ride (OC Flex and Uber/Lyft)	Walk or bike	Telework	*Thanks for your input! Now, please tell us a little about yourself. * * What is your worksite zip code if you have one?*	*What is your home zip code?*	*What is your age range? *	*What is your combined annual household income? *	*What ethnic group do you consider yourself a part of or feel closest to? *	*Sign up to receive project updates and meeting invites *	Start Date (UTC)	Submit Date (UTC)	Network ID
erqb0ak83k6hsg0qsujerqb0agr5kmp9	Local community shuttles/trolley services,Improved bike and pedestrian paths/trails and bike amenities,More frequent and reliable bus service,More frequent and reliable train service,Expanded on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft)	Increased walking and biking safety measures\, including separation from vehicle traffic,Free and secure bike parking at key locations,Availability of bikeshare\, e-bikes\, e-scooters,Universal fare pass that works across multiple transportation services,Easy connections between multiple transportation services (such as Metrolink to bikeshare),Reliable on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft)	Moderately Important	Very Important	Slightly Important	Moderately Important	Very Important	Very Important	Possibly	Definitely	Probably Not	Definitely	Probably	Probably	Probably	Probably Not	Definitely	Probably	92627	92627	35-44	50,000 â€“ 79,999	Latino/Hispanic		3/28/2022 0:09	3/28/2022 0:16	e8aaa90e05
judpw9hczrrohek1m4g70hjudp8u10wu	Local community shuttles/trolley services,Expanded on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft),More frequent and reliable train service,More frequent and reliable bus service,Improved bike and pedestrian paths/trails and bike amenities	Increased walking and biking safety measures\, including separation from vehicle traffic,Universal fare pass that works across multiple transportation services,Easy connections between multiple transportation services (such as Metrolink to bikeshare),Reliable on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft),Free and secure bike parking at key locations,Availability of bikeshare\, e-bikes\, e-scooters	Very Important	Important	Moderately Important	Important	Moderately Important	Moderately Important	Probably Not	Probably	Definitely	Probably Not	Probably Not	Probably Not	Definitely	Definitely	Possibly	Possibly	92692	92692	75 or older	Prefer not to answer	Caucasian/White		3/27/2022 16:28	3/27/2022 16:35	37c8abbb17
83m5zg7hf2zygvg5y83m5zgm0w59dtmb	Local community shuttles/trolley services,More frequent and reliable bus service,More frequent and reliable train service,Expanded on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft),Improved bike and pedestrian paths/trails and bike amenities	Universal fare pass that works across multiple transportation services,Free and secure bike parking at key locations,Reliable on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft),Availability of bikeshare\, e-bikes\, e-scooters,Easy connections between multiple transportation services (such as Metrolink to bikeshare),Increased walking and biking safety measures\, including separation from vehicle traffic	Important	Important	Important	Very Important	Very Important	Very Important	Possibly	Definitely	Definitely	Definitely	Definitely Not	Definitely	Definitely	Definitely	Definitely	Probably	90631	90631			Latino/Hispanic	tmij2011@gmail.com	3/27/2022 8:35	3/27/2022 8:40	13b252bb01
0mr2m83key9zvh3pt0mr2kvr2ya7ce61	Expanded on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft),Improved bike and pedestrian paths/trails and bike amenities,Local community shuttles/trolley services,More frequent and reliable bus service,More frequent and reliable train service	Reliable on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft),Easy connections between multiple transportation services (such as Metrolink to bikeshare),Availability of bikeshare\, e-bikes\, e-scooters,Universal fare pass that works across multiple transportation services,Increased walking and biking safety measures\, including separation from vehicle traffic,Free and secure bike parking at key locations	Very Important	Very Important	Moderately Important	Very Important	Very Important	Very Important	Possibly	Probably Not	Probably	Definitely Not	Definitely	Probably	Possibly	Definitely	Probably Not	Definitely	92618	92673	55-64	110,000 â€“ 169,000	Caucasian/White		3/27/2022 3:03	3/27/2022 3:10	84d039f8b9
sc0yq7k92ghsxlr8sc0yq78ytp400q8m	Improved bike and pedestrian paths/trails and bike amenities,Local community shuttles/trolley services,More frequent and reliable train service,More frequent and reliable bus service,Expanded on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft)	Increased walking and biking safety measures\, including separation from vehicle traffic,Free and secure bike parking at key locations,Availability of bikeshare\, e-bikes\, e-scooters,Universal fare pass that works across multiple transportation services,Easy connections between multiple transportation services (such as Metrolink to bikeshare),Reliable on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft)	Very Important	Very Important	Moderately Important	Very Important	Very Important	Very Important	Probably Not	Possibly	Probably Not	Probably	Possibly	Possibly	Probably	Probably Not	Probably	Probably		92629	16-24	30,000 â€“ 49,999	Caucasian/White		3/27/2022 2:39	3/27/2022 3:04	b568be9589
9mo459mubw6z9p0vvs3s9mo45mx9vgfj	Expanded on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft),More frequent and reliable train service,More frequent and reliable bus service,Improved bike and pedestrian paths/trails and bike amenities,Local community shuttles/trolley services	Reliable on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft),Increased walking and biking safety measures\, including separation from vehicle traffic,Availability of bikeshare\, e-bikes\, e-scooters,Free and secure bike parking at key locations,Easy connections between multiple transportation services (such as Metrolink to bikeshare),Universal fare pass that works across multiple transportation services	Very Important	Important	Important	Moderately Important	Moderately Important	Very Important	Possibly	Possibly	Probably	Possibly	Definitely	Possibly	Possibly	Probably	Probably	Definitely	92675	92603	35-44	110,000 â€“ 169,000	Caucasian/White		3/26/2022 22:40	3/26/2022 23:04	a5fdca6292
xv0wnwgk86tnlyzxv0wbiq76j6haeh9h	Expanded on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft),Improved bike and pedestrian paths/trails and bike amenities,Local community shuttles/trolley services,More frequent and reliable train service,More frequent and reliable bus service	Universal fare pass that works across multiple transportation services,Reliable on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft),Increased walking and biking safety measures\, including separation from vehicle traffic,Free and secure bike parking at key locations,Easy connections between multiple transportation services (such as Metrolink to bikeshare),Availability of bikeshare\, e-bikes\, e-scooters	Very Important	Very Important	Very Important	Very Important	Very Important	Very Important	Definitely Not	Definitely	Possibly	Definitely Not	Probably Not	Probably Not	Possibly	Probably Not	Probably	Probably	92629	92629	65-74	Prefer not to answer	Caucasian/White		3/26/2022 21:05	3/26/2022 21:12	a2dc1e8e2d
mp1xc7qe0at87fwhzi4673lmp1xcmicm	Expanded on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft),Local community shuttles/trolley services,More frequent and reliable bus service,Improved bike and pedestrian paths/trails and bike amenities,More frequent and reliable train service	Universal fare pass that works across multiple transportation services,Free and secure bike parking at key locations,Availability of bikeshare\, e-bikes\, e-scooters,Reliable on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft),Easy connections between multiple transportation services (such as Metrolink to bikeshare),Increased walking and biking safety measures\, including separation from vehicle traffic	Moderately Important	Slightly Important	Unimportant	Unimportant	Slightly Important	Slightly Important	Possibly	Possibly	Definitely	Probably	Possibly	Probably	Probably Not	Probably	Definitely Not	Definitely Not	92677	92677	55-64	30,000 â€“ 49,999	Prefer not to answer	poeskeconstruction@gmail.com	3/26/2022 19:24	3/26/2022 19:33	3dbe37e052
2wpo0pnh2ft3o70xxo5dh0n2wpo0msnq	Improved bike and pedestrian paths/trails and bike amenities,Local community shuttles/trolley services,More frequent and reliable train service,More frequent and reliable bus service,Expanded on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft)	Easy connections between multiple transportation services (such as Metrolink to bikeshare),Increased walking and biking safety measures\, including separation from vehicle traffic,Universal fare pass that works across multiple transportation services,Reliable on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft),Free and secure bike parking at key locations,Availability of bikeshare\, e-bikes\, e-scooters	Very Important	Very Important	Important	Slightly Important	Moderately Important	Very Important	Probably Not	Definitely	Probably	Definitely Not	Definitely Not	Possibly	Definitely	Probably	Probably Not	Definitely Not	92614	92629	65-74	80,000 â€“ 109,000	Caucasian/White		3/26/2022 16:39	3/26/2022 16:43	127514411a
i44fe6uvasjzq142hi44fenqimr1tmfa	Local community shuttles/trolley services,More frequent and reliable bus service,Expanded on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft),More frequent and reliable train service,Improved bike and pedestrian paths/trails and bike amenities	Universal fare pass that works across multiple transportation services,Easy connections between multiple transportation services (such as Metrolink to bikeshare),Availability of bikeshare\, e-bikes\, e-scooters,Reliable on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft),Free and secure bike parking at key locations,Increased walking and biking safety measures\, including separation from vehicle traffic	Important	Very Important	Moderately Important	Important	Important	Very Important	Probably	Definitely	Probably	Probably Not	Definitely	Possibly	Definitely	Definitely	Possibly	Definitely	92618	92653	25-34	Less than 30,000	Latino/Hispanic		3/26/2022 13:04	3/26/2022 13:14	12c9b5908a
5nfm5lj2glyftcd5nkg4w56px24ntdn3	Local community shuttles/trolley services,Expanded on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft),Improved bike and pedestrian paths/trails and bike amenities,More frequent and reliable bus service,More frequent and reliable train service	Universal fare pass that works across multiple transportation services,Reliable on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft),Easy connections between multiple transportation services (such as Metrolink to bikeshare),Increased walking and biking safety measures\, including separation from vehicle traffic,Availability of bikeshare\, e-bikes\, e-scooters,Free and secure bike parking at key locations	Very Important	Very Important	Very Important	Very Important	Important	Very Important	Possibly	Definitely	Possibly	Possibly	Definitely	Possibly	Possibly	Probably Not	Probably Not	Definitely		92637	65-74	Less than 30,000	Other	ddd8281@yahoo.com	3/26/2022 10:08	3/26/2022 10:23	dec981e611
zqgw5l0h7u3jhx7u20zqgw53p4rxwnfv	Improved bike and pedestrian paths/trails and bike amenities,More frequent and reliable bus service,More frequent and reliable train service,Local community shuttles/trolley services,Expanded on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft)	Universal fare pass that works across multiple transportation services,Increased walking and biking safety measures\, including separation from vehicle traffic,Free and secure bike parking at key locations,Easy connections between multiple transportation services (such as Metrolink to bikeshare),Availability of bikeshare\, e-bikes\, e-scooters,Reliable on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft)	Very Important	Very Important	Very Important	Very Important	Very Important	Very Important	Definitely	Definitely	Definitely	Definitely	Definitely	Definitely	Definitely	Definitely	Definitely	Definitely	92780	92780	16-24	Less than 30,000	Asian		3/26/2022 4:25	3/26/2022 4:28	65d7203ee3
v86iwbh5ozrlqz9sdptux2v86iwlb5j6	Local community shuttles/trolley services,More frequent and reliable bus service,More frequent and reliable train service,Improved bike and pedestrian paths/trails and bike amenities,Expanded on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft)	Increased walking and biking safety measures\, including separation from vehicle traffic,Easy connections between multiple transportation services (such as Metrolink to bikeshare),Availability of bikeshare\, e-bikes\, e-scooters,Free and secure bike parking at key locations,Universal fare pass that works across multiple transportation services,Reliable on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft)	Very Important	Very Important	Important	Important	Important	Very Important	Possibly	Probably	Probably Not	Probably	Possibly	Definitely	Definitely	Possibly	Definitely	Definitely	92691	92691	35-44	Prefer not to answer	Caucasian/White		3/26/2022 3:00	3/26/2022 3:03	ecf2c8535c
tapupo0p00sy64xy0tapup7geb1biehg	Improved bike and pedestrian paths/trails and bike amenities,More frequent and reliable bus service,Expanded on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft),Local community shuttles/trolley services,More frequent and reliable train service	Free and secure bike parking at key locations,Easy connections between multiple transportation services (such as Metrolink to bikeshare),Increased walking and biking safety measures\, including separation from vehicle traffic,Universal fare pass that works across multiple transportation services,Reliable on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft),Availability of bikeshare\, e-bikes\, e-scooters	Very Important	Moderately Important	Moderately Important	Unimportant	Moderately Important	Very Important	Definitely Not	Definitely Not	Definitely Not	Definitely Not	Definitely Not	Definitely	Definitely Not	Definitely Not	Definitely Not	Definitely	92691	92653	55-64	Prefer not to answer	Caucasian/White		3/26/2022 2:35	3/26/2022 2:44	86b569d9f5
yrxxcimqe8wa8q8ay07yrxxy5oknsh1f	Improved bike and pedestrian paths/trails and bike amenities,Expanded on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft),Local community shuttles/trolley services,More frequent and reliable bus service,More frequent and reliable train service	Free and secure bike parking at key locations,Increased walking and biking safety measures\, including separation from vehicle traffic,Availability of bikeshare\, e-bikes\, e-scooters,Reliable on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft),Easy connections between multiple transportation services (such as Metrolink to bikeshare),Universal fare pass that works across multiple transportation services	Moderately Important	Very Important	Unimportant	Unimportant	Slightly Important	Very Important	Definitely Not	Definitely Not	Definitely Not	Definitely Not	Definitely	Probably Not	Definitely Not	Definitely Not	Definitely Not	Definitely	92679	92679	45-54	170,000 or more	Latino/Hispanic	justw8asec@gmail.com	3/26/2022 2:22	3/26/2022 2:27	56ac008226
uva1mlym5gpxhuvh6pan74wmiqnv6kuh	Local community shuttles/trolley services,More frequent and reliable bus service,Improved bike and pedestrian paths/trails and bike amenities,More frequent and reliable train service,Expanded on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft)	Increased walking and biking safety measures\, including separation from vehicle traffic,Free and secure bike parking at key locations,Reliable on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft),Easy connections between multiple transportation services (such as Metrolink to bikeshare),Universal fare pass that works across multiple transportation services,Availability of bikeshare\, e-bikes\, e-scooters	Very Important	Very Important	Very Important	Important	Very Important	Very Important	Possibly	Definitely	Possibly	Probably Not	Probably Not	Probably	Probably Not	Probably Not	Probably	Definitely	92626	92646	55-64	Prefer not to answer	Caucasian/White		3/26/2022 2:15	3/26/2022 2:20	3c2fad8d33
src6tvfh9ren9bqt69src646qfvsbr3l	Improved bike and pedestrian paths/trails and bike amenities,More frequent and reliable train service,More frequent and reliable bus service,Local community shuttles/trolley services,Expanded on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft)	Increased walking and biking safety measures\, including separation from vehicle traffic,Easy connections between multiple transportation services (such as Metrolink to bikeshare),Universal fare pass that works across multiple transportation services,Free and secure bike parking at key locations,Availability of bikeshare\, e-bikes\, e-scooters,Reliable on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft)	Very Important	Very Important	Very Important	Very Important	Very Important	Very Important	Possibly	Definitely	Definitely Not	Definitely	Definitely	Definitely	Definitely	Definitely Not	Definitely	Definitely		92691	16-24	80,000 â€“ 109,000	Caucasian/White	colorjuice14@gmail.com	3/26/2022 1:28	3/26/2022 1:31	44daae1cb1
spfgunh4eod0spfn1svikrvzuuz3foqn	Improved bike and pedestrian paths/trails and bike amenities,Expanded on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft),Local community shuttles/trolley services,More frequent and reliable bus service,More frequent and reliable train service	Universal fare pass that works across multiple transportation services,Reliable on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft),Increased walking and biking safety measures\, including separation from vehicle traffic,Free and secure bike parking at key locations,Availability of bikeshare\, e-bikes\, e-scooters,Easy connections between multiple transportation services (such as Metrolink to bikeshare)	Very Important	Very Important	Moderately Important	Moderately Important	Important	Moderately Important	Definitely	Probably	Probably	Possibly	Probably	Definitely	Probably Not	Probably Not	Probably	Definitely		92656	65-74	Prefer not to answer	Prefer not to answer	prettyslik@aol.com	3/26/2022 0:50	3/26/2022 0:57	6c8708eef1
gab9qqs1bagik21vafj2gab9qqs1bthx	More frequent and reliable bus service,Expanded on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft),Improved bike and pedestrian paths/trails and bike amenities,Local community shuttles/trolley services,More frequent and reliable train service	Availability of bikeshare\, e-bikes\, e-scooters,Easy connections between multiple transportation services (such as Metrolink to bikeshare),Universal fare pass that works across multiple transportation services,Increased walking and biking safety measures\, including separation from vehicle traffic,Reliable on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft),Free and secure bike parking at key locations	Moderately Important	Very Important	Very Important	Important	Very Important	Important	Possibly	Probably	Definitely	Possibly	Possibly	Possibly	Possibly	Definitely	Probably	Probably	92704	92603	65-74	170,000 or more	Caucasian/White	a42nada@gmail.com	3/26/2022 0:34	3/26/2022 0:41	2e013e1847
xc3v9c3qyy1gjsn1hk3xc3v9c8z3mzds	Expanded on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft),Local community shuttles/trolley services,More frequent and reliable train service,Improved bike and pedestrian paths/trails and bike amenities,More frequent and reliable bus service	Reliable on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft),Easy connections between multiple transportation services (such as Metrolink to bikeshare),Free and secure bike parking at key locations,Increased walking and biking safety measures\, including separation from vehicle traffic,Universal fare pass that works across multiple transportation services,Availability of bikeshare\, e-bikes\, e-scooters	Very Important	Very Important	Important	Very Important	Important	Very Important	Probably	Probably	Definitely	Probably	Definitely	Probably	Probably	Definitely	Probably	Definitely	92694	92694	65-74	110,000 â€“ 169,000	Caucasian/White		3/26/2022 0:26	3/26/2022 0:30	722cccb166
5eq4rvqwo4rmvbg8c85eq4rvq5zh1cfg	Expanded on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft),More frequent and reliable bus service,More frequent and reliable train service,Improved bike and pedestrian paths/trails and bike amenities,Local community shuttles/trolley services	Increased walking and biking safety measures\, including separation from vehicle traffic,Reliable on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft),Free and secure bike parking at key locations,Easy connections between multiple transportation services (such as Metrolink to bikeshare),Availability of bikeshare\, e-bikes\, e-scooters,Universal fare pass that works across multiple transportation services	Very Important	Important	Very Important	Important	Very Important	Important	Definitely Not	Possibly	Possibly	Probably Not	Definitely Not	Possibly	Possibly	Probably	Probably Not	Probably		92637	75 or older	Prefer not to answer	Caucasian/White		3/26/2022 0:22	3/26/2022 0:25	b2516f3b6d
dhr5qauj05b5lcn0cssnkdhr5qauy9gu	Improved bike and pedestrian paths/trails and bike amenities,More frequent and reliable bus service,More frequent and reliable train service,Expanded on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft),Local community shuttles/trolley services	Reliable on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft),Easy connections between multiple transportation services (such as Metrolink to bikeshare),Free and secure bike parking at key locations,Universal fare pass that works across multiple transportation services,Increased walking and biking safety measures\, including separation from vehicle traffic,Availability of bikeshare\, e-bikes\, e-scooters	Very Important	Important	Moderately Important	Moderately Important	Important	Important	Possibly	Possibly	Possibly	Possibly	Possibly	Possibly	Possibly	Possibly	Probably	Possibly		92675	35-44	50,000 â€“ 79,999	Caucasian/White		3/26/2022 0:09	3/26/2022 0:13	b97b7f576e
rnfed1kf31f8fs578ofbrnfed18c2kpo	Local community shuttles/trolley services,More frequent and reliable train service,More frequent and reliable bus service,Improved bike and pedestrian paths/trails and bike amenities,Expanded on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft)	Universal fare pass that works across multiple transportation services,Easy connections between multiple transportation services (such as Metrolink to bikeshare),Increased walking and biking safety measures\, including separation from vehicle traffic,Free and secure bike parking at key locations,Availability of bikeshare\, e-bikes\, e-scooters,Reliable on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft)	Important	Very Important	Moderately Important	Moderately Important	Moderately Important	Moderately Important	Definitely Not	Definitely	Probably Not	Possibly	Definitely Not	Definitely Not	Possibly	Definitely Not	Possibly	Definitely Not	92808	92870	45-54	170,000 or more	Latino/Hispanic		3/25/2022 20:49	3/25/2022 20:55	8945e6e4c1
sy1u18rl9peg7rcmsy1u1596yxg0srz4	Improved bike and pedestrian paths/trails and bike amenities,More frequent and reliable bus service,Local community shuttles/trolley services,More frequent and reliable train service,Expanded on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft)	Increased walking and biking safety measures\, including separation from vehicle traffic,Free and secure bike parking at key locations,Reliable on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft),Easy connections between multiple transportation services (such as Metrolink to bikeshare),Universal fare pass that works across multiple transportation services,Availability of bikeshare\, e-bikes\, e-scooters	Very Important	Very Important	Important	Important	Very Important	Moderately Important	Probably	Definitely	Probably	Possibly	Probably Not	Probably	Definitely	Probably	Definitely	Possibly		92604	65-74	170,000 or more	Caucasian/White	bamspoker@yahoo.com	3/25/2022 17:56	3/25/2022 18:12	397f4f9df3
xr0ncoj189bbag9unxr0no6vldph8f6b	More frequent and reliable bus service,Local community shuttles/trolley services,Expanded on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft),Improved bike and pedestrian paths/trails and bike amenities,More frequent and reliable train service	Increased walking and biking safety measures\, including separation from vehicle traffic,Free and secure bike parking at key locations,Reliable on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft),Easy connections between multiple transportation services (such as Metrolink to bikeshare),Universal fare pass that works across multiple transportation services,Availability of bikeshare\, e-bikes\, e-scooters	Important	Important	Moderately Important	Slightly Important	Unimportant	Slightly Important	Probably	Definitely	Probably	Possibly	Probably	Definitely	Probably	Possibly	Probably	Probably		92807	65-74	80,000 â€“ 109,000	Caucasian/White		3/25/2022 15:19	3/25/2022 15:24	9643675a05
i6fe2fft9km9h03wts7ci6fe2fh6haxy	Improved bike and pedestrian paths/trails and bike amenities,More frequent and reliable train service,More frequent and reliable bus service,Expanded on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft),Local community shuttles/trolley services	Increased walking and biking safety measures\, including separation from vehicle traffic,Free and secure bike parking at key locations,Easy connections between multiple transportation services (such as Metrolink to bikeshare),Availability of bikeshare\, e-bikes\, e-scooters,Universal fare pass that works across multiple transportation services,Reliable on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft)	Very Important	Very Important	Important	Important	Important	Very Important	Possibly	Possibly	Possibly	Possibly	Possibly	Probably	Probably	Probably	Definitely	Definitely		92677	55-64	80,000 â€“ 109,000	Caucasian/White		3/25/2022 0:33	3/25/2022 0:39	074a55759e
l3la6dn2yvvjtyr013l3la6deoncrftz	More frequent and reliable train service,Expanded on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft),Local community shuttles/trolley services,Improved bike and pedestrian paths/trails and bike amenities,More frequent and reliable bus service	Universal fare pass that works across multiple transportation services,Reliable on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft),Availability of bikeshare\, e-bikes\, e-scooters,Free and secure bike parking at key locations,Easy connections between multiple transportation services (such as Metrolink to bikeshare),Increased walking and biking safety measures\, including separation from vehicle traffic	Moderately Important	Slightly Important	Important	Slightly Important	Slightly Important	Slightly Important	Probably Not	Possibly	Probably	Probably Not	Probably Not	Possibly	Possibly	Possibly	Possibly	Possibly	92780	92807	25-34	170,000 or more	Caucasian/White		3/24/2022 22:23	3/24/2022 22:42	4a1eea0780
2hwkys3f9opi8ltf6i2hwkysguo9qza6	More frequent and reliable train service,More frequent and reliable bus service,Expanded on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft),Improved bike and pedestrian paths/trails and bike amenities,Local community shuttles/trolley services	Universal fare pass that works across multiple transportation services,Reliable on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft),Free and secure bike parking at key locations,Availability of bikeshare\, e-bikes\, e-scooters,Easy connections between multiple transportation services (such as Metrolink to bikeshare),Increased walking and biking safety measures\, including separation from vehicle traffic	Very Important	Important	Very Important	Very Important	Very Important	Very Important	Definitely	Probably Not	Definitely Not	Definitely Not	Definitely	Definitely	Probably	Possibly	Definitely Not	Definitely	92881	951			Prefer not to answer	adwilson@fullerton.edu	3/24/2022 20:55	3/24/2022 21:09	4858e83b8a
lvddbj75gl931lvddnpm0hcbuy4tsio1	Local community shuttles/trolley services,Expanded on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft),More frequent and reliable bus service,Improved bike and pedestrian paths/trails and bike amenities,More frequent and reliable train service	Easy connections between multiple transportation services (such as Metrolink to bikeshare),Reliable on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft),Universal fare pass that works across multiple transportation services,Availability of bikeshare\, e-bikes\, e-scooters,Free and secure bike parking at key locations,Increased walking and biking safety measures\, including separation from vehicle traffic	Very Important	Very Important	Moderately Important	Important	Very Important	Important	Definitely	Possibly	Probably	Possibly	Definitely	Definitely	Probably	Probably	Possibly	Definitely	92831	92683	16-24	80,000 â€“ 109,000	Latino/Hispanic	andreaaguilera@fullerton.edu	3/24/2022 15:32	3/24/2022 15:53	3efc883fff
v75ob1jsnhujvuej82v75ob12jb9vgq3	Improved bike and pedestrian paths/trails and bike amenities,Expanded on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft),More frequent and reliable bus service,More frequent and reliable train service,Local community shuttles/trolley services	Increased walking and biking safety measures\, including separation from vehicle traffic,Universal fare pass that works across multiple transportation services,Reliable on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft),Free and secure bike parking at key locations,Easy connections between multiple transportation services (such as Metrolink to bikeshare),Availability of bikeshare\, e-bikes\, e-scooters	Very Important	Very Important	Very Important	Moderately Important	Important	Very Important	Possibly	Definitely	Probably	Possibly	Possibly	Possibly	Probably	Probably	Definitely	Possibly	92869	92869	75 or older	50,000 â€“ 79,999	Caucasian/White	lficaro@gmail.com	3/24/2022 15:19	3/24/2022 15:24	d78bc3a530
uoilpotrpw7ep84n2vkuoily8app7icr	More frequent and reliable bus service,More frequent and reliable train service,Local community shuttles/trolley services,Expanded on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft),Improved bike and pedestrian paths/trails and bike amenities	Universal fare pass that works across multiple transportation services,Increased walking and biking safety measures\, including separation from vehicle traffic,Free and secure bike parking at key locations,Easy connections between multiple transportation services (such as Metrolink to bikeshare),Reliable on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft),Availability of bikeshare\, e-bikes\, e-scooters	Very Important	Important	Very Important	Very Important	Very Important	Very Important	Probably	Definitely	Possibly	Possibly	Possibly	Probably	Definitely	Probably	Definitely	Definitely Not	92868	92604		Prefer not to answer	Prefer not to answer		3/24/2022 12:54	3/24/2022 13:04	7b6ffff793
mxa7if9ju6s3b25m4jvs5ermxa7if9k3	Improved bike and pedestrian paths/trails and bike amenities,Local community shuttles/trolley services,Expanded on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft),More frequent and reliable bus service,More frequent and reliable train service	Free and secure bike parking at key locations,Increased walking and biking safety measures\, including separation from vehicle traffic,Availability of bikeshare\, e-bikes\, e-scooters,Universal fare pass that works across multiple transportation services,Easy connections between multiple transportation services (such as Metrolink to bikeshare),Reliable on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft)	Important	Very Important	Important	Moderately Important	Slightly Important	Important	Probably Not	Probably	Possibly	Definitely	Definitely	Definitely	Probably	Possibly	Definitely	Definitely	92648	92646	45-54	110,000 â€“ 169,000	Pacific Islander	ewching@socal.rr.com	3/24/2022 12:50	3/24/2022 12:58	a3e6fadbc4
gra6eqbo55mt4rrqgpv18cgra6eqbpjg	Local community shuttles/trolley services,More frequent and reliable train service,More frequent and reliable bus service,Improved bike and pedestrian paths/trails and bike amenities,Expanded on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft)	Easy connections between multiple transportation services (such as Metrolink to bikeshare),Universal fare pass that works across multiple transportation services,Free and secure bike parking at key locations,Increased walking and biking safety measures\, including separation from vehicle traffic,Availability of bikeshare\, e-bikes\, e-scooters,Reliable on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft)	Very Important	Very Important	Very Important	Very Important	Very Important	Very Important	Definitely	Definitely	Definitely Not	Definitely	Possibly	Definitely	Definitely	Definitely Not	Definitely	Possibly						tdeviljr@earthlink.net	3/24/2022 8:32	3/24/2022 8:37	c13f9e7766
ajjfyc24sj93p4llajjfycxe6o00hot5	Local community shuttles/trolley services,More frequent and reliable train service,More frequent and reliable bus service,Improved bike and pedestrian paths/trails and bike amenities,Expanded on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft)	Easy connections between multiple transportation services (such as Metrolink to bikeshare),Universal fare pass that works across multiple transportation services,Increased walking and biking safety measures\, including separation from vehicle traffic,Free and secure bike parking at key locations,Reliable on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft),Availability of bikeshare\, e-bikes\, e-scooters	Very Important	Very Important	Very Important	Very Important	Very Important	Slightly Important	Probably Not	Definitely	Probably Not	Probably Not	Possibly	Probably Not	Possibly	Probably Not	Probably Not	Probably Not	92704	92704	35-44	110,000 â€“ 169,000	Latino/Hispanic	csdkrew@gmail.com	3/24/2022 3:34	3/24/2022 3:37	82b77d89a2
0viqmyzh08tz9dc0vija68thut2nlnql	More frequent and reliable bus service,More frequent and reliable train service,Improved bike and pedestrian paths/trails and bike amenities,Local community shuttles/trolley services,Expanded on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft)	Easy connections between multiple transportation services (such as Metrolink to bikeshare),Increased walking and biking safety measures\, including separation from vehicle traffic,Free and secure bike parking at key locations,Universal fare pass that works across multiple transportation services,Reliable on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft),Availability of bikeshare\, e-bikes\, e-scooters	Very Important	Very Important	Important	Very Important	Important	Moderately Important	Possibly	Probably	Possibly	Probably Not	Probably Not	Probably	Definitely	Possibly	Definitely	Possibly		92648	25-34	50,000 â€“ 79,999	Asian	pinkrosecat@gmail.com	3/24/2022 2:20	3/24/2022 2:26	fc5be99f12
zj5lgir4hgqmqxhg1jbzj5lgir410trj	Improved bike and pedestrian paths/trails and bike amenities,More frequent and reliable bus service,Local community shuttles/trolley services,Expanded on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft),More frequent and reliable train service	Easy connections between multiple transportation services (such as Metrolink to bikeshare),Free and secure bike parking at key locations,Availability of bikeshare\, e-bikes\, e-scooters,Reliable on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft),Universal fare pass that works across multiple transportation services,Increased walking and biking safety measures\, including separation from vehicle traffic	Very Important	Important	Very Important	Important	Important	Important	Definitely	Definitely	Definitely	Definitely	Definitely	Probably	Definitely	Probably	Definitely	Probably Not	92647	92647	45-54	Less than 30,000	Latino/Hispanic	malehuerta@hotmail.com	3/24/2022 2:03	3/24/2022 2:14	21e7828343
1etvpst83l9hxlyl9ne1etsyn51wljou	More frequent and reliable train service,Expanded on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft),Local community shuttles/trolley services,More frequent and reliable bus service,Improved bike and pedestrian paths/trails and bike amenities	Reliable on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft),Universal fare pass that works across multiple transportation services,Easy connections between multiple transportation services (such as Metrolink to bikeshare),Increased walking and biking safety measures\, including separation from vehicle traffic,Availability of bikeshare\, e-bikes\, e-scooters,Free and secure bike parking at key locations	Very Important	Important	Slightly Important	Unimportant	Very Important	Moderately Important	Probably	Possibly	Probably	Probably Not	Definitely	Definitely	Probably	Probably	Definitely Not	Definitely	90808	90808	55-64	50,000 â€“ 79,999	Caucasian/White	lisanobleconsults@gmail.com	3/24/2022 1:27	3/24/2022 1:31	4473c76d76
th1xig849kp6th1xd4sojia2bcveg758	Improved bike and pedestrian paths/trails and bike amenities,Local community shuttles/trolley services,Expanded on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft),More frequent and reliable bus service,More frequent and reliable train service	Increased walking and biking safety measures\, including separation from vehicle traffic,Free and secure bike parking at key locations,Reliable on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft),Easy connections between multiple transportation services (such as Metrolink to bikeshare),Availability of bikeshare\, e-bikes\, e-scooters,Universal fare pass that works across multiple transportation services	Very Important	Very Important	Important	Unimportant	Unimportant	Very Important	Probably Not	Definitely Not	Possibly	Probably Not	Definitely	Possibly	Definitely Not	Definitely Not	Definitely	Definitely	92673	92656	35-44	80,000 â€“ 109,000	Prefer not to answer		3/24/2022 0:44	3/24/2022 0:48	3e1f073ced

ENGLISH & SPANISH #	*Recognizing that future funding is limited, rank the following types of transportation services for funding priority.* (Rank from highest to lowest priority.)	*Choosing a non-car travel option can help reduce emissions and congestion. Prioritize the following in order of how likely you would consider a non-car travel option.* (Rank from most to least likely.)	Sidewalks wide enough to allow pedestrians to walk comfortably, separated from traffic.	Bicycle lanes/paths that are safe for riders of all ages and experience levels.	Extended pedestrian street crossing times when needed.	Dedicated bus lanes so that buses can compete with car travel times.	Safe and accessible transit stops, with amenities such as shelters, benches, and lighting to increase comfort, convenience, and visibility.	Street roundabouts, curb extensions, and other elements that increase safety for pedestrians and bicyclists.	Carpool and vanpool subsidies	Metrolink and bus pass subsidies	Microtransit/shared ride (OC Flex and Uber/Lyft) subsidies	Bikeshare subsidies	Telework subsidies	Carpool or vanpool	Take transit (such as Metrolink and bus)	Microtransit/shared ride (OC Flex and Uber/Lyft)	Walk or bike	Telework	*Thanks for your input! Now, please tell us a little about yourself. * * What is your worksite zip code if you have one?*	*What is your home zip code?*	*What is your age range? *	*What is your combined annual household income? *	*What ethnic group do you consider yourself a part of or feel closest to? *	*Sign up to receive project updates and meeting invites *	Start Date (UTC)	Submit Date (UTC)	Network ID
019pdzxfdncpzy019md7lf8242zs2p55	More frequent and reliable bus service,More frequent and reliable train service,Local community shuttles/trolley services,Improved bike and pedestrian paths/trails and bike amenities,Expanded on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft)	Universal fare pass that works across multiple transportation services,Free and secure bike parking at key locations,Reliable on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft),Easy connections between multiple transportation services (such as Metrolink to bikeshare),Availability of bikeshare\, e-bikes\, e-scooters,Increased walking and biking safety measures\, including separation from vehicle traffic	Important	Moderately Important	Important	Important	Important	Very Important	Probably	Probably	Probably	Definitely	Probably	Probably	Definitely	Probably	Definitely	Possibly	92706	92843	16-24	80,000 â€" 109,000	Latino/Hispanic	nietzdaf@hotmail.com	3/23/2022 23:54	3/23/2022 23:58	2dd193c332
dgluq9xdt8iuedsqzwar8dgluq93bqq8	Improved bike and pedestrian paths/trails and bike amenities,More frequent and reliable train service,More frequent and reliable bus service,Expanded on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft),Local community shuttles/trolley services	Increased walking and biking safety measures\, including separation from vehicle traffic,Availability of bikeshare\, e-bikes\, e-scooters,Free and secure bike parking at key locations,Reliable on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft),Easy connections between multiple transportation services (such as Metrolink to bikeshare),Universal fare pass that works across multiple transportation services	Very Important	Very Important	Moderately Important	Important	Moderately Important	Very Important	Probably Not	Probably Not	Probably	Definitely	Definitely	Probably Not	Probably	Probably	Definitely	Definitely	92618	92603	45-54	170,000 or more	Caucasian/White		3/23/2022 23:28	3/23/2022 23:33	a6600756df
y8z111cipl43nswzgn0oiy8z12zijc26	More frequent and reliable bus service,Local community shuttles/trolley services,Improved bike and pedestrian paths/trails and bike amenities,More frequent and reliable train service,Expanded on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft)	Availability of bikeshare\, e-bikes\, e-scooters,Free and secure bike parking at key locations,Reliable on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft),Universal fare pass that works across multiple transportation services,Easy connections between multiple transportation services (such as Metrolink to bikeshare),Increased walking and biking safety measures\, including separation from vehicle traffic	Important	Important	Moderately Important	Slightly Important	Moderately Important	Slightly Important	Possibly	Probably	Possibly	Possibly	Possibly	Possibly	Probably Not	Probably Not	Probably Not	Probably Not		92649	65-74	Prefer not to answer	Mixed Heritage		3/23/2022 22:41	3/23/2022 22:49	5723c998ad
jfevcno0km8ikpzr8sjfevcn6s6a6x58	More frequent and reliable bus service,More frequent and reliable train service,Expanded on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft),Improved bike and pedestrian paths/trails and bike amenities,Local community shuttles/trolley services	Free and secure bike parking at key locations,Reliable on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft),Availability of bikeshare\, e-bikes\, e-scooters,Easy connections between multiple transportation services (such as Metrolink to bikeshare),Universal fare pass that works across multiple transportation services,Increased walking and biking safety measures\, including separation from vehicle traffic	Very Important	Very Important	Very Important	Very Important	Very Important	Very Important	Definitely	Definitely	Definitely	Definitely	Definitely	Definitely	Definitely	Definitely	Definitely	Definitely	92804	93101	55-64	Prefer not to answer	Asian	kraushoward1@gmail.com	3/23/2022 22:40	3/23/2022 22:43	c972bf4ac5
05sw8hakge9u7g20nmsy05sw8uxgt492	More frequent and reliable bus service,More frequent and reliable train service,Improved bike and pedestrian paths/trails and bike amenities,Local community shuttles/trolley services,Expanded on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft)	Increased walking and biking safety measures\, including separation from vehicle traffic,Free and secure bike parking at key locations,Easy connections between multiple transportation services (such as Metrolink to bikeshare),Universal fare pass that works across multiple transportation services,Availability of bikeshare\, e-bikes\, e-scooters,Reliable on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft)	Important	Very Important	Important	Important	Moderately Important	Very Important	Probably Not	Probably	Probably Not	Possibly	Probably	Possibly	Definitely	Probably Not	Definitely	Probably	92627	92627	25-34	50,000 â€" 79,999	Caucasian/White		3/23/2022 22:35	3/23/2022 22:39	bebdd059d7
g7rgf285x7kcyjg7r34guctes15w32ac	More frequent and reliable bus service,More frequent and reliable train service,Improved bike and pedestrian paths/trails and bike amenities,Expanded on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft),Local community shuttles/trolley services	Easy connections between multiple transportation services (such as Metrolink to bikeshare),Reliable on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft),Free and secure bike parking at key locations,Availability of bikeshare\, e-bikes\, e-scooters,Universal fare pass that works across multiple transportation services,Increased walking and biking safety measures\, including separation from vehicle traffic	Very Important	Very Important	Important	Important	Very Important	Very Important	Probably Not	Possibly	Possibly	Probably Not	Definitely Not	Probably Not	Possibly	Possibly	Possibly	Probably Not	92806	92806	65-74	Prefer not to answer	Caucasian/White	eleanorekaufman@gmail.com	3/23/2022 22:30	3/23/2022 22:33	3593690dcd
b4p83eqyk82ieo70vnb4p83eq8hbkm9b	Improved bike and pedestrian paths/trails and bike amenities,Expanded on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft),More frequent and reliable train service,More frequent and reliable bus service,Local community shuttles/trolley services	Increased walking and biking safety measures\, including separation from vehicle traffic,Universal fare pass that works across multiple transportation services,Free and secure bike parking at key locations,Reliable on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft),Easy connections between multiple transportation services (such as Metrolink to bikeshare),Availability of bikeshare\, e-bikes\, e-scooters	Very Important	Very Important	Moderately Important	Important	Important	Very Important	Possibly	Definitely	Probably	Definitely	Possibly	Probably	Probably	Probably	Definitely	Probably	92658	92603	65-74	Less than 30,000	Asian		3/23/2022 22:14	3/23/2022 22:19	59b728a862
f201t07l82ijwx9j3aif201tzw08wuln	Improved bike and pedestrian paths/trails and bike amenities,Local community shuttles/trolley services,More frequent and reliable bus service,More frequent and reliable train service,Expanded on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft)	Free and secure bike parking at key locations,Increased walking and biking safety measures\, including separation from vehicle traffic,Universal fare pass that works across multiple transportation services,Availability of bikeshare\, e-bikes\, e-scooters,Easy connections between multiple transportation services (such as Metrolink to bikeshare),Reliable on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft)	Moderately Important	Very Important	Important	Very Important	Very Important	Very Important	Probably	Probably	Probably Not	Definitely	Definitely	Possibly	Possibly	Definitely Not	Definitely	Definitely Not	92844	92649	35-44	Less than 30,000	Caucasian/White	lanenkar@gmail.com	3/23/2022 22:02	3/23/2022 22:06	4103f4933e
6sa1y2bbll0t2e0ru6sa1y2ho8myih84	More frequent and reliable bus service,More frequent and reliable train service,Expanded on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft),Improved bike and pedestrian paths/trails and bike amenities,Local community shuttles/trolley services	Reliable on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft),Easy connections between multiple transportation services (such as Metrolink to bikeshare),Universal fare pass that works across multiple transportation services,Availability of bikeshare\, e-bikes\, e-scooters,Free and secure bike parking at key locations,Increased walking and biking safety measures\, including separation from vehicle traffic	Moderately Important	Very Important	Unimportant	Very Important	Very Important	Important	Possibly	Definitely	Definitely	Probably	Probably	Possibly	Definitely	Definitely	Probably	Probably	90012	92802	25-34	30,000 â€" 49,999	Latino/Hispanic	r.aguilar4121@gmail.com	3/23/2022 21:45	3/23/2022 21:54	abaee3a133
v9u030hneorjyii8rv9u038xi24sqv7b	More frequent and reliable train service,Local community shuttles/trolley services,Improved bike and pedestrian paths/trails and bike amenities,More frequent and reliable bus service,Expanded on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft)	Easy connections between multiple transportation services (such as Metrolink to bikeshare),Free and secure bike parking at key locations,Universal fare pass that works across multiple transportation services,Reliable on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft),Availability of bikeshare\, e-bikes\, e-scooters,Increased walking and biking safety measures\, including separation from vehicle traffic	Very Important	Important	Moderately Important	Very Important	Important	Very Important	Probably Not	Possibly	Probably Not	Probably Not	Definitely	Probably Not	Probably Not	Probably Not	Probably	Definitely	92673	92673	55-64	170,000 or more	Caucasian/White		3/23/2022 21:42	3/23/2022 21:48	48a3a7c809
s5xmarxtt0v9njnds5xmaf17m6otgt7k	Expanded on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft),Local community shuttles/trolley services,More frequent and reliable train service,More frequent and reliable bus service,Improved bike and pedestrian paths/trails and bike amenities	Easy connections between multiple transportation services (such as Metrolink to bikeshare),Reliable on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft),Increased walking and biking safety measures\, including separation from vehicle traffic,Free and secure bike parking at key locations,Universal fare pass that works across multiple transportation services,Availability of bikeshare\, e-bikes\, e-scooters	Very Important	Very Important	Very Important	Unimportant	Very Important	Slightly Important	Probably Not	Definitely	Definitely	Probably Not	Probably Not	Probably Not	Definitely	Definitely	Possibly	Probably	92868	92653	55-64	Prefer not to answer	Caucasian/White		3/23/2022 20:57	3/23/2022 21:00	e0e94f2049
ka78gweo6h1jjemnyka78gwki2e4krek	More frequent and reliable bus service,Improved bike and pedestrian paths/trails and bike amenities,Local community shuttles/trolley services,Expanded on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft),More frequent and reliable train service	Availability of bikeshare\, e-bikes\, e-scooters,Increased walking and biking safety measures\, including separation from vehicle traffic,Free and secure bike parking at key locations,Easy connections between multiple transportation services (such as Metrolink to bikeshare),Reliable on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft),Universal fare pass that works across multiple transportation services	Very Important	Very Important	Important	Very Important	Very Important	Important	Probably Not	Definitely	Possibly	Probably	Probably Not	Possibly	Probably	Probably	Definitely	Probably Not	92651	92651	16-24	Prefer not to answer	Caucasian/White		3/23/2022 20:46	3/23/2022 20:49	029bf17e8f
id5ryofw89u0hwp102y3id5rb087kxtk	More frequent and reliable bus service,More frequent and reliable train service,Expanded on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft),Improved bike and pedestrian paths/trails and bike amenities,Local community shuttles/trolley services	Easy connections between multiple transportation services (such as Metrolink to bikeshare),Reliable on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft),Free and secure bike parking at key locations,Availability of bikeshare\, e-bikes\, e-scooters,Universal fare pass that works across multiple transportation services,Increased walking and biking safety measures\, including separation from vehicle traffic	Very Important	Very Important	Very Important	Important	Very Important	Important	Possibly	Definitely	Definitely	Possibly	Definitely	Possibly	Definitely	Probably	Definitely Not	Definitely	92831	92553	55-64	Prefer not to answer	African American/Black		3/23/2022 20:29	3/23/2022 20:34	3563acee7a
jbqt818aud0604gjqjbqt811kfqowkel	Expanded on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft),Local community shuttles/trolley services,Improved bike and pedestrian paths/trails and bike amenities,More frequent and reliable train service,More frequent and reliable bus service	Reliable on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft),Easy connections between multiple transportation services (such as Metrolink to bikeshare),Universal fare pass that works across multiple transportation services,Availability of bikeshare\, e-bikes\, e-scooters,Free and secure bike parking at key locations,Increased walking and biking safety measures\, including separation from vehicle traffic	Very Important	Very Important	Important	Very Important	Very Important	Important	Probably Not	Probably Not	Probably	Probably Not	Probably	Possibly	Probably Not	Possibly	Definitely Not	Possibly	92648	90620	35-44	110,000 â€" 169,000	Pacific Islander	nicole@surfcityusa.com	3/23/2022 20:26	3/23/2022 20:31	f192a1d565
tu80osmrcgc6dftu8gslwpf7k6qsyc5b	Local community shuttles/trolley services,Expanded on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft),More frequent and reliable bus service,Improved bike and pedestrian paths/trails and bike amenities,More frequent and reliable train service	Reliable on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft),Universal fare pass that works across multiple transportation services,Increased walking and biking safety measures\, including separation from vehicle traffic,Availability of bikeshare\, e-bikes\, e-scooters,Free and secure bike parking at key locations,Easy connections between multiple transportation services (such as Metrolink to bikeshare)	Very Important	Important	Important	Important	Slightly Important	Important	Definitely	Possibly	Definitely	Probably Not	Definitely	Definitely	Probably Not	Probably	Possibly	Definitely	92675	92694	45-54	110,000 â€" 169,000	Prefer not to answer		3/23/2022 20:26	3/23/2022 20:30	6e64796b75
fnsohi66l3hdsbl5tfns0l4f6yqximhn	Improved bike and pedestrian paths/trails and bike amenities,More frequent and reliable train service,More frequent and reliable bus service,Expanded on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft),Local community shuttles/trolley services	Increased walking and biking safety measures\, including separation from vehicle traffic,Free and secure bike parking at key locations,Availability of bikeshare\, e-bikes\, e-scooters,Reliable on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft),Universal fare pass that works across multiple transportation services,Easy connections between multiple transportation services (such as Metrolink to bikeshare)	Important	Important	Important	Moderately Important	Important	Very Important	Possibly	Probably	Probably	Probably	Definitely	Possibly	Probably Not	Possibly	Definitely	Definitely	92867	92867	65-74	170,000 or more	Prefer not to answer		3/23/2022 20:22	3/23/2022 20:29	ec6dedb5a1
wgmlxobk9eplegcm2cowgmlxoxsyqas1	Improved bike and pedestrian paths/trails and bike amenities,Local community shuttles/trolley services,More frequent and reliable bus service,Expanded on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft),More frequent and reliable train service	Free and secure bike parking at key locations,Increased walking and biking safety measures\, including separation from vehicle traffic,Easy connections between multiple transportation services (such as Metrolink to bikeshare),Universal fare pass that works across multiple transportation services,Reliable on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft),Availability of bikeshare\, e-bikes\, e-scooters	Very Important	Very Important	Moderately Important	Moderately Important	Very Important	Moderately Important	Possibly	Probably Not	Probably Not	Definitely	Definitely	Probably	Possibly	Probably Not	Definitely	Definitely			65-74	80,000 â€" 109,000	Caucasian/White		3/23/2022 20:01	3/23/2022 20:12	d3a7efdcce
pzesvpxx2opq0x4nzqdg6pzesvpoz1k1	More frequent and reliable train service,More frequent and reliable bus service,Expanded on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft),Local community shuttles/trolley services,Improved bike and pedestrian paths/trails and bike amenities	Reliable on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft),Easy connections between multiple transportation services (such as Metrolink to bikeshare),Universal fare pass that works across multiple transportation services,Increased walking and biking safety measures\, including separation from vehicle traffic,Free and secure bike parking at key locations,Availability of bikeshare\, e-bikes\, e-scooters	Very Important	Important	Unimportant	Very Important	Unimportant	Moderately Important	Definitely	Definitely	Definitely	Probably Not	Possibly	Definitely	Definitely	Definitely	Probably Not	Possibly	92704	91762	45-54	80,000 â€" 109,000	Mixed Heritage	tjohnson@octa.net	3/23/2022 19:44	3/23/2022 19:54	b78e227849
m3ykmwiss8fi25sm3yphs79386g1zv75	More frequent and reliable bus service,Improved bike and pedestrian paths/trails and bike amenities,Local community shuttles/trolley services,More frequent and reliable train service,Expanded on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft)	Universal fare pass that works across multiple transportation services,Increased walking and biking safety measures\, including separation from vehicle traffic,Free and secure bike parking at key locations,Easy connections between multiple transportation services (such as Metrolink to bikeshare),Reliable on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft),Availability of bikeshare\, e-bikes\, e-scooters	Very Important	Important	Important	Important	Important	Important	Possibly	Probably	Possibly	Possibly	Possibly	Probably	Probably	Possibly	Probably	Possibly	92781	92780	65-74	30,000 â€" 49,999	Caucasian/White	tjm9940@hotmail.com	3/23/2022 19:40	3/23/2022 19:47	bb5629df9c
1cf1ju2wle43e1cf1eieggaw6vu2g4sr	More frequent and reliable train service,More frequent and reliable bus service,Local community shuttles/trolley services,Expanded on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft),Improved bike and pedestrian paths/trails and bike amenities	Easy connections between multiple transportation services (such as Metrolink to bikeshare),Reliable on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft),Availability of bikeshare\, e-bikes\, e-scooters,Free and secure bike parking at key locations,Universal fare pass that works across multiple transportation services,Increased walking and biking safety measures\, including separation from vehicle traffic	Very Important	Very Important	Very Important	Very Important	Very Important	Very Important	Definitely	Definitely	Definitely	Definitely	Definitely	Definitely	Definitely	Definitely	Definitely	Definitely	90095	90034	45-54	Prefer not to answer	Asian	ric25214@gmail.com	3/23/2022 19:43	3/23/2022 19:47	510b323812
c58ufelzxry6uv9fc58w4407z8owddol	More frequent and reliable bus service,Local community shuttles/trolley services,Expanded on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft),Improved bike and pedestrian paths/trails and bike amenities,More frequent and reliable train service	Universal fare pass that works across multiple transportation services,Reliable on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft),Easy connections between multiple transportation services (such as Metrolink to bikeshare),Free and secure bike parking at key locations,Availability of bikeshare\, e-bikes\, e-scooters,Increased walking and biking safety measures\, including separation from vehicle traffic	Very Important	Very Important	Very Important	Moderately Important	Very Important	Important	Definitely	Definitely	Definitely	Possibly	Possibly	Definitely	Definitely	Definitely	Probably	Definitely	92802	92802	25-34	30,000 â€" 49,999	Latino/Hispanic	icortez@daylemc.org	3/23/2022 19:35	3/23/2022 19:43	5a1fb131a2
5teb9cu4dqsanh5ndxvt75teb9f7z6dc	More frequent and reliable bus service,Improved bike and pedestrian paths/trails and bike amenities,Expanded on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft),Local community shuttles/trolley services,More frequent and reliable train service	Availability of bikeshare\, e-bikes\, e-scooters,Easy connections between multiple transportation services (such as Metrolink to bikeshare),Free and secure bike parking at key locations,Universal fare pass that works across multiple transportation services,Increased walking and biking safety measures\, including separation from vehicle traffic,Reliable on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft)	Very Important	Very Important	Very Important	Very Important	Very Important	Very Important	Definitely	Definitely	Definitely	Definitely	Definitely	Definitely	Definitely	Definitely	Definitely	Definitely	92602	92833	25-34	30,000 â€" 49,999	Prefer not to answer	acastrojr87@gmail.com	3/23/2022 19:31	3/23/2022 19:39	a8426ca578
41725ak9fgexi3l5x741725aflicm7h5	More frequent and reliable bus service,More frequent and reliable train service,Improved bike and pedestrian paths/trails and bike amenities,Expanded on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft),Local community shuttles/trolley services	Free and secure bike parking at key locations,Increased walking and biking safety measures\, including separation from vehicle traffic,Availability of bikeshare\, e-bikes\, e-scooters,Reliable on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft),Universal fare pass that works across multiple transportation services,Easy connections between multiple transportation services (such as Metrolink to bikeshare)	Important	Important	Very Important	Very Important	Important	Very Important	Possibly	Definitely	Probably	Probably	Probably	Probably	Definitely	Probably	Definitely	Probably	90620	92805	55-64	Less than 30,000	Latino/Hispanic		3/23/2022 19:17	3/23/2022 19:24	fe20fab628
1gxj7r43chq7v1gxjcc1i5o6v607bkcs	Improved bike and pedestrian paths/trails and bike amenities,More frequent and reliable bus service,More frequent and reliable train service,Local community shuttles/trolley services,Expanded on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft)	Free and secure bike parking at key locations,Increased walking and biking safety measures\, including separation from vehicle traffic,Easy connections between multiple transportation services (such as Metrolink to bikeshare),Universal fare pass that works across multiple transportation services,Reliable on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft),Availability of bikeshare\, e-bikes\, e-scooters	Moderately Important	Very Important	Moderately Important	Moderately Important	Important	Very Important	Possibly	Definitely	Probably	Probably	Definitely	Possibly	Probably	Probably	Definitely	Definitely	92708	92708	45-54	80,000 â€" 109,000	Caucasian/White	octa@eaisolutions.co.uk	3/23/2022 19:09	3/23/2022 19:17	5183e0f0f8
pkxizp7i9awhwfugv645qpkxizpiofaw	Improved bike and pedestrian paths/trails and bike amenities,Local community shuttles/trolley services,More frequent and reliable train service,More frequent and reliable bus service,Expanded on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft)	Increased walking and biking safety measures\, including separation from vehicle traffic,Free and secure bike parking at key locations,Availability of bikeshare\, e-bikes\, e-scooters,Universal fare pass that works across multiple transportation services,Easy connections between multiple transportation services (such as Metrolink to bikeshare),Reliable on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft)	Important	Very Important	Important	Moderately Important	Slightly Important	Very Important	Probably	Probably	Probably Not	Definitely	Definitely	Possibly	Probably	Definitely Not	Definitely	Definitely	92805	92835	35-44	170,000 or more	Latino/Hispanic		3/23/2022 18:55	3/23/2022 19:06	24a4732bff
utpxwubi9khn9hkjgutpxwumjh4q2kcz	More frequent and reliable bus service,More frequent and reliable train service,Improved bike and pedestrian paths/trails and bike amenities,Local community shuttles/trolley services,Expanded on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft)	Universal fare pass that works across multiple transportation services,Free and secure bike parking at key locations,Easy connections between multiple transportation services (such as Metrolink to bikeshare),Increased walking and biking safety measures\, including separation from vehicle traffic,Reliable on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft),Availability of bikeshare\, e-bikes\, e-scooters	Very Important	Important	Important	Important	Very Important	Very Important	Definitely	Definitely	Possibly	Probably	Probably	Definitely	Definitely	Possibly	Probably	Possibly	92801		45-54	Prefer not to answer	Prefer not to answer	mariami3555@hotmail.com	3/23/2022 18:49	3/23/2022 19:03	d94928cbef
885piflfjcfpkn9hj885pifsslzru9ga	Local community shuttles/trolley services,More frequent and reliable bus service,Improved bike and pedestrian paths/trails and bike amenities,Expanded on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft),More frequent and reliable train service	Increased walking and biking safety measures\, including separation from vehicle traffic,Free and secure bike parking at key locations,Universal fare pass that works across multiple transportation services,Easy connections between multiple transportation services (such as Metrolink to bikeshare),Reliable on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft),Availability of bikeshare\, e-bikes\, e-scooters	Very Important	Very Important	Important	Moderately Important	Moderately Important	Moderately Important	Possibly	Definitely	Possibly	Probably Not	Probably Not	Possibly	Definitely	Possibly	Definitely	Possibly	92688	92688	65-74	110,000 â€" 169,000	Asian	george_lew@msn.com	3/23/2022 18:52	3/23/2022 18:56	2fbc447175
mb7y6b9qf3p5m4k84mb7y6tby606bdr5	Local community shuttles/trolley services,Improved bike and pedestrian paths/trails and bike amenities,More frequent and reliable bus service,More frequent and reliable train service,Expanded on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft)	Increased walking and biking safety measures\, including separation from vehicle traffic,Easy connections between multiple transportation services (such as Metrolink to bikeshare),Free and secure bike parking at key locations,Universal fare pass that works across multiple transportation services,Availability of bikeshare\, e-bikes\, e-scooters,Reliable on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft)	Very Important	Very Important	Very Important	Very Important	Very Important	Very Important	Possibly	Probably	Possibly	Probably	Definitely	Probably	Probably	Probably	Definitely	Definitely	92831	92805	25-34	80,000 â€" 109,000	Latino/Hispanic	rbrt.rdrgz1@gmail.com	3/23/2022 18:48	3/23/2022 18:54	dee8d3ac7d
hq1aimts6bh6xcha8hq1aim2i48qib4x	More frequent and reliable bus service,Local community shuttles/trolley services,More frequent and reliable train service,Expanded on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft),Improved bike and pedestrian paths/trails and bike amenities	Easy connections between multiple transportation services (such as Metrolink to bikeshare),Universal fare pass that works across multiple transportation services,Increased walking and biking safety measures\, including separation from vehicle traffic,Reliable on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft),Free and secure bike parking at key locations,Availability of bikeshare\, e-bikes\, e-scooters	Very Important	Important	Very Important	Very Important	Very Important	Moderately Important	Definitely	Definitely	Possibly	Probably Not	Probably Not	Probably	Probably	Possibly	Possibly	Probably Not	92702	92780	65-74	Prefer not to answer	Caucasian/White		3/23/2022 18:22	3/23/2022 18:27	6a4f04200f
9059i9ja4ngs9alk39059i9j5uzoyi2g	Improved bike and pedestrian paths/trails and bike amenities,More frequent and reliable bus service,More frequent and reliable train service,Expanded on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft),Local community shuttles/trolley services	Universal fare pass that works across multiple transportation services,Free and secure bike parking at key locations,Easy connections between multiple transportation services (such as Metrolink to bikeshare),Availability of bikeshare\, e-bikes\, e-scooters,Increased walking and biking safety measures\, including separation from vehicle traffic,Reliable on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft)	Very Important	Very Important	Very Important	Important	Very Important	Very Important	Probably	Definitely	Probably	Definitely	Definitely	Definitely	Definitely	Probably	Definitely	Definitely	92626	92780	35-44	50,000 â€" 79,999	Latino/Hispanic	princessdeleon@hotmail.com	3/23/2022 16:58	3/23/2022 17:01	82a5d6d726
cuobkucmccm3zpsecuobpzcksvj0z4ew	Improved bike and pedestrian paths/trails and bike amenities,Local community shuttles/trolley services,More frequent and reliable train service,More frequent and reliable bus service,Expanded on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft)	Increased walking and biking safety measures\, including separation from vehicle traffic,Easy connections between multiple transportation services (such as Metrolink to bikeshare),Reliable on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft),Free and secure bike parking at key locations,Universal fare pass that works across multiple transportation services,Availability of bikeshare\, e-bikes\, e-scooters	Very Important	Very Important	Moderately Important	Important	Moderately Important	Important	Probably	Probably Not	Probably	Possibly	Definitely Not	Probably	Probably Not	Possibly	Probably Not	Definitely Not	92701	92780	25-34	170,000 or more	Caucasian/White		3/23/2022 16:57	3/23/2022 17:00	5fee92dcce
0e552vru5xmn2jvsf08h0e552vruce18	More frequent and reliable bus service,More frequent and reliable train service,Local community shuttles/trolley services,Expanded on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft),Improved bike and pedestrian paths/trails and bike amenities	Easy connections between multiple transportation services (such as Metrolink to bikeshare),Universal fare pass that works across multiple transportation services,Availability of bikeshare\, e-bikes\, e-scooters,Free and secure bike parking at key locations,Reliable on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft),Increased walking and biking safety measures\, including separation from vehicle traffic	Very Important	Very Important	Very Important	Important	Very Important	Very Important	Definitely	Definitely	Definitely	Probably	Probably	Definitely	Probably	Probably	Probably	Possibly	92630	92630	35-44	30,000 â€" 49,999	Latino/Hispanic	richardrod28@gmail.com	3/23/2022 8:11	3/23/2022 8:15	cf15bc6b04
76de18to7bl2zb81gws9v76de18tvykp	Local community shuttles/trolley services,Expanded on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft),More frequent and reliable bus service,Improved bike and pedestrian paths/trails and bike amenities,More frequent and reliable train service	Universal fare pass that works across multiple transportation services,Free and secure bike parking at key locations,Reliable on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft),Availability of bikeshare\, e-bikes\, e-scooters,Easy connections between multiple transportation services (such as Metrolink to bikeshare),Increased walking and biking safety measures\, including separation from vehicle traffic	Very Important	Moderately Important	Important	Very Important	Very Important	Moderately Important	Definitely	Definitely	Definitely	Probably	Possibly	Definitely	Definitely	Definitely	Probably	Probably	92630	92630	65-74	Less than 30,000	Mixed Heritage	jac.hutchings@aol.com	3/23/2022 2:38	3/23/2022 2:47	5c79cf5006
fsmn5dwm3019s16o5jmkofsmn5ftv7b3	Improved bike and pedestrian paths/trails and bike amenities,Local community shuttles/trolley services,More frequent and reliable train service,Expanded on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft),More frequent and reliable bus service	Increased walking and biking safety measures\, including separation from vehicle traffic,Free and secure bike parking at key locations,Reliable on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft),Availability of bikeshare\, e-bikes\, e-scooters,Universal fare pass that works across multiple transportation services,Easy connections between multiple transportation services (such as Metrolink to bikeshare)	Very Important	Important	Important	Very Important	Very Important	Very Important	Probably	Definitely	Definitely	Definitely	Possibly	Definitely	Definitely	Probably	Probably	Probably							3/23/2022 0:58	3/23/2022 1:02	7c4cc4eca7
uyn4na7oinl7ie0xurtb1yuyn4il12lw	More frequent and reliable bus service,Improved bike and pedestrian paths/trails and bike amenities,More frequent and reliable train service,Local community shuttles/trolley services,Expanded on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft)	Universal fare pass that works across multiple transportation services,Increased walking and biking safety measures\, including separation from vehicle traffic,Availability of bikeshare\, e-bikes\, e-scooters,Free and secure bike parking at key locations,Easy connections between multiple transportation services (such as Metrolink to bikeshare),Reliable on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft)	Very Important	Very Important	Very Important	Very Important	Very Important	Very Important	Possibly	Definitely	Possibly	Probably	Definitely	Probably	Definitely	Possibly	Definitely	Definitely	92614	92614	16-24	110,000 â€" 169,000	Latino/Hispanic		3/22/2022 23:24	3/22/2022 23:24	feffaaf4b6
9tr2yu30zfkjr50v19tr2sx9abbkoqhl	More frequent and reliable train service,More frequent and reliable bus service,Improved bike and pedestrian paths/trails and bike amenities,Expanded on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft),Local community shuttles/trolley services	Free and secure bike parking at key locations,Easy connections between multiple transportation services (such as Metrolink to bikeshare),Availability of bikeshare\, e-bikes\, e-scooters,Universal fare pass that works across multiple transportation services,Increased walking and biking safety measures\, including separation from vehicle traffic,Reliable on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft)	Very Important	Very Important	Very Important	Very Important	Very Important	Important	Probably Not	Definitely	Possibly	Definitely	Probably Not	Probably	Definitely	Possibly	Definitely	Definitely	92610	92610	55-64	80,000 â€" 109,000	Caucasian/White		3/22/2022 20:16	3/22/2022 20:22	380f17263b
gbbynir42jd1juspfpgbbyniwt28lsgr	More frequent and reliable train service,Expanded on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft),More frequent and reliable bus service,Improved bike and pedestrian paths/trails and bike amenities,Local community shuttles/trolley services	Reliable on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft),Free and secure bike parking at key locations,Availability of bikeshare\, e-bikes\, e-scooters,Easy connections between multiple transportation services (such as Metrolink to bikeshare),Universal fare pass that works across multiple transportation services,Increased walking and biking safety measures\, including separation from vehicle traffic	Very Important	Very Important	Very Important	Important	Very Important	Important	Definitely	Probably	Definitely	Probably	Definitely	Definitely	Probably	Definitely	Probably	Definitely	92679	92679	55-64	Prefer not to answer	Latino/Hispanic		3/22/2022 18:46	3/22/2022 18:49	e97f4ea34d
tnm8ftn0s1pvt71ltnm8f01kdrf7stxi	More frequent and reliable train service,Improved bike and pedestrian paths/trails and bike amenities,More frequent and reliable bus service,Local community shuttles/trolley services,Expanded on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft)	Easy connections between multiple transportation services (such as Metrolink to bikeshare),Universal fare pass that works across multiple transportation services,Availability of bikeshare\, e-bikes\, e-scooters,Free and secure bike parking at key locations,Reliable on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft),Increased walking and biking safety measures\, including separation from vehicle traffic	Very Important	Very Important	Moderately Important	Important	Very Important	Very Important	Probably Not	Probably	Possibly	Probably	Probably	Possibly	Probably	Probably Not	Possibly	Definitely	92657	92657	25-34	170,000 or more	Asian		3/22/2022 18:11	3/22/2022 18:14	6a99ce2ba6

ENGLISH & SPANISH #	*Recognizing that future funding is limited, rank the following types of transportation services for funding priority.* (Rank from highest to lowest priority.)	*Choosing a non-car travel option can help reduce emissions and congestion. Prioritize the following in order of how likely you would consider a non-car travel option.* (Rank from most to least likely.)	Sidewalks wide enough to allow pedestrians to walk comfortably, separated from traffic.	Bicycle lanes/paths that are safe for riders of all ages and experience levels.	Extended pedestrian street crossing times when needed.	Dedicated bus lanes so that buses can compete with car travel times.	Safe and accessible transit stops, with amenities such as shelters, benches, and lighting to increase comfort, convenience, and visibility.	Street roundabouts, curb extensions, and other elements that increase safety for pedestrians and bicyclists.	Carpool and vanpool subsidies	Metrolink and bus pass subsidies	Microtransit/shared ride (OC Flex and Uber/Lyft) subsidies	Bikeshare subsidies	Telework subsidies	Carpool or vanpool	Take transit (such as Metrolink and bus)	Microtransit/shared ride (OC Flex and Uber/Lyft)	Walk or bike	Telework	*Thanks for your input! Now, please tell us a little about yourself. * * What is your worksite zip code if you have one?*	*What is your home zip code?*	*What is your age range? *	*What is your combined annual household income? *	*What ethnic group do you consider yourself a part of or feel closest to? *	*Sign up to receive project updates and meeting invites *	Start Date (UTC)	Submit Date (UTC)	Network ID
v381dxtlueqcfa5yxq5v381t1wj3wfql	Improved bike and pedestrian paths/trails and bike amenities,Local community shuttles/trolley services,More frequent and reliable bus service,More frequent and reliable train service,Expanded on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft)	Easy connections between multiple transportation services (such as Metrolink to bikeshare),Universal fare pass that works across multiple transportation services,Free and secure bike parking at key locations,Availability of bikeshare\, e-bikes\, e-scooters,Increased walking and biking safety measures\, including separation from vehicle traffic,Reliable on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft)	Very Important	Important	Important	Moderately Important	Important	Important	Probably Not	Possibly	Possibly	Possibly	Definitely	Possibly	Possibly	Possibly	Probably	Definitely		90631	25-34	Prefer not to answer	Caucasian/White		3/22/2022 18:04	3/22/2022 18:07	0a85896b5a
ql8xks5acmih6og16wzsql8xks5ao1go	Improved bike and pedestrian paths/trails and bike amenities,More frequent and reliable train service,More frequent and reliable bus service,Local community shuttles/trolley services,Expanded on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft)	Increased walking and biking safety measures\, including separation from vehicle traffic,Availability of bikeshare\, e-bikes\, e-scooters,Easy connections between multiple transportation services (such as Metrolink to bikeshare),Free and secure bike parking at key locations,Universal fare pass that works across multiple transportation services,Reliable on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft)	Very Important	Very Important	Very Important	Very Important	Important	Very Important	Probably	Probably	Probably Not	Probably	Definitely Not	Probably	Definitely	Probably Not	Definitely	Definitely Not			16-24	170,000 or more	Caucasian/White		3/22/2022 16:18	3/22/2022 16:23	ce6f683ac9
abakaiktgcrliz3x1abag62rksfqor7o	Improved bike and pedestrian paths/trails and bike amenities,Local community shuttles/trolley services,Expanded on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft),More frequent and reliable train service,More frequent and reliable bus service	Universal fare pass that works across multiple transportation services,Increased walking and biking safety measures\, including separation from vehicle traffic,Easy connections between multiple transportation services (such as Metrolink to bikeshare),Reliable on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft),Availability of bikeshare\, e-bikes\, e-scooters,Free and secure bike parking at key locations	Very Important	Very Important	Important	Unimportant	Moderately Important	Moderately Important	Probably Not	Probably Not	Probably	Probably Not	Possibly	Probably Not	Probably Not	Definitely	Probably	Probably	92691	92630	35-44	110,000 â€“ 169,000	Caucasian/White		3/22/2022 13:17	3/22/2022 13:22	7d55f4f226
5prswr9owimmw02o05prswrt4rf2wg9b	Improved bike and pedestrian paths/trails and bike amenities,More frequent and reliable bus service,Local community shuttles/trolley services,More frequent and reliable train service,Expanded on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft)	Easy connections between multiple transportation services (such as Metrolink to bikeshare),Universal fare pass that works across multiple transportation services,Increased walking and biking safety measures\, including separation from vehicle traffic,Free and secure bike parking at key locations,Availability of bikeshare\, e-bikes\, e-scooters,Reliable on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft)	Very Important	Very Important	Important	Slightly Important	Moderately Important	Important	Probably Not	Possibly	Possibly	Possibly	Probably	Definitely Not	Probably	Probably Not	Definitely	Possibly	92618	92618	25-34	110,000 â€“ 169,000	Asian	shinyoungjoon@hotmail.com	3/22/2022 6:37	3/22/2022 6:44	ab46940e27
8u13reldy9v6u8u13b6g9v81f33tofj4	More frequent and reliable train service,Local community shuttles/trolley services,More frequent and reliable bus service,Improved bike and pedestrian paths/trails and bike amenities,Expanded on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft)	Universal fare pass that works across multiple transportation services,Easy connections between multiple transportation services (such as Metrolink to bikeshare),Increased walking and biking safety measures\, including separation from vehicle traffic,Free and secure bike parking at key locations,Reliable on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft),Availability of bikeshare\, e-bikes\, e-scooters	Very Important	Important	Very Important	Very Important	Very Important	Important	Possibly	Definitely	Possibly	Possibly	Definitely	Possibly	Definitely	Possibly	Possibly	Definitely		92630	35-44	110,000 â€“ 169,000	Caucasian/White		3/22/2022 3:37	3/22/2022 3:41	a71d194a28
rjwnvyejyup0epyiozzgxrjwnvyd1hj4	More frequent and reliable train service,More frequent and reliable bus service,Local community shuttles/trolley services,Improved bike and pedestrian paths/trails and bike amenities,Expanded on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft)	Universal fare pass that works across multiple transportation services,Free and secure bike parking at key locations,Increased walking and biking safety measures\, including separation from vehicle traffic,Availability of bikeshare\, e-bikes\, e-scooters,Easy connections between multiple transportation services (such as Metrolink to bikeshare),Reliable on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft)	Important	Moderately Important	Slightly Important	Important	Very Important	Slightly Important	Probably Not	Definitely	Probably Not	Probably Not	Probably Not	Definitely	Definitely	Probably Not	Probably Not	Definitely Not	92656						3/22/2022 1:57	3/22/2022 2:03	c2d04815a9
ufcbsboctgqdy2wcdufcbsypyxjd1jsu	Improved bike and pedestrian paths/trails and bike amenities,More frequent and reliable bus service,More frequent and reliable train service,Local community shuttles/trolley services,Expanded on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft)	Increased walking and biking safety measures\, including separation from vehicle traffic,Free and secure bike parking at key locations,Universal fare pass that works across multiple transportation services,Easy connections between multiple transportation services (such as Metrolink to bikeshare),Availability of bikeshare\, e-bikes\, e-scooters,Reliable on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft)	Moderately Important	Very Important	Slightly Important	Important	Moderately Important	Unimportant	Probably Not	Definitely	Possibly	Possibly	Definitely	Possibly	Definitely	Probably	Definitely	Definitely	92780	92630	35-44	110,000 â€“ 169,000	Caucasian/White	philliproyce@gmail.com	3/22/2022 1:44	3/22/2022 1:53	839ddab7c5
esmdsjy2cyp7esmcc8t0h8xjms799lnd	Improved bike and pedestrian paths/trails and bike amenities,Local community shuttles/trolley services,Expanded on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft),More frequent and reliable bus service,More frequent and reliable train service	Easy connections between multiple transportation services (such as Metrolink to bikeshare),Universal fare pass that works across multiple transportation services,Free and secure bike parking at key locations,Availability of bikeshare\, e-bikes\, e-scooters,Reliable on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft),Increased walking and biking safety measures\, including separation from vehicle traffic	Moderately Important	Important	Unimportant	Unimportant	Slightly Important	Unimportant	Probably Not	Definitely Not	Definitely Not	Definitely Not	Possibly	Definitely Not	Definitely Not	Definitely Not	Definitely Not	Definitely Not	92840	92653	55-64	110,000 â€“ 169,000	Prefer not to answer		3/22/2022 1:43	3/22/2022 1:48	cd904eba8e
0msz9354hiejne0mnpsn5frcb5a89bsv	More frequent and reliable bus service,Expanded on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft),Local community shuttles/trolley services,Improved bike and pedestrian paths/trails and bike amenities,More frequent and reliable train service	Reliable on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft),Availability of bikeshare\, e-bikes\, e-scooters,Free and secure bike parking at key locations,Universal fare pass that works across multiple transportation services,Easy connections between multiple transportation services (such as Metrolink to bikeshare),Increased walking and biking safety measures\, including separation from vehicle traffic	Important	Important	Moderately Important	Very Important	Very Important	Important	Probably	Definitely	Definitely	Possibly	Definitely	Probably	Definitely	Possibly	Possibly	Possibly		24533	16-24	30,000 â€“ 49,999	Asian	zhangirbotabekov@lcad.edu	3/21/2022 22:28	3/21/2022 22:37	23df549bcf
dt2fu0s9v6d45l8f2dt2fu0s96fp5im4	Local community shuttles/trolley services,Improved bike and pedestrian paths/trails and bike amenities,More frequent and reliable train service,More frequent and reliable bus service,Expanded on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft)	Easy connections between multiple transportation services (such as Metrolink to bikeshare),Universal fare pass that works across multiple transportation services,Reliable on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft),Free and secure bike parking at key locations,Availability of bikeshare\, e-bikes\, e-scooters,Increased walking and biking safety measures\, including separation from vehicle traffic	Important	Very Important	Slightly Important	Very Important	Very Important	Slightly Important	Definitely Not	Probably Not	Definitely Not	Definitely Not	Definitely Not	Definitely Not	Possibly	Possibly	Definitely Not	Definitely Not	92802	92336	25-34	50,000 â€“ 79,999	Latino/Hispanic		3/21/2022 21:31	3/21/2022 21:42	345f2ed85d
dy2n0kkj8pu5quw3s15dy2n0kkjrgxip	More frequent and reliable bus service,Improved bike and pedestrian paths/trails and bike amenities,Local community shuttles/trolley services,More frequent and reliable train service,Expanded on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft)	Universal fare pass that works across multiple transportation services,Easy connections between multiple transportation services (such as Metrolink to bikeshare),Increased walking and biking safety measures\, including separation from vehicle traffic,Availability of bikeshare\, e-bikes\, e-scooters,Free and secure bike parking at key locations,Reliable on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft)	Moderately Important	Very Important	Important	Very Important	Moderately Important	Very Important	Definitely	Definitely	Possibly	Probably	Definitely	Definitely	Definitely	Possibly	Possibly	Definitely	92651	92656	25-34	Less than 30,000	Prefer not to answer		3/21/2022 21:36	3/21/2022 21:41	57e41dfa0d
u4cvjsg1rurku4cmmpz7ffphhf9mmpzv	Improved bike and pedestrian paths/trails and bike amenities,Local community shuttles/trolley services,More frequent and reliable bus service,Expanded on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft),More frequent and reliable train service	Increased walking and biking safety measures\, including separation from vehicle traffic,Free and secure bike parking at key locations,Availability of bikeshare\, e-bikes\, e-scooters,Universal fare pass that works across multiple transportation services,Reliable on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft),Easy connections between multiple transportation services (such as Metrolink to bikeshare)	Very Important	Very Important	Important	Slightly Important	Slightly Important	Important	Probably Not	Probably Not	Probably Not	Possibly	Definitely	Probably	Probably	Probably	Probably	Definitely	92694	92694	25-34	170,000 or more	Latino/Hispanic		3/21/2022 20:46	3/21/2022 20:55	fc746295a9
8jcqmn8zxjhxgdajdtb8jcqp106aset5	More frequent and reliable bus service,Improved bike and pedestrian paths/trails and bike amenities,Local community shuttles/trolley services,More frequent and reliable train service,Expanded on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft)	Increased walking and biking safety measures\, including separation from vehicle traffic,Reliable on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft),Easy connections between multiple transportation services (such as Metrolink to bikeshare),Free and secure bike parking at key locations,Availability of bikeshare\, e-bikes\, e-scooters,Universal fare pass that works across multiple transportation services	Very Important	Important	Important	Important	Very Important	Moderately Important	Probably	Definitely	Definitely	Possibly	Possibly	Definitely	Probably	Probably	Probably	Probably			16-24	Less than 30,000	Caucasian/White		3/21/2022 20:45	3/21/2022 20:51	fe959861ca
3p8akzpeeub2hk3p8akqfzmg8rnl2dun	More frequent and reliable bus service,Local community shuttles/trolley services,More frequent and reliable train service,Improved bike and pedestrian paths/trails and bike amenities,Expanded on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft)	Universal fare pass that works across multiple transportation services,Availability of bikeshare\, e-bikes\, e-scooters,Increased walking and biking safety measures\, including separation from vehicle traffic,Free and secure bike parking at key locations,Reliable on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft),Easy connections between multiple transportation services (such as Metrolink to bikeshare)	Very Important	Moderately Important	Very Important	Very Important	Very Important	Important	Possibly	Definitely	Probably Not	Definitely Not	Probably Not	Possibly	Definitely	Definitely	Possibly	Probably Not	92651	92656	16-24	Less than 30,000	Asian		3/21/2022 20:33	3/21/2022 20:36	fe959861ca
f8oyqq22ns1726ln3f8oyfjokinqwone	Expanded on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft),More frequent and reliable train service,Improved bike and pedestrian paths/trails and bike amenities,More frequent and reliable bus service,Local community shuttles/trolley services	Reliable on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft),Increased walking and biking safety measures\, including separation from vehicle traffic,Universal fare pass that works across multiple transportation services,Easy connections between multiple transportation services (such as Metrolink to bikeshare),Free and secure bike parking at key locations,Availability of bikeshare\, e-bikes\, e-scooters	Very Important	Very Important	Very Important	Slightly Important	Very Important	Very Important	Possibly	Definitely	Definitely	Definitely Not	Definitely Not	Definitely	Definitely	Definitely	Probably Not	Definitely Not		92630	55-64	50,000 â€“ 79,999	Caucasian/White	minwulff@gmail.com	3/21/2022 20:00	3/21/2022 20:07	763f7da26c
pxpjul5c8qooh9pxpjnabr74kxyxzzls	More frequent and reliable train service,Expanded on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft),More frequent and reliable bus service,Improved bike and pedestrian paths/trails and bike amenities,Local community shuttles/trolley services	Universal fare pass that works across multiple transportation services,Free and secure bike parking at key locations,Easy connections between multiple transportation services (such as Metrolink to bikeshare),Increased walking and biking safety measures\, including separation from vehicle traffic,Reliable on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft),Availability of bikeshare\, e-bikes\, e-scooters	Very Important	Important	Very Important	Very Important	Very Important	Very Important	Probably Not	Definitely	Definitely Not	Definitely Not	Definitely	Definitely	Definitely	Definitely Not	Definitely	Definitely	92651		16-24	80,000 â€“ 109,000	Caucasian/White		3/21/2022 19:19	3/21/2022 19:24	be5c944e8e
8bph9n9o4oq0u6x41r8yn5w8bph9nfm6	More frequent and reliable bus service,Local community shuttles/trolley services,Improved bike and pedestrian paths/trails and bike amenities,More frequent and reliable train service,Expanded on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft)	Free and secure bike parking at key locations,Increased walking and biking safety measures\, including separation from vehicle traffic,Easy connections between multiple transportation services (such as Metrolink to bikeshare),Availability of bikeshare\, e-bikes\, e-scooters,Universal fare pass that works across multiple transportation services,Reliable on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft)	Important	Very Important	Moderately Important	Moderately Important	Very Important	Very Important	Possibly	Definitely	Possibly	Possibly	Possibly	Probably Not	Probably	Definitely Not	Probably	Possibly	92651	92651	16-24	Less than 30,000	Caucasian/White		3/21/2022 18:26	3/21/2022 18:30	3a4b3f3bf8
3q2lb5kbd3jf8gbma3q2lb5d8y3003kp	More frequent and reliable bus service,Improved bike and pedestrian paths/trails and bike amenities,Local community shuttles/trolley services,More frequent and reliable train service,Expanded on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft)	Universal fare pass that works across multiple transportation services,Increased walking and biking safety measures\, including separation from vehicle traffic,Easy connections between multiple transportation services (such as Metrolink to bikeshare),Free and secure bike parking at key locations,Availability of bikeshare\, e-bikes\, e-scooters,Reliable on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft)	Important	Important	Important	Very Important	Very Important	Very Important	Probably Not	Definitely	Probably	Definitely	Definitely	Probably Not	Probably	Possibly	Definitely Not	Possibly		92651	16-24	Less than 30,000	Caucasian/White	kiraking2001@gmail.com	3/21/2022 18:21	3/21/2022 18:25	af4d4a0da4
vqzgejn5epl0uynnsy3vqzgejn6l5nth	Local community shuttles/trolley services,Improved bike and pedestrian paths/trails and bike amenities,More frequent and reliable bus service,More frequent and reliable train service,Expanded on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft)	Free and secure bike parking at key locations,Increased walking and biking safety measures\, including separation from vehicle traffic,Reliable on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft),Availability of bikeshare\, e-bikes\, e-scooters,Universal fare pass that works across multiple transportation services,Easy connections between multiple transportation services (such as Metrolink to bikeshare)	Very Important	Very Important	Very Important	Very Important	Very Important	Very Important	Definitely	Definitely Not	Definitely	Definitely	Definitely	Definitely	Definitely Not	Probably	Probably	Definitely	92624	92624	65-74	170,000 or more	Caucasian/White		3/21/2022 18:06	3/21/2022 18:09	0e032bba49
0pw5v7xvf8k3ma8n7e75h0ku0pw5v7x6	Expanded on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft),Improved bike and pedestrian paths/trails and bike amenities,More frequent and reliable bus service,Local community shuttles/trolley services,More frequent and reliable train service	Reliable on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft),Increased walking and biking safety measures\, including separation from vehicle traffic,Free and secure bike parking at key locations,Availability of bikeshare\, e-bikes\, e-scooters,Easy connections between multiple transportation services (such as Metrolink to bikeshare),Universal fare pass that works across multiple transportation services	Slightly Important	Moderately Important	Unimportant	Unimportant	Unimportant	Important	Definitely Not	Definitely Not	Definitely Not	Definitely Not	Definitely Not	Definitely Not	Definitely Not	Definitely Not	Definitely Not	Definitely Not	92618	92630	35-44	Prefer not to answer	Prefer not to answer		3/21/2022 17:44	3/21/2022 17:48	1e8489a15a
gnajdnya3wd7uay2ykgna0un9tb11l0g	More frequent and reliable bus service,Local community shuttles/trolley services,Expanded on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft),More frequent and reliable train service,Improved bike and pedestrian paths/trails and bike amenities	Free and secure bike parking at key locations,Universal fare pass that works across multiple transportation services,Reliable on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft),Availability of bikeshare\, e-bikes\, e-scooters,Easy connections between multiple transportation services (such as Metrolink to bikeshare),Increased walking and biking safety measures\, including separation from vehicle traffic	Important	Important	Moderately Important	Unimportant	Moderately Important	Important	Probably Not	Possibly	Possibly	Definitely Not	Probably	Probably	Possibly	Possibly	Definitely Not	Definitely	92675	92677	55-64	110,000 â€“ 169,000	Caucasian/White		3/21/2022 17:32	3/21/2022 17:35	a90c98180a
hkjnznowrl2x3mqluanrrbdfhkjnznoq	Improved bike and pedestrian paths/trails and bike amenities,Local community shuttles/trolley services,Expanded on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft),More frequent and reliable train service,More frequent and reliable bus service	Increased walking and biking safety measures\, including separation from vehicle traffic,Universal fare pass that works across multiple transportation services,Easy connections between multiple transportation services (such as Metrolink to bikeshare),Reliable on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft),Free and secure bike parking at key locations,Availability of bikeshare\, e-bikes\, e-scooters	Very Important	Very Important	Moderately Important	Slightly Important	Moderately Important	Very Important	Possibly	Possibly	Probably	Definitely	Definitely	Probably	Possibly	Probably	Definitely	Definitely		92630	35-44	80,000 â€“ 109,000	Caucasian/White		3/21/2022 17:19	3/21/2022 17:24	1ceb1e5cae
jtc806yywkvea6wjozyjtc806y5apdan	Improved bike and pedestrian paths/trails and bike amenities,More frequent and reliable train service,Expanded on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft),Local community shuttles/trolley services,More frequent and reliable bus service	Easy connections between multiple transportation services (such as Metrolink to bikeshare),Increased walking and biking safety measures\, including separation from vehicle traffic,Free and secure bike parking at key locations,Reliable on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft),Availability of bikeshare\, e-bikes\, e-scooters,Universal fare pass that works across multiple transportation services	Very Important	Very Important	Important	Unimportant	Important	Very Important	Possibly	Possibly	Possibly	Possibly	Definitely	Probably Not	Probably	Probably	Possibly	Definitely	92630	92630	25-34	80,000 â€“ 109,000	Caucasian/White		3/21/2022 17:18	3/21/2022 17:20	a34749a3e9
cjalj3u81925xn0cjalzfmfkpelg4iyh	Improved bike and pedestrian paths/trails and bike amenities,More frequent and reliable train service,Local community shuttles/trolley services,More frequent and reliable bus service,Expanded on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft)	Increased walking and biking safety measures\, including separation from vehicle traffic,Free and secure bike parking at key locations,Easy connections between multiple transportation services (such as Metrolink to bikeshare),Availability of bikeshare\, e-bikes\, e-scooters,Universal fare pass that works across multiple transportation services,Reliable on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft)	Important	Very Important	Slightly Important	Unimportant	Slightly Important	Important	Probably Not	Probably Not	Probably Not	Probably Not	Probably Not	Possibly	Definitely Not	Definitely Not	Definitely	Probably	92630	92630	25-34	170,000 or more	Caucasian/White		3/21/2022 15:49	3/21/2022 16:20	190727386f
0obll8hx71fn675bl4g30obllm4a8oi6	More frequent and reliable bus service,Improved bike and pedestrian paths/trails and bike amenities,Local community shuttles/trolley services,More frequent and reliable train service,Expanded on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft)	Free and secure bike parking at key locations,Increased walking and biking safety measures\, including separation from vehicle traffic,Easy connections between multiple transportation services (such as Metrolink to bikeshare),Universal fare pass that works across multiple transportation services,Availability of bikeshare\, e-bikes\, e-scooters,Reliable on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft)	Very Important	Very Important	Important	Moderately Important	Important	Very Important	Probably Not	Probably Not	Probably Not	Probably	Probably	Probably Not	Possibly	Probably Not	Definitely	Probably	92688	92688	45-54	170,000 or more	Caucasian/White	ckuta@cityofrsm.org	3/21/2022 15:47	3/21/2022 15:50	805b1b2662
a5rbs9px4zzi0va9qryst3z8wa5rbs9p	More frequent and reliable train service,More frequent and reliable bus service,Improved bike and pedestrian paths/trails and bike amenities,Expanded on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft),Local community shuttles/trolley services	Universal fare pass that works across multiple transportation services,Free and secure bike parking at key locations,Easy connections between multiple transportation services (such as Metrolink to bikeshare),Reliable on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft),Availability of bikeshare\, e-bikes\, e-scooters,Increased walking and biking safety measures\, including separation from vehicle traffic	Important	Important	Very Important	Important	Very Important	Important	Possibly	Possibly	Probably	Possibly	Definitely	Possibly	Possibly	Possibly	Possibly	Definitely	92626	92707	35-44	170,000 or more	Caucasian/White	iceprincessk25@aol.com	3/21/2022 13:40	3/21/2022 13:43	f7617f99af
2rljiljya6zlj32rljb7vq2cu6c2ff9y	Expanded on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft),Improved bike and pedestrian paths/trails and bike amenities,More frequent and reliable train service,More frequent and reliable bus service,Local community shuttles/trolley services	Reliable on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft),Easy connections between multiple transportation services (such as Metrolink to bikeshare),Universal fare pass that works across multiple transportation services,Free and secure bike parking at key locations,Availability of bikeshare\, e-bikes\, e-scooters,Increased walking and biking safety measures\, including separation from vehicle traffic	Important	Moderately Important	Moderately Important	Slightly Important	Moderately Important	Slightly Important	Probably Not	Probably Not	Definitely	Definitely Not	Definitely Not	Definitely Not	Possibly	Possibly	Definitely	Definitely		92821	45-54	170,000 or more	Caucasian/White		3/21/2022 12:34	3/21/2022 12:39	08b42eb9f5
pkzyzsntnefcl72py7x01amfkpkzyzsn	Local community shuttles/trolley services,Expanded on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft),More frequent and reliable train service,More frequent and reliable bus service,Improved bike and pedestrian paths/trails and bike amenities	Reliable on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft),Universal fare pass that works across multiple transportation services,Easy connections between multiple transportation services (such as Metrolink to bikeshare),Availability of bikeshare\, e-bikes\, e-scooters,Increased walking and biking safety measures\, including separation from vehicle traffic,Free and secure bike parking at key locations	Important	Important	Important	Moderately Important	Very Important	Important	Possibly	Probably Not	Possibly	Definitely Not	Probably	Definitely	Probably Not	Probably	Definitely Not	Definitely	92656	92630	55-64	Less than 30,000	Caucasian/White	bherrin1@cox.net	3/21/2022 0:31	3/21/2022 0:45	d9dc1e72aa
io178bnbjgsq9szio178t48p9xqsxn9v	More frequent and reliable train service,Local community shuttles/trolley services,More frequent and reliable bus service,Expanded on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft),Improved bike and pedestrian paths/trails and bike amenities	Easy connections between multiple transportation services (such as Metrolink to bikeshare),Universal fare pass that works across multiple transportation services,Reliable on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft),Free and secure bike parking at key locations,Availability of bikeshare\, e-bikes\, e-scooters,Increased walking and biking safety measures\, including separation from vehicle traffic	Very Important	Very Important	Moderately Important	Moderately Important	Important	Important	Definitely Not	Possibly	Probably Not	Definitely Not	Definitely Not	Probably Not	Probably Not	Definitely Not	Definitely Not	Definitely		92677	65-74	Prefer not to answer	Prefer not to answer	gregory.clements@me.com	3/20/2022 21:55	3/20/2022 22:00	b58833a387
m67q87z6lqxvd2sefecm67qcdn6uku6r	Expanded on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft),Local community shuttles/trolley services,Improved bike and pedestrian paths/trails and bike amenities,More frequent and reliable train service,More frequent and reliable bus service	Reliable on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft),Increased walking and biking safety measures\, including separation from vehicle traffic,Easy connections between multiple transportation services (such as Metrolink to bikeshare),Universal fare pass that works across multiple transportation services,Free and secure bike parking at key locations,Availability of bikeshare\, e-bikes\, e-scooters	Very Important	Very Important	Very Important	Important	Very Important	Very Important	Probably Not	Definitely	Definitely Not	Definitely Not	Definitely	Definitely Not	Definitely Not	Definitely Not	Definitely Not	Definitely		92675	75 or older	Less than 30,000	Caucasian/White		3/20/2022 20:16	3/20/2022 20:26	3e1294acc5
yegnnj8ho7mzxl3yegnbum9arpvc5sbw	Improved bike and pedestrian paths/trails and bike amenities,Local community shuttles/trolley services,Expanded on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft),More frequent and reliable train service,More frequent and reliable bus service	Increased walking and biking safety measures\, including separation from vehicle traffic,Free and secure bike parking at key locations,Universal fare pass that works across multiple transportation services,Easy connections between multiple transportation services (such as Metrolink to bikeshare),Reliable on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft),Availability of bikeshare\, e-bikes\, e-scooters	Important	Very Important	Important	Moderately Important	Moderately Important	Important	Probably	Probably	Probably	Probably Not	Possibly	Probably	Probably	Probably	Definitely	Possibly	92675	92675	75 or older	50,000 â€“ 79,999	Caucasian/White		3/20/2022 19:08	3/20/2022 19:13	389129fc90
6e4hz2lakezbe27gm6e4hz58ndmtkdog	Local community shuttles/trolley services,Expanded on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft),More frequent and reliable train service,More frequent and reliable bus service,Improved bike and pedestrian paths/trails and bike amenities	Universal fare pass that works across multiple transportation services,Easy connections between multiple transportation services (such as Metrolink to bikeshare),Reliable on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft),Free and secure bike parking at key locations,Availability of bikeshare\, e-bikes\, e-scooters,Increased walking and biking safety measures\, including separation from vehicle traffic	Very Important	Very Important	Important	Moderately Important	Important	Important	Probably	Definitely	Possibly	Probably Not	Possibly	Probably	Probably	Possibly	Possibly	Definitely		92637	65-74	110,000 â€“ 169,000	Caucasian/White	cjbonar@outlook.com	3/20/2022 17:38	3/20/2022 17:44	5507c75594
7l9kx4tve0hbg4xerb7l9kxwv5mgbd64	Improved bike and pedestrian paths/trails and bike amenities,Local community shuttles/trolley services,More frequent and reliable train service,Expanded on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft),More frequent and reliable bus service	Increased walking and biking safety measures\, including separation from vehicle traffic,Reliable on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft),Easy connections between multiple transportation services (such as Metrolink to bikeshare),Free and secure bike parking at key locations,Availability of bikeshare\, e-bikes\, e-scooters,Universal fare pass that works across multiple transportation services	Very Important	Very Important	Slightly Important	Slightly Important	Unimportant	Very Important	Definitely Not	Definitely Not	Possibly	Definitely Not	Probably	Definitely Not	Definitely Not	Definitely Not	Definitely Not	Probably	92694	92694		Prefer not to answer	Prefer not to answer	jennifer.c.powers@gmail.com	3/19/2022 22:58	3/19/2022 23:02	4a37928c28
cl4xjztgzfse1ymgcl4xk01d5megdhcx	More frequent and reliable bus service,Improved bike and pedestrian paths/trails and bike amenities,Local community shuttles/trolley services,Expanded on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft),More frequent and reliable train service	Universal fare pass that works across multiple transportation services,Increased walking and biking safety measures\, including separation from vehicle traffic,Free and secure bike parking at key locations,Reliable on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft),Easy connections between multiple transportation services (such as Metrolink to bikeshare),Availability of bikeshare\, e-bikes\, e-scooters	Very Important	Important	Moderately Important	Moderately Important	Important	Slightly Important	Definitely Not	Definitely Not	Definitely Not	Definitely Not	Definitely Not	Probably Not	Possibly	Probably Not	Probably Not	Probably	92626	92612	75 or older	110,000 â€“ 169,000	Caucasian/White	ljewing@uci.edu	3/19/2022 22:47	3/19/2022 22:56	0fb4c345a3
91gatoslg1faiii43efns91gad035qz3	Local community shuttles/trolley services,Expanded on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft),Improved bike and pedestrian paths/trails and bike amenities,More frequent and reliable train service,More frequent and reliable bus service	Reliable on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft),Availability of bikeshare\, e-bikes\, e-scooters,Increased walking and biking safety measures\, including separation from vehicle traffic,Free and secure bike parking at key locations,Easy connections between multiple transportation services (such as Metrolink to bikeshare),Universal fare pass that works across multiple transportation services	Very Important	Very Important	Important	Unimportant	Slightly Important	Important	Probably	Possibly	Definitely	Probably	Probably	Definitely	Possibly	Possibly	Probably	Possibly	92694	92694	45-54	170,000 or more	Caucasian/White	jennibalck@hotmail.com	3/19/2022 16:52	3/19/2022 16:58	039a8046ff
uss6lzy4qwoxrzgnz7dguss6lyqeyw3g	Improved bike and pedestrian paths/trails and bike amenities,Local community shuttles/trolley services,More frequent and reliable train service,Expanded on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft),More frequent and reliable bus service	Increased walking and biking safety measures\, including separation from vehicle traffic,Free and secure bike parking at key locations,Reliable on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft),Availability of bikeshare\, e-bikes\, e-scooters,Easy connections between multiple transportation services (such as Metrolink to bikeshare),Universal fare pass that works across multiple transportation services	Very Important	Very Important	Slightly Important	Slightly Important	Slightly Important	Moderately Important	Definitely Not	Definitely Not	Definitely Not	Definitely Not	Possibly	Probably Not	Probably Not	Definitely Not	Probably Not	Definitely	92694	92694	45-54	170,000 or more	Caucasian/White		3/19/2022 15:05	3/19/2022 15:10	3064236c05
vf516ugyyv9oi1pjvc7vf5129d71rdri	Improved bike and pedestrian paths/trails and bike amenities,Expanded on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft),More frequent and reliable train service,More frequent and reliable bus service,Local community shuttles/trolley services	Increased walking and biking safety measures\, including separation from vehicle traffic,Free and secure bike parking at key locations,Reliable on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft),Availability of bikeshare\, e-bikes\, e-scooters,Easy connections between multiple transportation services (such as Metrolink to bikeshare),Universal fare pass that works across multiple transportation services	Very Important	Very Important	Very Important	Unimportant	Unimportant	Important	Definitely Not	Possibly	Possibly	Probably	Definitely Not	Probably Not	Probably Not	Probably Not	Definitely	Definitely	92694	92694	35-44	170,000 or more	Caucasian/White		3/19/2022 15:02	3/19/2022 15:05	4e64f4e849
nys72zfb6cr66tz0xiljxfnys72zfs4t	More frequent and reliable bus service,More frequent and reliable train service,Local community shuttles/trolley services,Expanded on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft),Improved bike and pedestrian paths/trails and bike amenities	Universal fare pass that works across multiple transportation services,Easy connections between multiple transportation services (such as Metrolink to bikeshare),Increased walking and biking safety measures\, including separation from vehicle traffic,Reliable on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft),Free and secure bike parking at key locations,Availability of bikeshare\, e-bikes\, e-scooters	Important	Very Important	Very Important	Moderately Important	Moderately Important	Moderately Important	Probably Not	Probably	Possibly	Definitely Not	Definitely Not	Probably Not	Possibly	Probably Not	Definitely	Definitely Not	92697	92617	75 or older	Prefer not to answer	Asian		3/19/2022 14:50	3/19/2022 14:54	8bc6efc793

ENGLISH & SPANISH #	*Recognizing that future funding is limited, rank the following types of transportation services for funding priority.* (Rank from highest to lowest priority.)	*Choosing a non-car travel option can help reduce emissions and congestion. Prioritize the following in order of how likely you would consider a non-car travel option.* (Rank from most to least likely.)	Sidewalks wide enough to allow pedestrians to walk comfortably, separated from traffic.	Bicycle lanes/paths that are safe for riders of all ages and experience levels.	Extended pedestrian street crossing times when needed.	Dedicated bus lanes so that buses can compete with car travel times.	Safe and accessible transit stops, with amenities such as shelters, benches, and lighting to increase comfort, convenience, and visibility.	Street roundabouts, curb extensions, and other elements that increase safety for pedestrians and bicyclists.	Carpool and vanpool subsidies	Metrolink and bus pass subsidies	Microtransit/shared ride (OC Flex and Uber/Lyft) subsidies	Bikeshare subsidies	Telework subsidies	Carpool or vanpool	Take transit (such as Metrolink and bus)	Microtransit/shared ride (OC Flex and Uber/Lyft)	Walk or bike	Telework	*Thanks for your input! Now, please tell us a little about yourself. * * What is your worksite zip code if you have one?*	*What is your home zip code?*	*What is your age range? *	*What is your combined annual household income? *	*What ethnic group do you consider yourself a part of or feel closest to? *	*Sign up to receive project updates and meeting invites *	Start Date (UTC)	Submit Date (UTC)	Network ID
mhn4czwrmsc7o5e0mxjew1qmhn4czwck	Improved bike and pedestrian paths/trails and bike amenities,More frequent and reliable bus service,More frequent and reliable train service,Local community shuttles/trolley services,Expanded on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft)	Increased walking and biking safety measures\, including separation from vehicle traffic,Free and secure bike parking at key locations,Easy connections between multiple transportation services (such as Metrolink to bikeshare),Universal fare pass that works across multiple transportation services,Availability of bikeshare\, e-bikes\, e-scooters,Reliable on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft)	Very Important	Very Important	Very Important	Very Important	Very Important	Very Important	Definitely	Definitely	Probably Not	Probably Not	Definitely	Definitely	Definitely	Definitely	Definitely	Definitely		92626	35-44	Prefer not to answer	Caucasian/White		3/19/2022 6:49	3/19/2022 6:58	68e82e6783
9d4a24uakmz1049d4fntnpy29n6x3qr7	Expanded on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft),Improved bike and pedestrian paths/trails and bike amenities,More frequent and reliable train service,Local community shuttles/trolley services,More frequent and reliable bus service	Free and secure bike parking at key locations,Reliable on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft),Universal fare pass that works across multiple transportation services,Availability of bikeshare\, e-bikes\, e-scooters,Easy connections between multiple transportation services (such as Metrolink to bikeshare),Increased walking and biking safety measures\, including separation from vehicle traffic	Moderately Important	Moderately Important	Moderately Important	Unimportant	Unimportant	Unimportant	Definitely Not	Probably Not	Probably Not	Definitely	Definitely Not	Definitely Not	Definitely Not	Possibly	Possibly	Probably Not	92649	92649	45-54	Prefer not to answer	Mixed Heritage		3/19/2022 5:13	3/19/2022 5:19	4bfea597a4
erh2v2ettu5inho8uvxerh2v2ekp6hp5	More frequent and reliable train service,Local community shuttles/trolley services,Improved bike and pedestrian paths/trails and bike amenities,More frequent and reliable bus service,Expanded on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft)	Increased walking and biking safety measures\, including separation from vehicle traffic,Easy connections between multiple transportation services (such as Metrolink to bikeshare),Universal fare pass that works across multiple transportation services,Reliable on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft),Free and secure bike parking at key locations,Availability of bikeshare\, e-bikes\, e-scooters	Very Important	Important	Very Important	Slightly Important	Slightly Important	Very Important	Probably Not	Probably Not	Probably Not	Probably Not	Probably Not	Possibly	Possibly	Possibly	Possibly	Possibly	92614	92614	45-54	170,000 or more	Caucasian/White	davefry@smallfry.us	3/19/2022 4:07	3/19/2022 4:15	37a6513964
aowep5t1tk5aqhmf4aowepbcjalsi9if	Local community shuttles/trolley services,More frequent and reliable bus service,Expanded on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft),Improved bike and pedestrian paths/trails and bike amenities,More frequent and reliable train service	Universal fare pass that works across multiple transportation services,Reliable on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft),Easy connections between multiple transportation services (such as Metrolink to bikeshare),Free and secure bike parking at key locations,Availability of bikeshare\, e-bikes\, e-scooters,Increased walking and biking safety measures\, including separation from vehicle traffic	Very Important	Very Important	Very Important	Very Important	Very Important	Moderately Important	Definitely Not	Probably	Definitely Not	Definitely Not	Definitely	Definitely Not	Definitely Not	Definitely Not	Definitely Not	Definitely		92675	65-74	Less than 30,000	Caucasian/White		3/19/2022 3:19	3/19/2022 3:25	76d8b279d6
1zxngezagexv3bcs5ymt11zxngezayzf	Expanded on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft),Improved bike and pedestrian paths/trails and bike amenities,More frequent and reliable train service,More frequent and reliable bus service,Local community shuttles/trolley services	Free and secure bike parking at key locations,Easy connections between multiple transportation services (such as Metrolink to bikeshare),Increased walking and biking safety measures\, including separation from vehicle traffic,Universal fare pass that works across multiple transportation services,Reliable on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft),Availability of bikeshare\, e-bikes\, e-scooters	Moderately Important	Very Important	Very Important	Important	Moderately Important	Slightly Important	Definitely	Definitely	Definitely	Definitely	Definitely	Probably Not	Probably	Probably	Probably	Definitely	92831	92831	55-64	Prefer not to answer	Prefer not to answer	mvillaire@iha4health.org	3/18/2022 20:09	3/18/2022 22:54	bb46ccb484
weddotkpjtmpx8a9weddotnn4h0k74wa	More frequent and reliable train service,Expanded on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft),Improved bike and pedestrian paths/trails and bike amenities,Local community shuttles/trolley services,More frequent and reliable bus service	Universal fare pass that works across multiple transportation services,Easy connections between multiple transportation services (such as Metrolink to bikeshare),Free and secure bike parking at key locations,Availability of bikeshare\, e-bikes\, e-scooters,Increased walking and biking safety measures\, including separation from vehicle traffic,Reliable on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft)	Very Important	Very Important	Very Important	Important	Important	Very Important	Probably	Probably	Probably	Probably	Probably	Probably	Probably	Probably	Definitely	Definitely		92870	65-74	50,000 â€“ 79,999	Caucasian/White		3/18/2022 20:33	3/18/2022 20:40	ae09c5c491
jc96kthv380dvx1x2xcjc96kom3ijxib	More frequent and reliable train service,More frequent and reliable bus service,Expanded on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft),Local community shuttles/trolley services,Improved bike and pedestrian paths/trails and bike amenities	Free and secure bike parking at key locations,Reliable on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft),Availability of bikeshare\, e-bikes\, e-scooters,Increased walking and biking safety measures\, including separation from vehicle traffic,Easy connections between multiple transportation services (such as Metrolink to bikeshare),Universal fare pass that works across multiple transportation services	Very Important	Very Important	Very Important	Important	Important	Moderately Important	Probably Not	Probably Not	Probably Not	Probably Not	Definitely	Probably Not	Probably Not	Probably Not	Definitely Not	Definitely	92701	92692	35-44	170,000 or more	Caucasian/White		3/18/2022 17:27	3/18/2022 17:32	b384e6a78c
149bxc8zxvd3klpq149bok3on3q6mzd4	Improved bike and pedestrian paths/trails and bike amenities,Local community shuttles/trolley services,Expanded on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft),More frequent and reliable train service,More frequent and reliable bus service	Free and secure bike parking at key locations,Increased walking and biking safety measures\, including separation from vehicle traffic,Easy connections between multiple transportation services (such as Metrolink to bikeshare),Reliable on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft),Availability of bikeshare\, e-bikes\, e-scooters,Universal fare pass that works across multiple transportation services	Important	Very Important	Important	Slightly Important	Moderately Important	Very Important	Possibly	Probably Not	Possibly	Probably	Definitely	Probably	Probably Not	Possibly	Probably	Definitely	92675	92675	65-74	50,000 â€“ 79,999	Caucasian/White		3/18/2022 15:59	3/18/2022 16:12	7e4b1dec40
4kqkgiprc05pmux7do6f0g4kqkgr0y7y	Expanded on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft),More frequent and reliable bus service,Local community shuttles/trolley services,More frequent and reliable train service,Improved bike and pedestrian paths/trails and bike amenities	Reliable on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft),Universal fare pass that works across multiple transportation services,Easy connections between multiple transportation services (such as Metrolink to bikeshare),Free and secure bike parking at key locations,Availability of bikeshare\, e-bikes\, e-scooters,Increased walking and biking safety measures\, including separation from vehicle traffic	Important	Important	Very Important	Very Important	Very Important	Very Important	Definitely	Definitely	Definitely	Probably Not	Definitely	Definitely	Possibly	Possibly	Definitely Not	Possibly	92805	92656	55-64	Prefer not to answer	Caucasian/White		3/18/2022 15:21	3/18/2022 15:26	c7219a2f5e
w3eghrc0jfao1bxw3eghk8ammckvzenp	Local community shuttles/trolley services,Improved bike and pedestrian paths/trails and bike amenities,More frequent and reliable bus service,More frequent and reliable train service,Expanded on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft)	Increased walking and biking safety measures\, including separation from vehicle traffic,Free and secure bike parking at key locations,Universal fare pass that works across multiple transportation services,Easy connections between multiple transportation services (such as Metrolink to bikeshare),Reliable on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft),Availability of bikeshare\, e-bikes\, e-scooters	Very Important	Very Important	Very Important	Important	Important	Important	Definitely	Definitely	Probably Not	Definitely	Definitely	Definitely	Probably	Probably Not	Definitely	Definitely	92675	92675	65-74	110,000 â€“ 169,000	Caucasian/White		3/18/2022 14:40	3/18/2022 14:47	0d343a1b39
zm5xs36aulxwyrwrue5abzm5xsprsn4z	Improved bike and pedestrian paths/trails and bike amenities,Local community shuttles/trolley services,More frequent and reliable bus service,Expanded on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft),More frequent and reliable train service	Increased walking and biking safety measures\, including separation from vehicle traffic,Free and secure bike parking at key locations,Universal fare pass that works across multiple transportation services,Reliable on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft),Easy connections between multiple transportation services (such as Metrolink to bikeshare),Availability of bikeshare\, e-bikes\, e-scooters	Very Important	Very Important	Unimportant	Unimportant	Slightly Important	Unimportant	Definitely Not	Definitely Not	Definitely Not	Definitely Not	Definitely Not	Definitely Not	Definitely Not	Definitely Not	Definitely Not	Definitely Not	92675	92675	55-64	110,000 â€“ 169,000	Prefer not to answer	debnew@cox.net	3/18/2022 4:45	3/18/2022 4:50	fcc6c5a3a8
hxare8sc27ai5ddxhxat04vrymioil2p	More frequent and reliable train service,Expanded on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft),Improved bike and pedestrian paths/trails and bike amenities,More frequent and reliable bus service,Local community shuttles/trolley services	Easy connections between multiple transportation services (such as Metrolink to bikeshare),Reliable on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft),Universal fare pass that works across multiple transportation services,Increased walking and biking safety measures\, including separation from vehicle traffic,Availability of bikeshare\, e-bikes\, e-scooters,Free and secure bike parking at key locations	Important	Moderately Important	Important	Moderately Important	Very Important	Moderately Important	Definitely Not	Possibly	Probably	Definitely Not	Definitely	Definitely Not	Possibly	Probably Not	Probably Not	Probably	92677	92637	55-64	50,000 â€“ 79,999	Caucasian/White	badair1042@gmail.com	3/18/2022 2:30	3/18/2022 2:40	57cc6ae2da
944nixy6bc8943lurybql1f75inbhh3l	Local community shuttles/trolley services,Expanded on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft),More frequent and reliable bus service,More frequent and reliable train service,Improved bike and pedestrian paths/trails and bike amenities	Easy connections between multiple transportation services (such as Metrolink to bikeshare),Universal fare pass that works across multiple transportation services,Reliable on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft),Increased walking and biking safety measures\, including separation from vehicle traffic,Availability of bikeshare\, e-bikes\, e-scooters,Free and secure bike parking at key locations	Very Important	Important	Very Important	Important	Very Important	Important	Probably Not	Definitely	Possibly	Definitely Not	Definitely Not	Possibly	Possibly	Possibly	Probably Not	Definitely		92675	65-74	30,000 â€“ 49,999	Prefer not to answer		3/18/2022 1:45	3/18/2022 1:54	e0c92eb33a
g4vpv635yz8gfiuevg4vph1e564oda8y	Local community shuttles/trolley services,Improved bike and pedestrian paths/trails and bike amenities,More frequent and reliable train service,More frequent and reliable bus service,Expanded on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft)	Universal fare pass that works across multiple transportation services,Availability of bikeshare\, e-bikes\, e-scooters,Increased walking and biking safety measures\, including separation from vehicle traffic,Free and secure bike parking at key locations,Easy connections between multiple transportation services (such as Metrolink to bikeshare),Reliable on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft)	Very Important	Very Important	Very Important	Important	Important	Very Important	Probably	Probably	Probably Not	Probably	Possibly	Definitely	Definitely	Possibly	Definitely	Definitely	92653	92653	55-64	170,000 or more	Caucasian/White	gregoryburnham@hotmail.com	3/17/2022 20:36	3/17/2022 20:40	6f8265213a
l3bqnl9124hmqmebal3bqnl0wf7ne7iw	Local community shuttles/trolley services,More frequent and reliable train service,Expanded on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft),More frequent and reliable bus service,Improved bike and pedestrian paths/trails and bike amenities	Reliable on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft),Universal fare pass that works across multiple transportation services,Free and secure bike parking at key locations,Easy connections between multiple transportation services (such as Metrolink to bikeshare),Increased walking and biking safety measures\, including separation from vehicle traffic,Availability of bikeshare\, e-bikes\, e-scooters	Important	Unimportant	Moderately Important	Unimportant	Slightly Important	Unimportant	Definitely Not	Definitely Not	Definitely Not	Definitely Not	Definitely Not	Definitely Not	Definitely Not	Definitely Not	Definitely Not	Definitely Not							3/17/2022 18:39	3/17/2022 18:48	a90008b924
m74bvsoihgc3yqv9zm74bvhpjahxoio6	Local community shuttles/trolley services,Expanded on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft),More frequent and reliable bus service,More frequent and reliable train service,Improved bike and pedestrian paths/trails and bike amenities	Universal fare pass that works across multiple transportation services,Reliable on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft),Easy connections between multiple transportation services (such as Metrolink to bikeshare),Free and secure bike parking at key locations,Availability of bikeshare\, e-bikes\, e-scooters,Increased walking and biking safety measures\, including separation from vehicle traffic	Important	Moderately Important	Very Important	Unimportant	Important	Moderately Important	Possibly	Possibly	Possibly	Probably Not	Possibly	Probably Not	Definitely Not	Possibly	Definitely Not	Possibly	92656	92630		Prefer not to answer	Prefer not to answer		3/17/2022 18:04	3/17/2022 18:14	3ac8762f18
wbujuf0vbtwpsvdzthwbujuar002owns	Improved bike and pedestrian paths/trails and bike amenities,More frequent and reliable train service,Local community shuttles/trolley services,More frequent and reliable bus service,Expanded on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft)	Increased walking and biking safety measures\, including separation from vehicle traffic,Easy connections between multiple transportation services (such as Metrolink to bikeshare),Universal fare pass that works across multiple transportation services,Availability of bikeshare\, e-bikes\, e-scooters,Free and secure bike parking at key locations,Reliable on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft)	Very Important	Very Important	Important	Very Important	Important	Important	Probably	Definitely	Probably Not	Definitely	Possibly	Probably	Definitely	Possibly	Definitely	Possibly		92617	16-24	170,000 or more	Caucasian/White	micah@lakeskay.com	3/17/2022 1:49	3/17/2022 1:55	ce6f683ac9
98mwvdw1pz1709e9l698mwvdj0z87l5j	More frequent and reliable bus service,Local community shuttles/trolley services,Expanded on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft),More frequent and reliable train service,Improved bike and pedestrian paths/trails and bike amenities	Universal fare pass that works across multiple transportation services,Easy connections between multiple transportation services (such as Metrolink to bikeshare),Reliable on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft),Availability of bikeshare\, e-bikes\, e-scooters,Increased walking and biking safety measures\, including separation from vehicle traffic,Free and secure bike parking at key locations	Very Important	Very Important	Very Important	Important	Very Important	Very Important	Probably	Definitely	Possibly	Possibly	Possibly	Probably	Probably	Possibly	Definitely Not	Probably		92637	75 or older	Prefer not to answer	Caucasian/White		3/17/2022 1:40	3/17/2022 1:46	9976f4e71c
g3dw9q8x6dl4tc5a3vv7g3dw9qo40qb6	More frequent and reliable train service,More frequent and reliable bus service,Expanded on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft),Improved bike and pedestrian paths/trails and bike amenities,Local community shuttles/trolley services	Easy connections between multiple transportation services (such as Metrolink to bikeshare),Universal fare pass that works across multiple transportation services,Reliable on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft),Availability of bikeshare\, e-bikes\, e-scooters,Free and secure bike parking at key locations,Increased walking and biking safety measures\, including separation from vehicle traffic	Very Important	Very Important	Important	Important	Important	Important	Definitely	Possibly	Definitely	Probably Not	Possibly	Definitely	Probably	Possibly	Probably	Possibly	92637	92637	75 or older	170,000 or more	Caucasian/White	arnoldschwartz@fastmail.net	3/17/2022 0:24	3/17/2022 0:30	82035f8dbb
6o01z85ig1v4ple6jny86o01z8z2pgpd	More frequent and reliable train service,Local community shuttles/trolley services,Improved bike and pedestrian paths/trails and bike amenities,More frequent and reliable bus service,Expanded on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft)	Universal fare pass that works across multiple transportation services,Easy connections between multiple transportation services (such as Metrolink to bikeshare),Availability of bikeshare\, e-bikes\, e-scooters,Free and secure bike parking at key locations,Reliable on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft),Increased walking and biking safety measures\, including separation from vehicle traffic	Important	Very Important	Slightly Important	Slightly Important	Moderately Important	Very Important	Possibly	Possibly	Probably	Probably	Probably	Possibly	Possibly	Probably	Possibly	Definitely	92637	92637	65-74	Prefer not to answer	Prefer not to answer	tpginger@aol.com	3/16/2022 23:53	3/17/2022 0:01	8a6412f9d4
bgqxr116ydboly3n3frzbgqxr1ggrd50	More frequent and reliable train service,Improved bike and pedestrian paths/trails and bike amenities,Local community shuttles/trolley services,Expanded on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft),More frequent and reliable bus service	Reliable on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft),Increased walking and biking safety measures\, including separation from vehicle traffic,Free and secure bike parking at key locations,Availability of bikeshare\, e-bikes\, e-scooters,Universal fare pass that works across multiple transportation services,Easy connections between multiple transportation services (such as Metrolink to bikeshare)	Very Important	Very Important	Unimportant	Unimportant	Unimportant	Unimportant	Probably Not	Definitely Not	Probably Not	Definitely Not	Definitely	Possibly	Probably Not	Probably Not	Possibly	Definitely	92612	92612	55-64	30,000 â€“ 49,999	Caucasian/White		3/16/2022 23:40	3/16/2022 23:45	69ed12cbe8
zed4w5ih7lpilzedcznqutmop2c91sjr	More frequent and reliable bus service,Expanded on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft),Local community shuttles/trolley services,More frequent and reliable train service,Improved bike and pedestrian paths/trails and bike amenities	Availability of bikeshare\, e-bikes\, e-scooters,Universal fare pass that works across multiple transportation services,Easy connections between multiple transportation services (such as Metrolink to bikeshare),Free and secure bike parking at key locations,Reliable on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft),Increased walking and biking safety measures\, including separation from vehicle traffic	Important	Very Important	Very Important	Slightly Important	Moderately Important	Important	Probably Not	Definitely	Probably	Definitely	Probably Not	Probably	Definitely	Probably	Probably	Definitely		92637			Asian		3/16/2022 22:01	3/16/2022 22:10	665e0dc3a4
b13ic905r8rsnqpub5fib13ic9z7etie	More frequent and reliable bus service,Local community shuttles/trolley services,More frequent and reliable train service,Expanded on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft),Improved bike and pedestrian paths/trails and bike amenities	Universal fare pass that works across multiple transportation services,Easy connections between multiple transportation services (such as Metrolink to bikeshare),Reliable on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft),Free and secure bike parking at key locations,Availability of bikeshare\, e-bikes\, e-scooters,Increased walking and biking safety measures\, including separation from vehicle traffic	Very Important	Very Important	Very Important	Important	Very Important	Very Important	Probably	Definitely	Definitely	Possibly	Probably Not	Definitely	Definitely	Probably	Probably	Probably		92637	65-74	Prefer not to answer	Caucasian/White		3/16/2022 21:59	3/16/2022 22:04	f4bd91970c
9aazezok5dn4hixf549aa13a786oxwtk	More frequent and reliable train service,Local community shuttles/trolley services,More frequent and reliable bus service,Improved bike and pedestrian paths/trails and bike amenities,Expanded on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft)	Universal fare pass that works across multiple transportation services,Easy connections between multiple transportation services (such as Metrolink to bikeshare),Reliable on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft),Increased walking and biking safety measures\, including separation from vehicle traffic,Availability of bikeshare\, e-bikes\, e-scooters,Free and secure bike parking at key locations	Important	Important	Important	Unimportant	Important	Moderately Important	Definitely Not	Probably Not	Definitely Not	Definitely Not	Probably Not	Definitely Not	Probably Not	Definitely Not	Definitely Not	Possibly	90670	92675	65-74	110,000 â€“ 169,000	Caucasian/White		3/16/2022 21:16	3/16/2022 21:20	0b440e9de9
8xr4obdmkjxbgoklg8xr4ojzi2bahzol	More frequent and reliable train service,Expanded on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft),More frequent and reliable bus service,Local community shuttles/trolley services,Improved bike and pedestrian paths/trails and bike amenities	Reliable on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft),Free and secure bike parking at key locations,Universal fare pass that works across multiple transportation services,Increased walking and biking safety measures\, including separation from vehicle traffic,Easy connections between multiple transportation services (such as Metrolink to bikeshare),Availability of bikeshare\, e-bikes\, e-scooters	Very Important	Very Important	Very Important	Very Important	Moderately Important	Slightly Important	Possibly	Probably Not	Definitely Not	Probably Not	Probably Not	Definitely Not	Definitely Not	Definitely Not	Definitely Not	Definitely Not			65-74	Prefer not to answer	Caucasian/White		3/16/2022 20:21	3/16/2022 20:26	fa758ca4d0
ekwq2umcg9cmzuekwqhvf1tk9fsn4a47	Improved bike and pedestrian paths/trails and bike amenities,More frequent and reliable bus service,More frequent and reliable train service,Local community shuttles/trolley services,Expanded on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft)	Increased walking and biking safety measures\, including separation from vehicle traffic,Free and secure bike parking at key locations,Availability of bikeshare\, e-bikes\, e-scooters,Universal fare pass that works across multiple transportation services,Easy connections between multiple transportation services (such as Metrolink to bikeshare),Reliable on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft)	Very Important	Very Important	Important	Moderately Important	Important	Moderately Important	Probably Not	Probably	Probably Not	Probably	Definitely Not	Probably Not	Probably	Possibly	Definitely	Definitely	92618	92618	45-54	170,000 or more	Asian	pearlcorcoran@gmail.com	3/16/2022 19:49	3/16/2022 19:53	08c950119f
u48jtbkqlfhh6u48jtbw77eun9g1qr9v	Local community shuttles/trolley services,More frequent and reliable bus service,Expanded on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft),More frequent and reliable train service,Improved bike and pedestrian paths/trails and bike amenities	Reliable on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft),Easy connections between multiple transportation services (such as Metrolink to bikeshare),Universal fare pass that works across multiple transportation services,Increased walking and biking safety measures\, including separation from vehicle traffic,Free and secure bike parking at key locations,Availability of bikeshare\, e-bikes\, e-scooters	Very Important	Important	Important	Moderately Important	Slightly Important	Unimportant	Possibly	Probably Not	Possibly	Probably Not	Probably Not	Possibly	Possibly	Probably Not	Possibly	Probably Not	92637	92653	55-64	110,000 â€“ 169,000	Caucasian/White		3/16/2022 17:51	3/16/2022 17:55	873ded0645
oztqqo3mf1f39m0345idoztqqo6yhytm	Expanded on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft),Local community shuttles/trolley services,More frequent and reliable bus service,More frequent and reliable train service,Improved bike and pedestrian paths/trails and bike amenities	Reliable on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft),Universal fare pass that works across multiple transportation services,Easy connections between multiple transportation services (such as Metrolink to bikeshare),Free and secure bike parking at key locations,Availability of bikeshare\, e-bikes\, e-scooters,Increased walking and biking safety measures\, including separation from vehicle traffic	Very Important	Very Important	Very Important	Very Important	Very Important	Very Important	Definitely	Probably	Definitely	Possibly	Probably Not	Possibly	Probably Not	Possibly	Probably Not	Probably Not	92704	92677	55-64	110,000 â€“ 169,000	Caucasian/White	alliance@southcoastmetro.com	3/16/2022 17:38	3/16/2022 17:45	b37c089c7d
y1xreyq1nakulyb89hku1iy1xreyq181	Improved bike and pedestrian paths/trails and bike amenities,Local community shuttles/trolley services,More frequent and reliable train service,Expanded on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft),More frequent and reliable bus service	Increased walking and biking safety measures\, including separation from vehicle traffic,Free and secure bike parking at key locations,Easy connections between multiple transportation services (such as Metrolink to bikeshare),Reliable on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft),Universal fare pass that works across multiple transportation services,Availability of bikeshare\, e-bikes\, e-scooters	Very Important	Very Important	Slightly Important	Very Important	Moderately Important	Very Important	Definitely	Definitely	Definitely	Definitely	Definitely	Definitely	Definitely	Definitely	Definitely	Probably	92011	92656	25-34	Prefer not to answer	Asian	jpsprinter94@yahoo.com	3/16/2022 12:10	3/16/2022 12:13	8a0d1f4bd8
gp2zwugx3wc4dj8rgp2zywzov0h6juxb	Improved bike and pedestrian paths/trails and bike amenities,Local community shuttles/trolley services,More frequent and reliable train service,More frequent and reliable bus service,Expanded on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft)	Reliable on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft),Increased walking and biking safety measures\, including separation from vehicle traffic,Availability of bikeshare\, e-bikes\, e-scooters,Free and secure bike parking at key locations,Easy connections between multiple transportation services (such as Metrolink to bikeshare),Universal fare pass that works across multiple transportation services	Very Important	Very Important	Important	Unimportant	Slightly Important	Important	Probably Not	Possibly	Definitely	Possibly	Definitely	Probably Not	Possibly	Definitely	Possibly	Definitely	92612	92677	35-44	170,000 or more	Caucasian/White	ryan.aeh@gmail.com	3/16/2022 5:17	3/16/2022 5:24	3979a0589f
7vgumwk9qptdy0nihj7vgeuuj02j3dt8	Local community shuttles/trolley services,Expanded on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft),Improved bike and pedestrian paths/trails and bike amenities,More frequent and reliable train service,More frequent and reliable bus service	Universal fare pass that works across multiple transportation services,Availability of bikeshare\, e-bikes\, e-scooters,Free and secure bike parking at key locations,Increased walking and biking safety measures\, including separation from vehicle traffic,Reliable on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft),Easy connections between multiple transportation services (such as Metrolink to bikeshare)	Very Important	Very Important	Very Important	Very Important	Very Important	Very Important	Possibly	Possibly	Possibly	Possibly	Possibly	Definitely	Possibly	Probably	Probably	Definitely	92626	92626	65-74	110,000 â€“ 169,000	Caucasian/White		3/16/2022 3:39	3/16/2022 3:43	591c5a6c90
0775qwqwx9v9fm0774a6l910b3s1iuye	More frequent and reliable train service,More frequent and reliable bus service,Improved bike and pedestrian paths/trails and bike amenities,Expanded on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft),Local community shuttles/trolley services	Easy connections between multiple transportation services (such as Metrolink to bikeshare),Universal fare pass that works across multiple transportation services,Increased walking and biking safety measures\, including separation from vehicle traffic,Availability of bikeshare\, e-bikes\, e-scooters,Reliable on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft),Free and secure bike parking at key locations	Very Important	Very Important	Very Important	Very Important	Very Important	Very Important	Possibly	Definitely	Possibly	Possibly	Probably Not	Possibly	Definitely	Possibly	Definitely	Definitely Not	92675	92675	65-74	30,000 â€“ 49,999	Caucasian/White		3/16/2022 2:11	3/16/2022 2:18	ab0dd170d0
q64nkyvmijsf5ecvkqq64nkyhw2gu3y1	Local community shuttles/trolley services,Improved bike and pedestrian paths/trails and bike amenities,More frequent and reliable train service,More frequent and reliable bus service,Expanded on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft)	Increased walking and biking safety measures\, including separation from vehicle traffic,Free and secure bike parking at key locations,Easy connections between multiple transportation services (such as Metrolink to bikeshare),Reliable on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft),Availability of bikeshare\, e-bikes\, e-scooters,Universal fare pass that works across multiple transportation services	Important	Very Important	Important	Moderately Important	Moderately Important	Moderately Important	Probably Not	Probably Not	Probably Not	Probably Not	Probably Not	Probably Not	Definitely	Probably Not	Definitely	Probably	92865	92627	25-34	110,000 â€“ 169,000	Caucasian/White	charlesincharge35@gmail.com	3/16/2022 1:23	3/16/2022 1:27	a3a15aa023
5e4f1gd638aphlze0bq5e4f18b0gjhrb	More frequent and reliable train service,Improved bike and pedestrian paths/trails and bike amenities,Local community shuttles/trolley services,More frequent and reliable bus service,Expanded on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft)	Reliable on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft),Increased walking and biking safety measures\, including separation from vehicle traffic,Easy connections between multiple transportation services (such as Metrolink to bikeshare),Free and secure bike parking at key locations,Availability of bikeshare\, e-bikes\, e-scooters,Universal fare pass that works across multiple transportation services	Very Important	Very Important	Moderately Important	Moderately Important	Very Important	Moderately Important	Probably	Probably	Probably	Probably Not	Definitely Not	Definitely	Definitely	Definitely	Definitely	Definitely	92651	92651	65-74	110,000 â€“ 169,000	Caucasian/White		3/16/2022 1:14	3/16/2022 1:20	42770dbab1
tsk0zieka8lgpcrktsk0zunvac6jdhwb	Improved bike and pedestrian paths/trails and bike amenities,More frequent and reliable bus service,More frequent and reliable train service,Expanded on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft),Local community shuttles/trolley services	Easy connections between multiple transportation services (such as Metrolink to bikeshare),Increased walking and biking safety measures\, including separation from vehicle traffic,Universal fare pass that works across multiple transportation services,Availability of bikeshare\, e-bikes\, e-scooters,Free and secure bike parking at key locations,Reliable on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft)	Very Important	Very Important	Important	Very Important	Moderately Important	Important	Possibly	Definitely	Probably	Definitely	Possibly	Possibly	Definitely	Definitely Not	Definitely	Definitely	92614	92704	16-24	110,000 â€“ 169,000	Latino/Hispanic		3/16/2022 0:07	3/16/2022 0:11	5d66f60512
972wff580j22fugx8wix972wfgld7qj3	More frequent and reliable train service,Improved bike and pedestrian paths/trails and bike amenities,More frequent and reliable bus service,Local community shuttles/trolley services,Expanded on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft)	Increased walking and biking safety measures\, including separation from vehicle traffic,Easy connections between multiple transportation services (such as Metrolink to bikeshare),Universal fare pass that works across multiple transportation services,Free and secure bike parking at key locations,Availability of bikeshare\, e-bikes\, e-scooters,Reliable on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft)	Very Important	Very Important	Very Important	Very Important	Very Important	Very Important	Probably	Definitely	Definitely	Definitely	Probably Not	Definitely	Definitely	Definitely	Definitely	Definitely	92692	92692	45-54	80,000 â€“ 109,000	Mixed Heritage	marcv@cmabs.org	3/15/2022 23:52	3/15/2022 23:57	e21b558571
kroupxqfhq2fzkroup0koapodw91foiw	Improved bike and pedestrian paths/trails and bike amenities,Local community shuttles/trolley services,More frequent and reliable bus service,More frequent and reliable train service,Expanded on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft)	Increased walking and biking safety measures\, including separation from vehicle traffic,Availability of bikeshare\, e-bikes\, e-scooters,Free and secure bike parking at key locations,Reliable on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft),Easy connections between multiple transportation services (such as Metrolink to bikeshare),Universal fare pass that works across multiple transportation services	Very Important	Very Important	Very Important	Very Important	Very Important	Very Important	Possibly	Possibly	Possibly	Possibly	Possibly	Possibly	Possibly	Possibly	Possibly	Possibly	30144	30144	16-24	170,000 or more	Caucasian/White	ghostlightmater@yahoo.com	3/15/2022 23:19	3/15/2022 23:22	e166f828e0
twuxa2tw3c297kktwuxa26elgghhwi0j	Improved bike and pedestrian paths/trails and bike amenities,More frequent and reliable train service,More frequent and reliable bus service,Expanded on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft),Local community shuttles/trolley services	Increased walking and biking safety measures\, including separation from vehicle traffic,Free and secure bike parking at key locations,Availability of bikeshare\, e-bikes\, e-scooters,Universal fare pass that works across multiple transportation services,Easy connections between multiple transportation services (such as Metrolink to bikeshare),Reliable on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft)	Very Important	Very Important	Very Important	Moderately Important	Important	Very Important	Probably Not	Probably Not	Probably Not	Probably	Definitely	Probably Not	Possibly	Possibly	Possibly	Definitely	92618	92870	35-44	Prefer not to answer	Caucasian/White		3/15/2022 21:54	3/15/2022 21:57	79b62ca7f5

ENGLISH & SPANISH #	*Recognizing that future funding is limited, rank the following types of transportation services for funding priority.* (Rank from highest to lowest priority.)	*Choosing a non-car travel option can help reduce emissions and congestion. Prioritize the following in order of how likely you would consider a non-car travel option.* (Rank from most to least likely.)	Sidewalks wide enough to allow pedestrians to walk comfortably, separated from traffic.	Bicycle lanes/paths that are safe for riders of all ages and experience levels.	Extended pedestrian street crossing times when needed.	Dedicated bus lanes so that buses can compete with car travel times.	Safe and accessible transit stops, with amenities such as shelters, benches, and lighting to increase comfort, convenience, and visibility.	Street roundabouts, curb extensions, and other elements that increase safety for pedestrians and bicyclists.	Carpool and vanpool subsidies	Metrolink and bus pass subsidies	Microtransit/shared ride (OC Flex and Uber/Lyft) subsidies	Bikeshare subsidies	Telework subsidies	Carpool or vanpool	Take transit (such as Metrolink and bus)	Microtransit/shared ride (OC Flex and Uber/Lyft)	Walk or bike	Telework	*Thanks for your input! Now, please tell us a little about yourself. * * What is your worksite zip code if you have one?*	*What is your home zip code?*	*What is your age range? *	*What is your combined annual household income? *	*What ethnic group do you consider yourself a part of or feel closest to? *	*Sign up to receive project updates and meeting invites *	Start Date (UTC)	Submit Date (UTC)	Network ID
0x4klpu7f5e1fl0x4kd9ggrjo0yuyg5f	More frequent and reliable bus service,Local community shuttles/trolley services,Improved bike and pedestrian paths/trails and bike amenities,More frequent and reliable train service,Expanded on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft)	Universal fare pass that works across multiple transportation services,Easy connections between multiple transportation services (such as Metrolink to bikeshare),Free and secure bike parking at key locations,Increased walking and biking safety measures\, including separation from vehicle traffic,Availability of bikeshare\, e-bikes\, e-scooters,Reliable on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft)	Very Important	Important	Slightly Important	Slightly Important	Very Important	Slightly Important	Probably	Probably	Possibly	Possibly	Definitely	Possibly	Possibly	Probably Not	Probably	Probably	92653	92679	45-54	80,000 â€“ 109,000	Latino/Hispanic		3/15/2022 21:29	3/15/2022 21:34	d26789d234
rqjyo4kh1lo9ldg8is9rqjyglny6zi3v	Improved bike and pedestrian paths/trails and bike amenities,Local community shuttles/trolley services,Expanded on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft),More frequent and reliable train service,More frequent and reliable bus service	Increased walking and biking safety measures\, including separation from vehicle traffic,Free and secure bike parking at key locations,Availability of bikeshare\, e-bikes\, e-scooters,Reliable on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft),Easy connections between multiple transportation services (such as Metrolink to bikeshare),Universal fare pass that works across multiple transportation services	Very Important	Very Important	Moderately Important	Slightly Important	Moderately Important	Very Important	Possibly	Probably Not	Probably	Probably	Probably Not	Possibly	Possibly	Probably	Definitely	Probably Not	92673	92672	25-34	80,000 â€“ 109,000	Caucasian/White		3/15/2022 21:13	3/15/2022 21:16	3a2ed80d91
1yuu4lpu41x3ndf1yuvtn452mn96zvts	Improved bike and pedestrian paths/trails and bike amenities,Local community shuttles/trolley services,More frequent and reliable bus service,More frequent and reliable train service,Expanded on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft)	Increased walking and biking safety measures\, including separation from vehicle traffic,Universal fare pass that works across multiple transportation services,Easy connections between multiple transportation services (such as Metrolink to bikeshare),Free and secure bike parking at key locations,Reliable on-demand\, microtransit/shared ride services (such as OC Flex\, Uber/Lyft),Availability of bikeshare\, e-bikes\, e-scooters	Very Important	Important	Very Important	Moderately Important	Important	Unimportant	Possibly	Possibly	Definitely Not	Possibly	Possibly	Probably	Probably	Definitely Not	Possibly	Definitely	92672	92651		170,000 or more	Caucasian/White		3/15/2022 21:09	3/15/2022 21:16	bd8fb24327
0dalyfemeqgwxh3k2zeje0dalyfv69ag	MÃ¡s servicios de vehÃ-culo compartido/microtransporte a demanda (como OC\, Flex\, Uber/Lyft),Servicio ferroviario mÃ¡s frecuente y fiable ,Servicio de autobÃºs mÃ¡s frecuente y fiable ,Mejores vÃ-as/senderos para peatones y bicicletas e infraestructura para bicicletas,Servicios de shuttles/tranvÃ-a dentro de la comunidad local	Un boleto universal que funcione en mÃºltiples servicios de transporte,Servicios fiables de vehÃ-culo compartido/microtransporte a demanda (como OC Flex\, Uber/Lyft),Conexiones fÃ¡ciles entre mÃºltiples servicios de transporte (por ejemplo\, entre Metrolink y los servicios de bicicletas compartidas),Aumento de las medidas de seguridad para peatones y ciclistas\, incluyendo la separaciÃ³n del trÃ¡fico de vehÃ-culos,Disponibilidad de bicicletas compartidas\, bicicletas elÃ©ctricas y scooters elÃ©ctricos,Estacionamiento de bicicletas gratuito y seguro en puntos clave	Muy importante	Muy importante	Muy importante	Importante	Importante	Muy importante	Definitivamente sÃ-	Definitivamente sÃ-	Probablemente	Definitivamente sÃ-	Probablemente	Definitivamente sÃ-	Definitivamente sÃ-	Definitivamente sÃ-	Definitivamente sÃ-	Probablemente	92705	92705	35-44	50,000 â€“ 79,999	Latino/Hispano	andytrevinoandandy@yahoo.com	4/12/2022 16:29	4/12/2022 16:34	f0312d30ce
sf7vlzn31mx891sf7vhinraozwa2eehb	Mejores vÃ-as/senderos para peatones y bicicletas e infraestructura para bicicletas,Servicio de autobÃºs mÃ¡s frecuente y fiable ,Servicio ferroviario mÃ¡s frecuente y fiable ,MÃ¡s servicios de vehÃ-culo compartido/microtransporte a demanda (como OC\, Flex\, Uber/Lyft),Servicios de shuttles/tranvÃ-a dentro de la comunidad local	Un boleto universal que funcione en mÃºltiples servicios de transporte,Aumento de las medidas de seguridad para peatones y ciclistas\, incluyendo la separaciÃ³n del trÃ¡fico de vehÃ-culos,Estacionamiento de bicicletas gratuito y seguro en puntos clave,Disponibilidad de bicicletas compartidas\, bicicletas elÃ©ctricas y scooters elÃ©ctricos,Servicios fiables de vehÃ-culo compartido/microtransporte a demanda (como OC Flex\, Uber/Lyft),Conexiones fÃ¡ciles entre mÃºltiples servicios de transporte (por ejemplo\, entre Metrolink y los servicios de bicicletas compartidas)	Muy importante	Muy importante	Importante	Importante	Muy importante	Importante	Definitivamente no	Probablemente no	Probablemente no	Probablemente no	Definitivamente no	Definitivamente no	Definitivamente no	Definitivamente no	Definitivamente no	Definitivamente no	92701	92701	45-54	30,000 â€“ 49,999	Latino/Hispano	patyscool@hotmail.com	4/10/2022 5:49	4/10/2022 5:56	66cfb76fca
2e26hrqov5xl9697hxc2e267ltsfrtoa	Servicio ferroviario mÃ¡s frecuente y fiable ,Servicios de shuttles/tranvÃ-a dentro de la comunidad local,Servicio de autobÃºs mÃ¡s frecuente y fiable ,Mejores vÃ-as/senderos para peatones y bicicletas e infraestructura para bicicletas,MÃ¡s servicios de vehÃ-culo compartido/microtransporte a demanda (como OC\, Flex\, Uber/Lyft)	Estacionamiento de bicicletas gratuito y seguro en puntos clave,Un boleto universal que funcione en mÃºltiples servicios de transporte,Disponibilidad de bicicletas compartidas\, bicicletas elÃ©ctricas y scooters elÃ©ctricos,Conexiones fÃ¡ciles entre mÃºltiples servicios de transporte (por ejemplo\, entre Metrolink y los servicios de bicicletas compartidas),Aumento de las medidas de seguridad para peatones y ciclistas\, incluyendo la separaciÃ³n del trÃ¡fico de vehÃ-culos,Servicios fiables de vehÃ-culo compartido/microtransporte a demanda (como OC Flex\, Uber/Lyft)	Importante	Importante	Importante	Importante	Muy importante	Muy importante	Probablemente	Definitivamente sÃ-	Probablemente	Probablemente	Probablemente	Definitivamente sÃ-	Definitivamente sÃ-	Definitivamente sÃ-	Definitivamente sÃ-	Probablemente	926975	926975	45-54	Menos de 30,000	Latino/Hispano		4/9/2022 17:06	4/9/2022 17:16	868c1251d4
l69zy8xkik4b91eel6p0za9jho1ekand	Servicio de autobÃºs mÃ¡s frecuente y fiable ,Mejores vÃ-as/senderos para peatones y bicicletas e infraestructura para bicicletas,Servicios de shuttles/tranvÃ-a dentro de la comunidad local,Servicio ferroviario mÃ¡s frecuente y fiable ,MÃ¡s servicios de vehÃ-culo compartido/microtransporte a demanda (como OC\, Flex\, Uber/Lyft)	Conexiones fÃ¡ciles entre mÃºltiples servicios de transporte (por ejemplo\, entre Metrolink y los servicios de bicicletas compartidas),Disponibilidad de bicicletas compartidas\, bicicletas elÃ©ctricas y scooters elÃ©ctricos,Estacionamiento de bicicletas gratuito y seguro en puntos clave,Servicios fiables de vehÃ-culo compartido/microtransporte a demanda (como OC Flex\, Uber/Lyft),Un boleto universal que funcione en mÃºltiples servicios de transporte,Aumento de las medidas de seguridad para peatones y ciclistas\, incluyendo la separaciÃ³n del trÃ¡fico de vehÃ-culos	Muy importante	Muy importante	Muy importante	Importante	Muy importante	Muy importante	Definitivamente sÃ-	Definitivamente sÃ-	Probablemente	Definitivamente sÃ-	Definitivamente sÃ-	Definitivamente sÃ-	Probablemente	Probablemente	Definitivamente sÃ-	Probablemente	92647	92647	45-54	30,000 â€“ 49,999	Latino/Hispano	malehuerta@hotmail.com	3/30/2022 18:02	3/30/2022 18:13	21e7828343
p7md3bvzvjcjtnyp7map71z2td2sv9ma	Servicio de autobÃºs mÃ¡s frecuente y fiable ,Servicio ferroviario mÃ¡s frecuente y fiable ,Mejores vÃ-as/senderos para peatones y bicicletas e infraestructura para bicicletas,MÃ¡s servicios de vehÃ-culo compartido/microtransporte a demanda (como OC\, Flex\, Uber/Lyft),Servicios de shuttles/tranvÃ-a dentro de la comunidad local	Estacionamiento de bicicletas gratuito y seguro en puntos clave,Aumento de las medidas de seguridad para peatones y ciclistas\, incluyendo la separaciÃ³n del trÃ¡fico de vehÃ-culos,Disponibilidad de bicicletas compartidas\, bicicletas elÃ©ctricas y scooters elÃ©ctricos,Conexiones fÃ¡ciles entre mÃºltiples servicios de transporte (por ejemplo\, entre Metrolink y los servicios de bicicletas compartidas),Servicios fiables de vehÃ-culo compartido/microtransporte a demanda (como OC Flex\, Uber/Lyft),Un boleto universal que funcione en mÃºltiples servicios de transporte	Muy importante	Muy importante	Importante	Importante	Importante	Muy importante	Probablemente	Definitivamente sÃ-	Probablemente	Probablemente	Probablemente	Definitivamente sÃ-	Definitivamente sÃ-	Probablemente	Definitivamente sÃ-	Probablemente		92703	45-54	Menos de 30,000	Latino/Hispano	riverarocio0512@gmail.com	3/26/2022 14:42	3/26/2022 14:50	05b9c95caf
scqi33a04khkxa7q9scqi33kqyoz5f5m	Servicio de autobÃºs mÃ¡s frecuente y fiable ,Mejores vÃ-as/senderos para peatones y bicicletas e infraestructura para bicicletas,MÃ¡s servicios de vehÃ-culo compartido/microtransporte a demanda (como OC\, Flex\, Uber/Lyft),Servicio ferroviario mÃ¡s frecuente y fiable ,Servicios de shuttles/tranvÃ-a dentro de la comunidad local	Estacionamiento de bicicletas gratuito y seguro en puntos clave,Disponibilidad de bicicletas compartidas\, bicicletas elÃ©ctricas y scooters elÃ©ctricos,Conexiones fÃ¡ciles entre mÃºltiples servicios de transporte (por ejemplo\, entre Metrolink y los servicios de bicicletas compartidas),Servicios fiables de vehÃ-culo compartido/microtransporte a demanda (como OC Flex\, Uber/Lyft),Un boleto universal que funcione en mÃºltiples servicios de transporte,Aumento de las medidas de seguridad para peatones y ciclistas\, incluyendo la separaciÃ³n del trÃ¡fico de vehÃ-culos	Muy importante	Muy importante	Muy importante	Muy importante	Muy importante	Muy importante	Probablemente	Definitivamente sÃ-	Probablemente	Definitivamente sÃ-	Definitivamente sÃ-	Probablemente	Definitivamente sÃ-	Probablemente	Definitivamente sÃ-	Probablemente	92833	92833	55-64	Menos de 30,000	Latino/Hispano		3/23/2022 21:23	3/23/2022 21:27	3c20c6ef85

Appendix C
Outreach Results and Analytics

Appendix C.1 Virtual Meeting Room Google Analytics

Appendix C.2 Geofencing Analytics

Appendix C.3 Comments Collected Matrix

Appendix C

Appendix C.1 Virtual Meeting Room Google Analytics

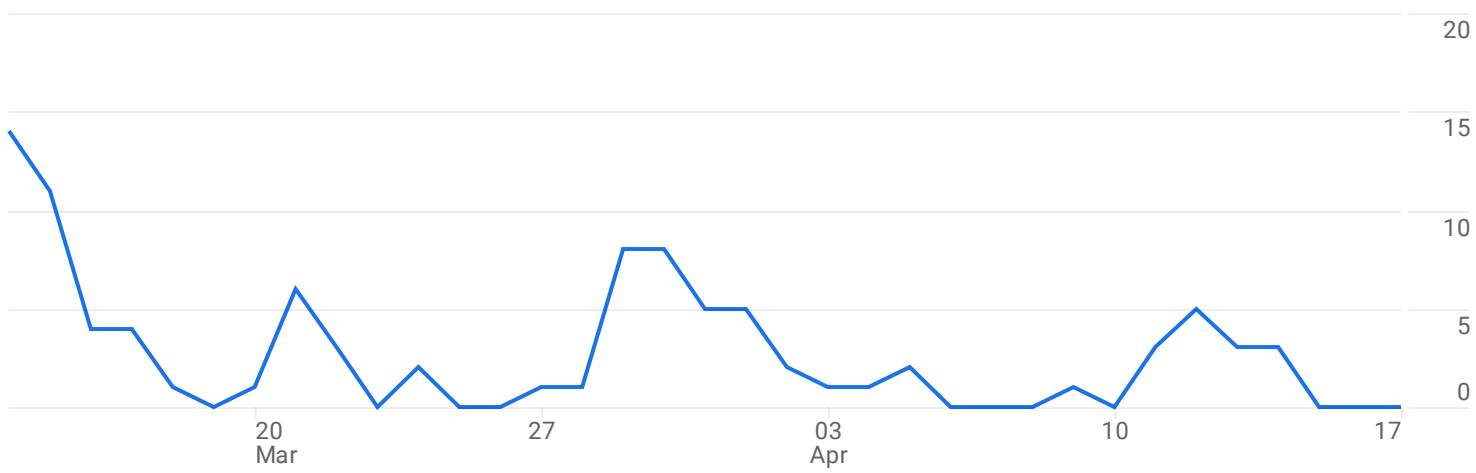
Acquisition overview

Custom Mar 14 - Apr 17, 2022

All Users | Add comparison

Users 74

New users 68



New users by
First user default channel grouping

FIRST USER DEFAULT CH...	NEW USERS
Referral	43
Direct	25

View user acquisition →

Sessions by
Session default channel grouping

SESSION DEFAULT CHAN...	SESSIONS
Referral	64
Direct	59
Unassigned	2

View traffic acquisition →

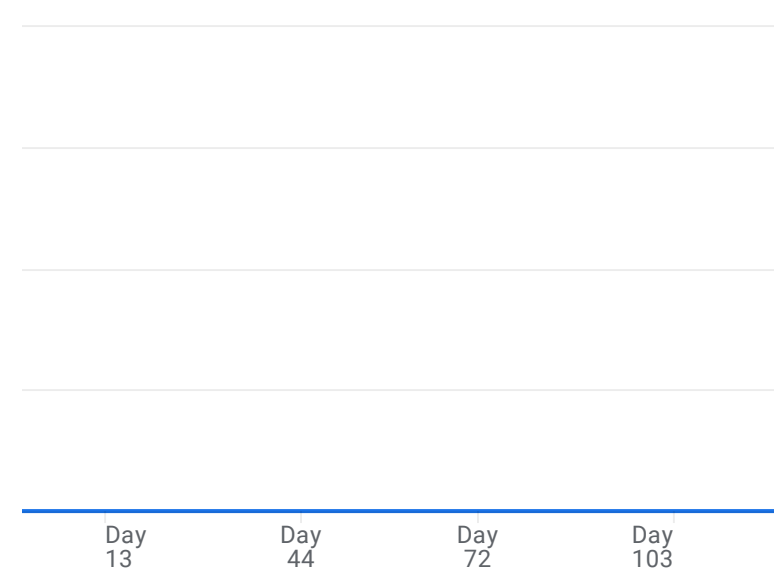
Sessions by
Session Google Ads campai...

SESSION GOOGLE ...	SESSIONS

No data available

View Google Ads campaigns →

Lifetime value



Last 120 days ending Apr 17

Analytics

Go to report

Engagement overview

Custom Mar 14 - Apr 17, 2022

All Users

Add comparison

Average engagement time
2m 16s

Engaged sessions per user
1.3

Average engagement time per session
1m 21s

Views
1.4K

Event count
3K

Event count by Event name

EVENT NAME	EVENT COUNT
page_view	1.4K
scroll	1.1K
user_engagement	371
session_start	123
first_visit	68
click	7

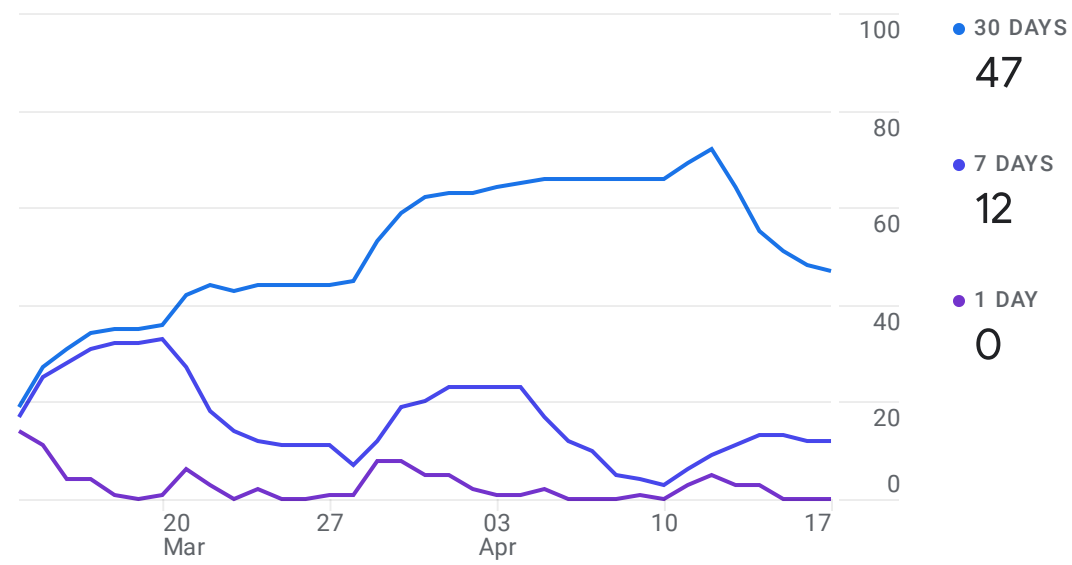
View events →

Views by Page title and screen class

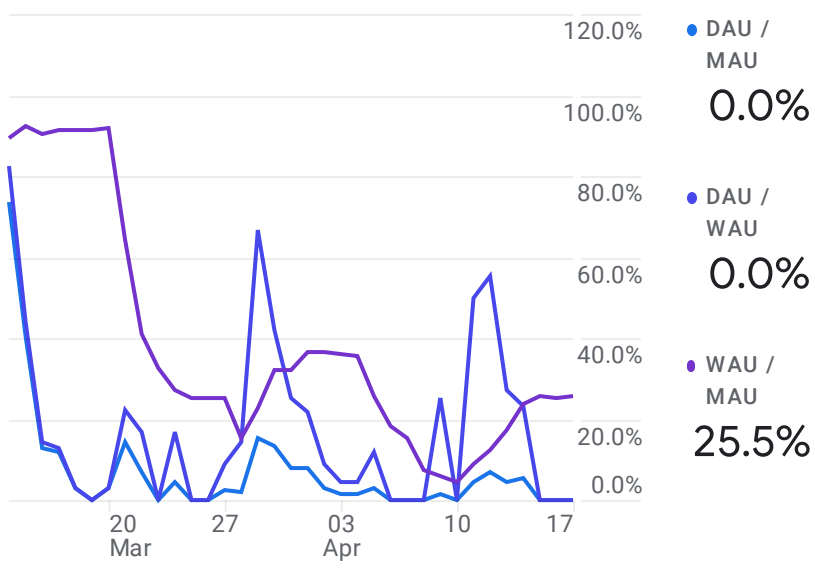
PAGE TITLE AND SCREEN CLASS	VIEWS
OCTA - Multimodal Transportation Study	1.1K
OCTA - SOCMTS	243

View pages and screens →

User activity over time



User stickiness



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Appendix C

Appendix C.2 Geofencing Analytics

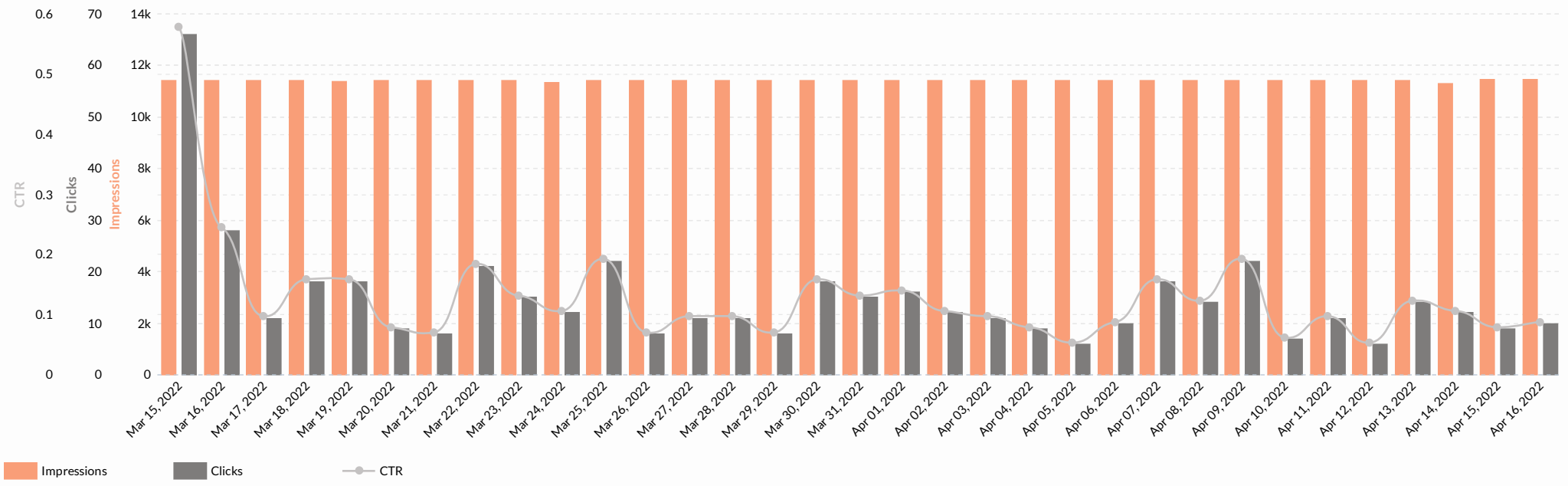
Static Ad Performance

377,076	486	0.13%
Impressions	Clicks	CTR

Campaign Breakdown

Client	Campaign	Impressions	Clicks	CTR	Video Completion Rate
Total		**377,076**	**486**	**0.13%**	**-**
Orange County Transportation Authority	MBI Media_Orange County Transportation Authority_Spanish Language_AGF_Static_3/15/22-4/18/22	270,304	334	0.12%	-
Orange County Transportation Authority	MBI Media_Orange County Transportation Authority_Mandarin Language_AGF_Static_3/15/22-4/18/22	56,573	67	0.12%	-
Orange County Transportation Authority	MBI Media_Orange County Transportation Authority_Korean Language_AGF_Static_3/15/22-4/18/22	25,140	39	0.16%	-
Orange County Transportation Authority	MBI Media_Orange County Transportation Authority_Vietnamese Language_AGF_Static_3/15/22-4/18/22	25,059	46	0.18%	-

Overall Programmatic Trending Data



Geotargeted Locations

Grid contains more rows, but they have been clipped.

City	Impressions	Clicks	CTR
Total	**377,076**	**486**	**0.13%**
Aliso Viejo	8,449	14	0.17%
Capistrano Beach	1,487	1	0.07%
Corona del Mar	2,050	3	0.15%
Costa Mesa	18,935	22	0.12%
Dana Point	5,879	6	0.10%
Foothill Ranch	5,895	13	0.22%
Huntington Beach	24,901	42	0.17%
Irvine	140,785	177	0.13%
Laguna Beach	6,141	10	0.16%
Laguna Hills	6,409	5	0.08%
Laguna Niguel	19,216	20	0.10%
Laguna Woods	4,704	8	0.17%
Lake Forest	16,744	22	0.13%
Mission Viejo	17,921	23	0.13%
Newport Beach	14,770	12	0.08%
Newport Coast	2,510	4	0.16%
San Clemente	21,321	21	0.10%
San Juan Capistrano	10,691	9	0.08%
Santa Ana	18,168	27	0.15%
Silverado	252	0	0.00%

Device Breakdown

Device Type	Impressions	Clicks	CTR
Total	**375,783**	**486**	**0.13%**
Mobile	220,847	319	0.14%
Desktops and Laptops	117,383	103	0.09%
Tablets	37,413	62	0.17%
Connected TV	140	2	1.43%

Android Performance

96.08K	141	0.15%
IMPRESSIONS	CLICKS	CTR

IOS Performance

281.00K	345	0.12%
IMPRESSIONS	CLICKS	CTR

What contextual categories of sites are my ads showing up in?

Context	Impressions	Clicks	CTR
Hobbies & Special Interests	74,151	119	0.16%
Arts & Entertainment	73,552	82	0.11%
News	44,866	55	0.12%
Computer & Video Games	41,965	54	0.13%
Boardgame & Puzzles	12,305	20	0.16%
Technology & Computing	8,718	20	0.23%
Food & Drink	7,623	20	0.26%
Sports	7,416	6	0.08%
Interpersonal Relations	5,159	4	0.08%
Music	5,036	1	0.02%
Education	4,490	7	0.16%
Shopping	2,296	4	0.17%
Business	1,965	0	0.00%
Politics	1,639	0	0.00%
Personal Finance	1,445	5	0.35%

| SUMMARY GRIDS |

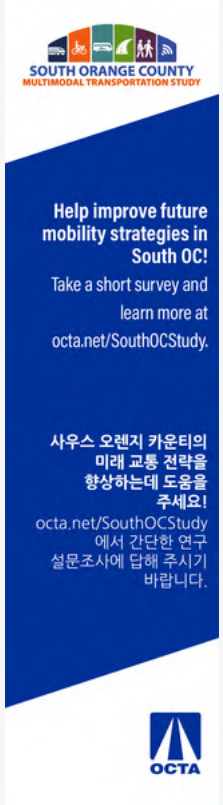
Zip+4 Performance

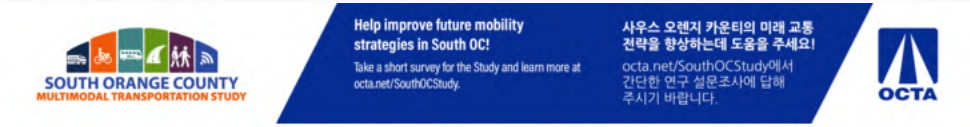
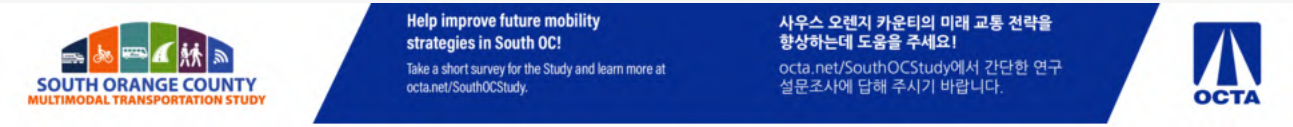
Campaign	Plat City	Plat Zip Code	Impressions	Clicks	CTR
Total			**377,076**	**486**	**0.13%**
MBI Media_Orange County Transportation Authority_Korean Language_AGF_Static_3/15/22-4/18/22	Irvine	92618-1049	6,775	5	0.07%
MBI Media_Orange County Transportation Authority_Spanish Language_AGF_Static_3/15/22-4/18/22	Irvine	92602-2461	5,415	8	0.15%
MBI Media_Orange County Transportation Authority_Mandarin Language_AGF_Static_3/15/22-4/18/22	Irvine	92602-2464	5,171	5	0.10%
MBI Media_Orange County Transportation Authority_Mandarin Language_AGF_Static_3/15/22-4/18/22	Irvine	92620-0243	4,833	10	0.21%
MBI Media_Orange County Transportation Authority_Spanish Language_AGF_Static_3/15/22-4/18/22	Irvine	92606-4501	4,580	6	0.13%
MBI Media_Orange County Transportation Authority_Korean Language_AGF_Static_3/15/22-4/18/22	Irvine	92612-0699	4,405	3	0.07%
MBI Media_Orange County Transportation Authority_Korean Language_AGF_Static_3/15/22-4/18/22	Irvine	92614-8567	4,155	5	0.12%
MBI Media_Orange County Transportation Authority_Mandarin Language_AGF_Static_3/15/22-4/18/22	Irvine	92606-0829	3,755	5	0.13%
MBI Media_Orange County Transportation Authority_Spanish Language_AGF_Static_3/15/22-4/18/22	San Clemente	92672-0000	3,472	4	0.12%
MBI Media_Orange County Transportation Authority_Mandarin Language_AGF_Static_3/15/22-4/18/22	Irvine	92618-1303	3,463	7	0.20%
MBI Media_Orange County Transportation Authority_Korean Language_AGF_Static_3/15/22-4/18/22	Irvine	92620-2501	3,334	14	0.42%
MBI Media_Orange County Transportation Authority_Mandarin Language_AGF_Static_3/15/22-4/18/22	Tustin	92780-5126	3,317	1	0.03%
MBI Media_Orange County Transportation Authority_Spanish Language_AGF_Static_3/15/22-4/18/22	Tustin	92780-6364	3,251	5	0.15%
MBI Media_Orange County Transportation Authority_Mandarin Language_AGF_Static_3/15/22-4/18/22	Irvine	92620-3548	2,753	2	0.07%
MBI Media_Orange County Transportation Authority_Korean Language_AGF_Static_3/15/22-4/18/22	Irvine	92602-2433	2,639	7	0.27%
MBI Media_Orange County Transportation Authority_Spanish Language_AGF_Static_3/15/22-4/18/22	Irvine	92606-1790	2,443	5	0.20%
MBI Media_Orange County Transportation Authority_Spanish Language_AGF_Static_3/15/22-4/18/22	Irvine	92612-5691	2,429	4	0.16%
MBI Media_Orange County Transportation Authority_Spanish Language_AGF_Static_3/15/22-4/18/22	Huntington Beach	92646-7335	2,176	2	0.09%
MBI Media_Orange County Transportation Authority_Spanish Language_AGF_Static_3/15/22-4/18/22	San Juan Capistrano	92675-2716	2,145	3	0.14%
MBI Media_Orange County Transportation Authority_Mandarin Language_AGF_Static_3/15/22-4/18/22	Irvine	92602-2459	2,069	1	0.05%
MBI Media_Orange County Transportation Authority_Spanish Language_AGF_Static_3/15/22-4/18/22	Tustin	92780-2706	2,006	7	0.35%
MBI Media_Orange County Transportation Authority_Spanish Language_AGF_Static_3/15/22-4/18/22	Irvine	92604-8605	1,940	1	0.05%
MBI Media_Orange County Transportation Authority_Spanish Language_AGF_Static_3/15/22-4/18/22	Irvine	92618-0301	1,888	3	0.16%
MBI Media_Orange County Transportation Authority_Spanish Language_AGF_Static_3/15/22-4/18/22	Costa Mesa	92626-2342	1,742	3	0.17%
MBI Media_Orange County Transportation Authority_Spanish Language_AGF_Static_3/15/22-4/18/22	Laguna Niguel	92677-1225	1,669	2	0.12%
MBI Media_Orange County Transportation Authority_Mandarin Language_AGF_Static_3/15/22-4/18/22	Irvine	92614-5429	1,652	2	0.12%
MBI Media_Orange County Transportation Authority_Spanish Language_AGF_Static_3/15/22-4/18/22	Corona Del Mar	92625-1113	1,640	0	0.00%
MBI Media_Orange County Transportation Authority_Spanish Language_AGF_Static_3/15/22-4/18/22	Newport Beach	92660-7129	1,633	0	0.00%
MBI Media_Orange County Transportation Authority_Spanish Language_AGF_Static_3/15/22-4/18/22	Newport Coast	92657-1516	1,457	2	0.14%
MBI Media_Orange County Transportation Authority_Spanish Language_AGF_Static_3/15/22-4/18/22	Irvine	92617-4040	1,435	0	0.00%

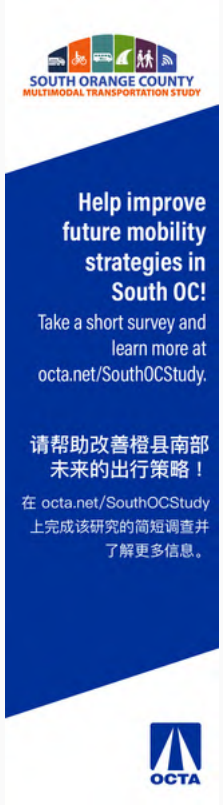
Apps and Domains Where Ads Were Served

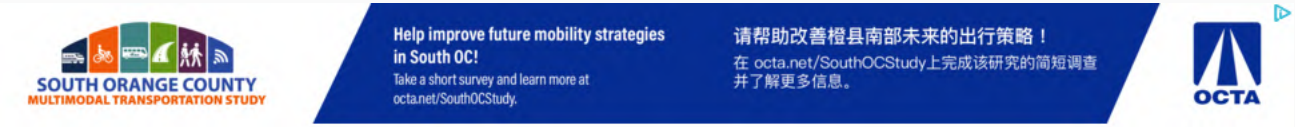
Campaign	Domain	Impressions	Clicks	CTR
Total		**377,076**	**486**	**0.13%**
MBI Media_Orange County Transportation Authority_Spanish Language_AGF_Static_3/15/22-4/18/22	com.pixel.art.coloring.color.number	6,488	19	0.29%
MBI Media_Orange County Transportation Authority_Spanish Language_AGF_Static_3/15/22-4/18/22	https://eldenring.wiki.fextralife.com	14,912	10	0.07%
MBI Media_Orange County Transportation Authority_Spanish Language_AGF_Static_3/15/22-4/18/22	1407852246	3,588	8	0.22%
MBI Media_Orange County Transportation Authority_Mandarin Language_AGF_Static_3/15/22-4/18/22	https://eldenring.wiki.fextralife.com	5,655	7	0.12%
MBI Media_Orange County Transportation Authority_Spanish Language_AGF_Static_3/15/22-4/18/22	1466197423	708	7	0.99%
MBI Media_Orange County Transportation Authority_Spanish Language_AGF_Static_3/15/22-4/18/22	1163786766	3,172	7	0.22%
MBI Media_Orange County Transportation Authority_Spanish Language_AGF_Static_3/15/22-4/18/22	com.onelouder.baconreader	3,117	6	0.19%
MBI Media_Orange County Transportation Authority_Mandarin Language_AGF_Static_3/15/22-4/18/22	1163786766	1,307	6	0.46%
MBI Media_Orange County Transportation Authority_Spanish Language_AGF_Static_3/15/22-4/18/22	com.americasbestpics	2,902	6	0.21%
MBI Media_Orange County Transportation Authority_Vietnamese Language_AGF_Static_3/15/22-4/18/22	jp.gocro.smartnews.android	312	5	1.60%
MBI Media_Orange County Transportation Authority_Spanish Language_AGF_Static_3/15/22-4/18/22	com.easybrain.jigsaw.puzzles	1,805	5	0.28%
MBI Media_Orange County Transportation Authority_Korean Language_AGF_Static_3/15/22-4/18/22	1207472156	203	5	2.46%
MBI Media_Orange County Transportation Authority_Spanish Language_AGF_Static_3/15/22-4/18/22	https://www.the-sun.com	2,015	5	0.25%
MBI Media_Orange County Transportation Authority_Spanish Language_AGF_Static_3/15/22-4/18/22	366247306	3,006	5	0.17%
MBI Media_Orange County Transportation Authority_Spanish Language_AGF_Static_3/15/22-4/18/22	642831690	1,152	5	0.43%
MBI Media_Orange County Transportation Authority_Spanish Language_AGF_Static_3/15/22-4/18/22	1207472156	3,777	4	0.11%
MBI Media_Orange County Transportation Authority_Mandarin Language_AGF_Static_3/15/22-4/18/22	com.peoplefun.wordsearch	674	4	0.59%
MBI Media_Orange County Transportation Authority_Spanish Language_AGF_Static_3/15/22-4/18/22	block.puzzle.sudoku.free.game.classic.offline	501	4	0.80%
MBI Media_Orange County Transportation Authority_Mandarin Language_AGF_Static_3/15/22-4/18/22	https://www.newsnow.co.uk	265	4	1.51%
MBI Media_Orange County Transportation Authority_Spanish Language_AGF_Static_3/15/22-4/18/22	https://www.dailymail.co.uk	13,769	4	0.03%
MBI Media_Orange County Transportation Authority_Spanish Language_AGF_Static_3/15/22-4/18/22	com.gma.water.sort.puzzle	827	4	0.48%
MBI Media_Orange County Transportation Authority_Vietnamese Language_AGF_Static_3/15/22-4/18/22	336580901	130	3	2.31%
MBI Media_Orange County Transportation Authority_Spanish Language_AGF_Static_3/15/22-4/18/22	495583717	554	3	0.54%
MBI Media_Orange County Transportation Authority_Spanish Language_AGF_Static_3/15/22-4/18/22	1313561414	842	3	0.36%
MBI Media_Orange County Transportation Authority_Spanish Language_AGF_Static_3/15/22-4/18/22	https://www.chess.com	2,087	3	0.14%

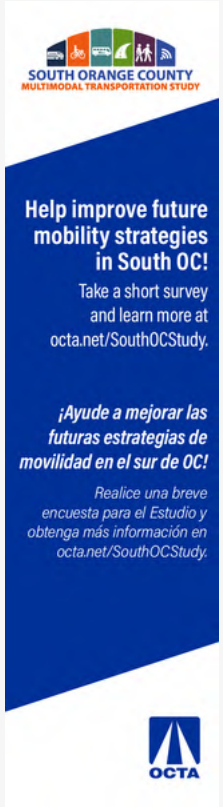
Ad Performance

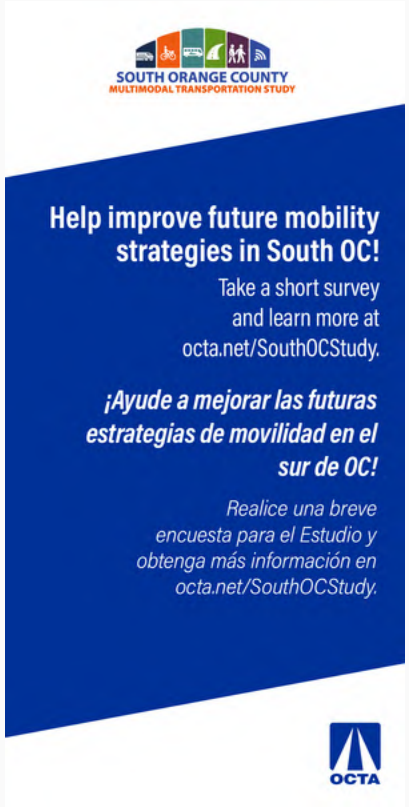
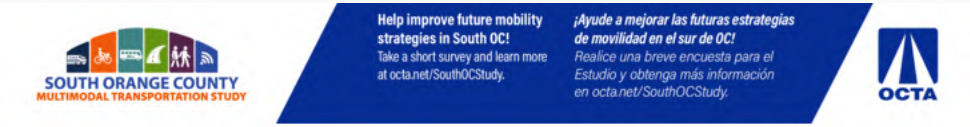
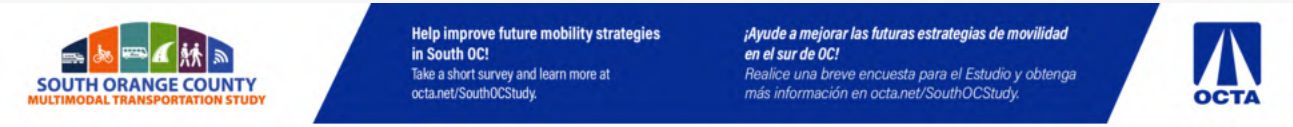
Ad	Preview	Impressions	Clicks	CTR
Total		**377,076**	**486**	**0.13%**
OCTA-SOCMTS-ENG-KOREAN-Phase2-Geofencing-160x600.jpg		1,039	4	0.38%
OCTA-SOCMTS-ENG-KOREAN-Phase2-Geofencing-300x250.png		6,577	5	0.08%
OCTA-SOCMTS-ENG-KOREAN-Phase2-Geofencing-300x50.png		1,291	7	0.54%

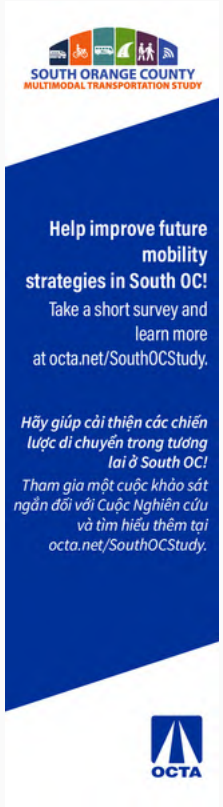
OCTA-SOCMTS-ENG-KOREAN-Phase2-Geofencing-300x600.jpg		647	2	0.31%
OCTA-SOCMTS-ENG-KOREAN-Phase2-Geofencing-320x50.png		9,394	8	0.09%
OCTA-SOCMTS-ENG-KOREAN-Phase2-Geofencing-728x90.png		5,821	12	0.21%
OCTA-SOCMTS-ENG-KOREAN-Phase2-Geofencing-970x90.png		371	1	0.27%

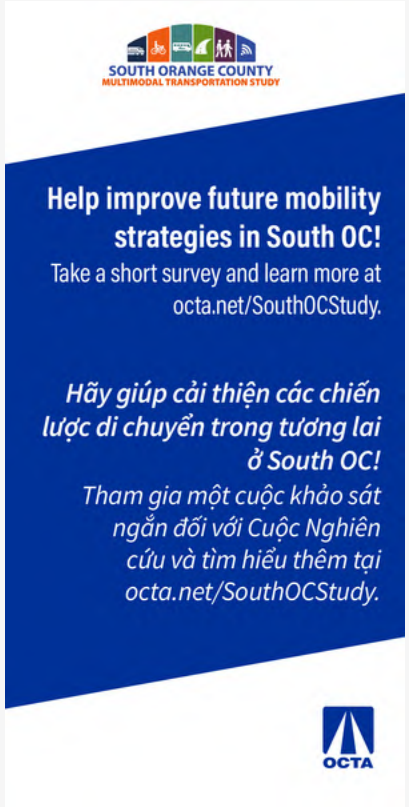
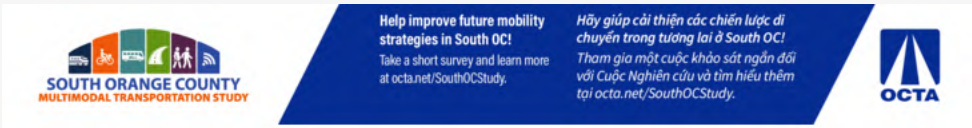
OCTA-SOCMTS-ENG-Simplified-Chinese-Phase2-Geofencing-160x600.jpg		5,208	8	0.15%
OCTA-SOCMTS-ENG-Simplified-Chinese-Phase2-Geofencing-300x250.png		13,327	10	0.08%
OCTA-SOCMTS-ENG-Simplified-Chinese-Phase2-Geofencing-300x50.png		2,374	4	0.17%

OCTA-SOCMTS-ENG-Simplified-Chinese-Phase2-Geofencing-300x600.jpg		1,197	1	0.08%
OCTA-SOCMTS-ENG-Simplified-Chinese-Phase2-Geofencing-320x50.png		20,612	36	0.17%
OCTA-SOCMTS-ENG-Simplified-Chinese-Phase2-Geofencing-728x90.png		12,581	7	0.06%
OCTA-SOCMTS-ENG-Simplified-Chinese-Phase2-Geofencing-970x90.png		1,274	1	0.08%

OCTA-SOCMTS-ENG-SPAN-Phase2-Geofencing-ver02-160x600.jpg		11,250	12	0.11%
OCTA-SOCMTS-ENG-SPAN-Phase2-Geofencing-ver02-300x250.png		55,542	52	0.09%
OCTA-SOCMTS-ENG-SPAN-Phase2-Geofencing-ver02-300x50.png		15,107	27	0.18%

OCTA-SOCMTS-ENG-SPAN-Phase2-Geofencing-ver02-300x600.jpg		6,298	9	0.14%
OCTA-SOCMTS-ENG-SPAN-Phase2-Geofencing-ver02-320x50.png		120,894	135	0.11%
OCTA-SOCMTS-ENG-SPAN-Phase2-Geofencing-ver02-728x90.png		57,641	92	0.16%
OCTA-SOCMTS-ENG-SPAN-Phase2-Geofencing-ver02-970x90.png		3,572	7	0.20%

OCTA-SOCMTS-ENG-VIET-Phase2-Geofencing-ver02_160x600.jpg		1,888	2	0.11%
OCTA-SOCMTS-ENG-VIET-Phase2-Geofencing-ver02_300x250.png		6,306	16	0.25%
OCTA-SOCMTS-ENG-VIET-Phase2-Geofencing-ver02_300x50.png		1,115	3	0.27%

OCTA-SOCMTS-ENG-VIET-Phase2-Geofencing-ver02_300x600.jpg		778	3	0.39%
OCTA-SOCMTS-ENG-VIET-Phase2-Geofencing-ver02_320x50.png		8,420	7	0.08%
OCTA-SOCMTS-ENG-VIET-Phase2-Geofencing-ver02_728x90.png		6,116	14	0.23%
OCTA-SOCMTS-ENG-VIET-Phase2-Geofencing-ver02_970x90.png		436	1	0.23%

Appendix C

Appendix C.3 Comments Collected Matrix

#	Organization	First Name	Last Name	Date	Time	Submission Type	Message
#	Phase 3 (03/15-4/15)						
1		Pat	Douglas	03/20/22	2:12 PM	Email	Hello, Please consider funneling traffic inland to the 15. Our freeway and streets reached full capacity years ago. We cannot ride bikes, which have "bike lanes", on streets like del Obispo or Camino Capistrano as cars come too close. If they don't hit you the wind knocks you off balance. Last time I took the bus a lady got up to leave and left a puddle on the seat. Never rode the bus again. BTW, busses tie up traffic always. Don't ever get stuck riding a bike near the rear of a bus. The exhaust is awful. The only way to turn left from Denaults on del Obispo in SJC most times is to drive through parking lots to get to Camino Cap and hopefully be able to get onto that street, cross lanes, to hopefully make it to the left turn lane for del Obispo. Just wears you out. No more developments. No more extra lanes on freeways. No more toll roads or extensions. No more funneling toll roads to the 5 at Camp Pendleton for a gigantic bottle neck. That is just an excuse to get the public to beg for more public roads through the Base. Exactly what drooling pols and developers have wanted for years as they want to develop the Base. American safety be damned - they want money. Send traffic to the 15, please! We pray more folks move to Texas, Florida, anywhere. Sincerely, PJDouglas
2		Michael	Young Shin	03/22/22	12:05 AM	VMR Registration	N/A
3		Michael	Young Shin	03/22/22	2:50 AM	Online Comment Form VMR	Instead of subsidies for rideshare, I would rather see the money go towards more substantive improvements such as the expansion of the public transportation network like more bus routes, better/protected bike lanes, etc. The Irvine train station is inaccessible from the North, and the nearest rail crossings are far away. This is a very wide obstacle for pedestrian and cyclist travel around the station, especially from the station to the Great Park, a major destination. Another major destination near the station is the Irvine Spectrum. If there isn't already some shuttle service from the train station to the Irvine Spectrum, that would be useful especially on the weekends. Many road bridges that I've crossed in Irvine lack bicycle lanes. On the typical approach to bridges, the bicycle lane abruptly stops, and then the right-most lane is a highway on-ramp, which splits off the to the right, so the cyclist has to make 2+ lane-changes into high-speed car traffic to continue onto the bridge. Cycling on the bridge has an extra risk, where the cyclist might be obscured from the driver's vision by the curve of the bridge. In 2020, a young lady cyclist was murdered by a hit-and-run car driver near the on-ramp to the 405 Freeway at Jeffrey Road. Because of these reasons, I tend to go on the sidewalk to cross the bridges. Dedicated bicycle parking is lacking in many strip malls. For example, I could not find bicycle parking at the Laguna Hills DMV. All destinations should have bicycle parking (not the bad bike parking spots where it's hard to lock the bike frame against the parking structure). The few times that I wanted to ride a bus (weekend leisure trips >30 mins on bike), I couldn't because Route 86, which could take me to my destinations, didn't run on the weekends. Car congestion is an issue on the Laguna Canyon Road between Irvine and Laguna. I see that there is a Laguna Beach Summer Breeze Trolley, but it only runs in the summer. It should instead run year-round (perhaps with less frequent service during lower-use seasons). Its route should be extended to the Irvine train station to give residents of Laguna Beach access to the train network, and to give residents on the train network access to Laguna Beach. The trolley could also get new stops on the Laguna Coast Wilderness Park hiking trail entrances/staging areas. We need to reverse the suburban sprawl and transform cities into dense, walkable urbanist community-scale cities, especially around transport corridors- e.g. tall condos and amenities around the Irvine train station.
4		Bill	Sellin	03/23/22		Written Comment at Public Meeting	How many ‘participants’ many are here?
5		Bill	Sellin	03/23/22		Written Comment at Public Meeting	Can you show suervey responses?
6		Michael	Shin	03/23/22		Written Comment at Public Meeting	Michael. In the online survey, there was a reference to a telework subsidy. How would that work?
7		Anonymous Attendee		03/23/22		Written Comment at Public Meeting	What is OC Transit doing for those that utilize OC Access services to cut ride times and increase reliability? I have heard stories from several OC Access riders that have experienced several hour delays, multi-hour trips, and Access vans that do not show up and deeming the trip a “no-show” on the Access rider.
8		Steven		03/23/22		Written Comment at Public Meeting	What is OCTA doing in response to measures (such as measure M) that might create systemic barriers to better public transit? context: I believe one of the presenters mentioned commitments required that may or may not be beneficial for the public
9		John	Garay	03/23/22		Written Comment at Public Meeting	could credits to super shuttle also be a option?
10		Michael	Shin	03/23/22		Written Comment at Public Meeting	Has OCTA, or could it, use its studies to make recommendations to the city planning committees to encourage dense urbanist development around transportation corridors that will ameliorate transportation issues?
11		Ana	Salgado	03/23/22		Written Comment at Public Meeting	Que pueden hacer, para mejorar la terminal de Newport Beach? En la tarde noche hay muchos desamparados durmiendo aquí, y si da un poco de miedo , especialmente ya muy tarde cuando venimos de trabajo VERBAL FROM INTERPRETER: What can you do to improve the Newport Beach Terminal? In the evening there is a lot of homeless that sleep in here and it's a little scary. Especially late at night when we come home from work.

#	Organization	First Name	Last Name	Date	Time	Submission Type	Message
12		Ana	Salgado	03/23/22		Written Comment at Public Meeting	Me gustaría un poco de mejoras en el autobús #1 viajan demasiados desamparados , justo en este bus tome hace una hora, venían sin tapabocas, cambiándose la ropa, es incómodo VERBAL FROM INTERPRETER: I would like to see some improvements in the #1 bus. There is too many homeless people traveling. I just took this bus an hour ago and they came without masks and were changing their clothing there. It's uncomfortable.
13		John	Garay	03/23/22		Written Comment at Public Meeting	does OCTA have a role or plan on getting the 73. 261 and 241 deb paid off to make them public freeways.
14		Anonymous Attendee		03/23/22		Written Comment at Public Meeting	Esto no es una pregunta , es un agradecimiento por la oferta de los pases autobuses, por darnos bajo precio , VERBAL FROM INTERPRETER: This is not a question, it is a thank you for giving us the bus pass offer at a low price.
15		María		03/23/22		Written Comment at Public Meeting	What is going to be done so people know about the improvements and the options that are out there for the transportation instead of their own cars? Because I found it very interesting hearing from you that it is very important that everyone is aware of it
16		Michael	Shin	03/23/22		Written Comment at Public Meeting	Will the recording of this meeting be made available publicly? I had to step away for a while.
17		María	Shin	03/23/22		Written Comment at Public Meeting	Thank you
18		Bill	Sellin	03/23/22		Verbal Comment at Public Meeting	Hi this is Bill, I figured out how to unmute now. The survey results were not being displayed so we couldn't see the hard numbers come in. I also don't know how many people are here besides me. It seemed like my scores were winning at least every time.
19		Maria		03/23/22		Verbal Comment at Public Meeting	Hi, thank you for including me in this program. For me it's important the questions because I have low visions and I am legally blind. For me I can walk but sometimes I need to take the bus when the distance is far. Sometimes, for example today, I had a medical appointment and took around 5 hours to take four buses and the distance was 2.5 miles. I needed to wait one hour for the next bus and it is difficult for me to walk because it's dangerous but it is so hard to wait an hour for one bus and another bus. This is my opinion.
20		John	Garay	03/23/22		Verbal Comment at Public Meeting	Good afternoon. For the long-term stuff, OC Flex I'm curious if there is a report on how successful it is so far. So far it's limited to a few cities. If we were to advocate for the expansion in our city, what would be required of us to speak to our City Council members? Work from home credits, will that be an established program or something we would go to HR and advocate for as well? My next question is the same thing as last time with the 71 route, I feel there is a missed opportunity not to have a small modification every other bus or something into John Wayne Airport. Especially on Red Hill off of McFadden on the Main Street corridor. I feel this a major loss of revenue for OCTA, especially since the two endpoints are Newport and Yorba Linda. Thank you for your time.
21		Steven		03/23/22		Verbal Comment at Public Meeting	FOLLOW UP FROM WRITTEN COMMENT: I just moved to Orange County and I'm trying to understand funding. I guess my question is not so much for Measure M, specifically for different transit authorities they have different sources of funding and different requirements for that funding. Sometimes it will be funded for things that voters often think are very beneficial for transit, like adding extra lanes that might induce traffic, and other times it might actually help transit. My question is how does OCTA function in that role? Is it more like an executive role where they execute the law as is or is there more of a feedback period? How does that work? This is more of a concern and don't know if it should be highlighted or not. Maybe an example of a project that is well intentioned maybe didn't benefit the public as much as it was projected. Personally I believe there is a better way to spend this money. Aside from this, I know with Orange County the Quiet Zones have been heavily funded here, I believe some through SCRRA, and I don't know if some of that came from OCTA but the concern is a lot of that spending is a noise control solution rather than a public transit solution. A concern moving forward into the 2045 mark is with the voters or constituents not using public transit how do we get them to get on board with understanding that yes your car is fine and dandy but in order to reduce the traffic on the roads we need some of you to use something else. I'm more highlighting an issue there with the constituents rather than a solution.

#	Organization	First Name	Last Name	Date	Time	Submission Type	Message
22		Thomas L	Garner JD	03/25/22	1:30 PM	Email	MARISSA, I'm responding to your email reference feedback on 23 March 2022, unfortunately I was out of pocket and missed the meeting South Orange County Multimodal Transportation Study (SOCMTS), but I would like to input some information that may be of assistance. I would ask you to pass this on to the appropriate individual collecting this information so it can be added to the myriad of suggestions you already have. My background was on the Transportation Authority advisory board for supervisor John Moorlach and was there when the road improvements for South County at various on and off ramps were instituted. Also, was a sheriff's Lt at OCSD and workede traffic during my career, so I take note of traffic issues! One of the things that I noted then and one of the things that I will note here when they were working on the Avery offramp trying to reduce the congestion that accumulates at Avery due to people coming from the beach areas from the area of Laguna Niguel, over the farmers bridge then making a left-hand turn to the Avery intersection in order to, in many cases, go North on the eye five on ramp at that location. I noted then, and I will note in this document that the logistics of Avery are such that nothing can do will fix the physical dimension of that intersection so it is always going to be congested unless you provide an alternative route to the I –5 freeway as vehicles come off the farmers bridge coming from Laguna Niguel. "Here is that suggestion, when one comes off the farmers bridge you end up initially on Camino Capistrano which was the original and only road to San Juan Capistrano before the I –5 freeway was built. The road not only goes to Avery as you turned south, but also goes north to where it dead ends near Oso Parkway. That road is still viable and has utility as an egress coming off the farmers bridge, but instead of going left to Avery preceding North on Camino And eventually getting on the freeway at Oso Pkwy., North bound I –5 .what is missing is a vehicle bridge from El Camino Real to Cabot Road somewhere around merit circle. When the freeway was built, Camino Capistrano was cut off and no bridge over the railroad tracks was ever built. However just north of that location an access bridge was built to facilitate the shopping center area just north of Oso Parkway on the ocean side of the freeway. A bridge such as the one built for the shopping center would allow vehicles to go North on Camino and then exit onto Cabot in order to catch the I –5 freeway, north. Once that bridge is installed the congestion of vehicles coming out of Laguna Niguel over the farmers bridge trying to get on to I –5 freeway would somewhat alleviate the traffic problem. Further, it would assist many of the businesses along Camino Capistrano with an easier means to access the commercial areas. I took it upon myself to talk to many of the business owners in that location and they were very much in favor of such a bridge, this would include Allen Cadillac. Since this bridge would again opened up Camino Capistrano at the north end and allow vehicles to cross over the Caltrans and Santa Fe railroad tracks there probably are some other funding sources from these two institutions to help facilitate the construction of such a thoroughfare. If you look at Google maps you'll see exactly what I'm talking about, north of Oso Parkway at the freeway you'll see a bridge crossing the road tracks and going into the shopping center, a bridge similar to that on the south side of the tracks that again connects Camino Capistrano to Cabot would be ideal." You're asking for suggestions, this one's mind hopefully it's helpful Thank you in advance for your assistance passing this on to the proper individual. Thomas L Garner JD
23		Kelly	Buchanan	03/30/22	3:40 PM	VMR Registration	N/A
24		Evelyn	Suskin	04/03/22	4:59 PM	VMR Registration	N/A
25		Carol	Church	04/05/22	3:00 PM	VMR Registration	N/A
26		Geneviève	Escure	04/11/22	1:39 PM	Email	Dear Marissa, We need public transportation to travel from S Orange County to airports and particularly to LAX. Taxis are too expensive for frequent travelers like myself. Why have Express Airport buses been discontinued? Please add this option to your survey. Thank you,

Appendix D
Notification Materials

Appendix D.1	**Stakeholder Communications Toolkit**
Appendix D.2	**Study Website**
Appendix D.3	**List of Organizations**
Appendix D.4	**Eblast #1 — Virtual Community Meeting, Survey and Virtual Meeting Room Invite**
Appendix D.5	**Eblast #2 — Thank You for Joining Our Virtual Community Meeting, Survey and Virtual Meeting Room Reminder**
Appendix D.6	**Eblast #3 — Survey and Virtual Meeting Room Last Chance**
Appendix D.7	**Virtual Community Meeting, Survey and Virtual Meeting Room Postcard (English; Spanish; Mandarin; Korean; Vietnamese)**
Appendix D.8	**Facebook Posts**
Appendix D.9	**Twitter Posts**
Appendix D.10	**Study Blog Article**
Appendix D.11	**One the Move Article**

Appendix D

Appendix D.1 Stakeholder Communications Toolkit

Help us plan for SOUTH ORANGE COUNTY'S TRANSPORTATION FUTURE

SOUTH ORANGE COUNTY
MULTIMODAL TRANSPORTATION STUDY

Dear Stakeholder,

The Orange County Transportation Authority (OCTA) is entering the third and final phase of the South Orange County Multimodal Transportation Study (SOCMTS). The SOCMTS will identify improvements in south Orange County for all modes of transportation, including streets, transit, freeways and bikeways beyond the year 2045.

OCTA is seeking public feedback on alternative travel options that could help improve transportation in south county, and OCTA will be promoting an online survey and public webinar to gather the feedback.

As a key stakeholder, we are reaching out to you to offer optional methods for sharing project and public survey details with your community. These efforts are intended to complement the other public notification methods that OCTA is using to promote this project. The survey will be available through Friday, April 15, 2022. Below are some suggested options on ways to share project and community survey details:

1. **Distribute electronically via email:** Share the community survey (SouthOCStudysurvey.com) with your e-mail contacts. You can link to the survey HERE.
2. **Post to your website:** You can use this image to post to your homepage. The image would then need to be linked to the following LINK for the project's webpage.
3. **Social media posting:** Download our OCTA image HERE, post it on your social media profiles (Facebook, Twitter, Instagram, etc.), and share the following link (SouthOCStudysurvey.com) on your post.
4. **Newsletter Announcement:** Provide information regarding the project and community survey via your organization's newsletter.

Please see the next page for simple copy-and-paste-ready text you can use to share this information with your community.

If you have any questions, please contact Marissa Espino at mespino@octa.net or at 714-560-5607. We thank you for your support and look forward to working with you in spreading the word about this project and capturing valuable survey results!

DRAFT

OCTA

ADDITIONAL INSTRUCTIONS

1. **Distribute electronically via email:**
   - **A.** You can use this image to share meeting information with your contacts/membership. Link the image to the following LINK.
   - **B.** Or copy and paste the following text into the body of an email:

     The Orange County Transportation Authority (OCTA) wants to hear your feedback on alternative travel options that could help improve transportation in south Orange County. Through April 15, please take a short survey online at SouthOCStudysurvey.com. For more information, visit octa.net/SouthOCStudy.

2. **Post to your website:** You can use this image to post to your homepage. Link the image to the following LINK (*SouthOCStudysurvey.com).*

3. **Social media posting**: Post this LINK (*SouthOCStudysurvey.com)* on your social media page(s) or copy and paste the following text and this image into your social media accounts:

   - **A. Facebook:** *@goOCTA is considering mobility strategies and solutions in south Orange County. Share your feedback on alternative travel options that could help improve transportation in the area by taking a short community survey through April 15th at SouthOCStudysurvey.com or for more information, visit octa.net/SouthOCStudy.*
   - **B. Twitter:** *@goOCTA is seeking feedback on alternative travel options that could help improve transportation in south Orange County. Take a short community survey through April 15th at SouthOCStudysurvey.com or for more information, visit octa.net/SouthOCStudy.*
   - ***C.* Instagram:** *@goOCTA is considering mobility strategies and solutions in south Orange County. Share your feedback on alternative travel options that could help improve transportation in the area by taking a short community survey through April 15th at SouthOCStudysurvey.com or for more information, visit octa.net/SouthOCStudy.*

4. **Newsletter Announcement**: Provide information regarding the project and the community survey via your organization's newsletter. Copy and paste the following text into the body of the newsletter:

   The Orange County Transportation Authority (OCTA) wants to hear your feedback on alternative travel options that could help improve transportation in south Orange County. Through April 15th, please take a short survey online at SouthOCStudysurvey.com. For more information, visit octa.net/SouthOCStudy.

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Appendix D

Appendix D.2 Study Website

South Orange County Multimodal Transportation Study

PROJECT CONTACT

MARISSA ESPINO
Community Relations Officer
(714) 560-5607(tel:(714) 560-5607)
Mespino@octa.net(mailto:Mespino@octa.net)

SOUTH ORANGE COUNTY
MULTIMODAL TRANSPORTATION STUDY

Overview

Over the next 25 years, the population in south Orange County is anticipated to grow by 16 percent (about 170,000 residents), and employment is expected to grow by 18 percent (about 130,000 jobs). This growth will result in more people traveling throughout south Orange County and more time lost in traffic if we don't plan ahead. Therefore, the Orange County Transportation Authority (OCTA) is conducting a strategic transportation study that will consider transportation needs of residents, commuters, and visitors to the area. Through collaboration with local stakeholders, the South Orange County Multimodal Transportation Study (SOCMTS) will identify a broad range of improvement recommendations for all modes of transportation, including streets, transit, freeways and bikeways. The study will address south Orange County's mobility needs beyond the year 2045.

PUBLIC WEBINAR

Did you have a chance to attend the March 23 public webinar? If not, check it out here:

- SOCMTS Webinar: https://www.youtube.com/watch?v=f0qHLfGMlLc(https://www.youtube.com/watch?v=f0qHLfGMlLc)
- SOCMTS Webinar (Spanish): https://www.youtube.com/watch?v=sHlbV4c7yp4(https://www.youtube.com/watch?v=sHlbV4c7yp4)

Study objectives

- Work collaboratively with stakeholders
- Leverage all modes of transportation
- Address long-term mobility needs
- Develop consensus on a set of transportation improvements across all modes

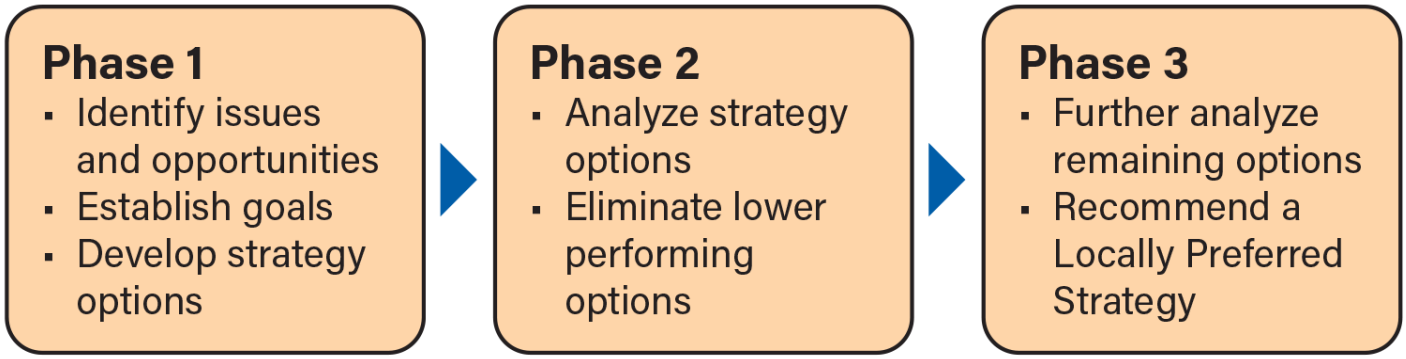
Study area

The Study area covers about 40 percent of the County from State Route 55 to the San Diego County line and from the coast to the foothills.

Project Status

The study is to be completed in spring 2022 and the public and key stakeholders will be involved throughout the study process.

Study Phases:



If you have any questions or would like to share a comment about the study, email Community Relations Officer Marissa Espino(mailto:mespino@octa.net) or call the survey hotline at 833-711-8070.

SIGN-UP FOR UPDATES AND ALERTS

GET CONNECTED

(/GETCONNECTED)

Appendix D

Appendix D.3 Stakeholder Email Database

Organization	Organization	Organization
3000 The Plaza Irvine Homeowners Association	Harvest Community Church of Irvine	Orange County Health Care Agency
5th Marine Regiment Support Group	Headrick Medical Center	Orange County Hispanic Chamber of Commerce
AAA - Automobile Club of Southern California	Hearthstone Housing Foundation	Orange County Small Business Development Center
Acres of Love	Heritage Committee	Orange County United Way
Aegean Heights Homeowners Association	Heritage Hill Historic Park	Orange County Visitors Association
Affordable Housing Access Inc	Hilton Orange County/Costa Mesa	Orange County Women in Networking
Aliso Creek Church	Hoag Health Center	Orange County Youth Chamber of Commerce
Aliso Viejo Chamber of Commerce	Hoag Memorial Hospital Presbyterian	Our Father's Table
Aliso Viejo Community Association	Hotel Joaquin/ Laguna Beach Chamber of Commerce	Our Lady of Pillar Catholic Church
Aliso Viejo Country Club	I.C.A.R.E Dog Rescue	Outlets at San Clemente
Aliso Viejo Ranch	i-5 Freedom Network	Pacific Marine Mammal Center
Alliance for a Healthy Orange County	ICU Medical	PADI
Ambridge Maintenance Association (Accell Property Management)	Immaculate Heart of Mary Catholic Church	Palm Tree Communities
American Institute of Architects Orange County	Irvine Business Complex	Palmia Master Association
American Lung Association in California	Irvine Community Church	Panasonic Avionics Corporation
American Planning Association- Orange County Chapter	Irvine Company	Pedego Electric Bikes
Amtrak	Irvine First Chinese Baptist	Pet Project Foundation
Applied Medical	Irvine Kiwanis Club	Pinot's Palette
Aquatic Technologies	Irvine Ranch Water District	Pintar Investement Company
Arroyo Vista Elementary YMCA	Irvine Rotary Club	Plaza Tower
Arthritis Center of Southern Orange County	Irvine Spectrum Center	Promenade Villas Homeowners Association
Ashford Place Maintenance Association (Keystone Pacific)	Irvine Unified School District	Quest Software
Asian Business Association Orange County	Irvine Valley College	R.D. Olson Development
Assistance League of Laguna Beach	Jax Bicycle Center	Race 4 the Environment
ASU University	John Wayne Airport	Rancho Cielo Home Owners Association (Seabreeze Management Company)
Auburn Homeowners Association (Action Property Management)	Journey Christian Church	Rancho Mission Viejo
Avanir Pharmaceuticals Inc	Jubilee Presbyterian Church in Irvine	Rancho Mission Viejo, LLC
Aventura Sailing	Julie Laughton Design Build/ Laguna Beach Chamber of Commerce	Rancho San Clemente Community Association (Curtis Management Co.)
AYSO	Kaiser Permanente Orange County Irvine Medical Center	Rancho Santa Margarita Chamber of Commerce
Bay Laurel Homeowners Association	Kawamura College Advisement	Rancho Santa Margarita Landscape and Recreation Corporation
BAYSIDE VILLAGE HOA	Kawasaki Motors Corp., U.S.A.	Rancho Santa Margarita Library
BAYVIEW TERRACE HOA	Kiwanis Club of Laguna Woods Village	Redan Medical Inc.
Bayview/Baycrest Court HOA	Kiwanis Club of Mission Viejo	Relay for Life
BEACON BAY COMMUNITY ASSOC.	Kiwanis Club of San Clemente	Rock Harbor Church
Bell Fleur Homeowners Association	Knights of Columbus	Rotary Club of Irvine
Bellwether Financial Group	Korean Community Services	Rotary Club of Laguna Niguel
Best Best and Krieger LLP	Korean Resource Center (KRC) - Orange County Office	Rotary Club of Mission Viejo
Bicycle Club of Irvine	Korean Resource Center (KRC), Orange County Office	Saddleback Adult Education SJC Campus
Blue Lagoon HOA (Action Property Management)	La Mirage at Aliso Viejo HOA (Total Property Management)	Saddleback Church (Irvine South Campus)
Blue Lantern Inn	La Vista HOA (Powerstone Property Management)	Saddleback Church Dana Point
BLUFFS H. O. COMMUNITY ASSOC.	Laguna Aesthetics and Vein Center	Saddleback College
Boys & Girls Club of Capistrano Valley	Laguna Beach Canyon Alliance Neighborhood Defense Organization	Saddleback Family & Urgent Care
Boys & Girls Club of the South Coast Area	Laguna Beach Chamber of Commerce	Saddleback Valley Unified School District
Boys and Girls Club Newport Beach	Laguna Beach Community Clinic	Saint Thomas More Church
Braille Institute - Laguna Hills	Laguna Beach Company/ Laguna Beach Chamber of Commerce	Salvation Army Church
Brio Tuscany Grille	Laguna Beach Historical Society	SAMLARC (Rancho Santa Margarita Landscape and Recreation Corporation)
Buchalter/ Laguna Beach Chamber of Commerce	Laguna Beach Interfaith Council	San Clemente Arts Association
Building Industry Association	Laguna Beach Library	San Clemente Chamber of Commerce
Burnham Ward Properties	Laguna Beach Net Works Christian Church	San Clemente Community Center
C. J. Segerstrom & Sons	Laguna Beach Riviera Lions Club	San Clemente Downtown Business Association
Cabrillo Playhouse	Laguna Beach Rotary Club	San Clemente Exchange Club
Cal State Fullerton	Laguna Beach Saddleback	San Clemente Green
California Avocado Society Inc	Laguna Beach Seniors	San Clemente Junior Woman's Club
California Bank & Trust/ Le Tip of Irvine Spectrum	Laguna Beach Unified School District	San Clemente Library
Caltrans, District 12	Laguna Beach United Methodist Church	San Clemente Medical Group
Calvary Chapel Costa Mesa	Laguna Beach Visitors Center	San Clemente Sunrise Rotary Club
Camden Park HOA (Optimum Professional Property Management)	Laguna Board of Realtors	San Clemente Times & Dana Point Times
Camino Health Center	Laguna Canyon Foundation	San Diego Gas and Electric
Canyon Estates Community Association	Laguna Coast Wilderness Park	San Juan Capistrano Fiesta Association
Capistrano Beach Care Center	Laguna Crest Estates Community Association (Accell Property Management)	San Juan Capistrano Historical Society
Capistrano Unified School District	Laguna Dana Urgent Care	San Juan Capistrano Library
Capo Beach Church	Laguna Health & Wellness Center	San Juan Capistrano Rotary Club
Captain's Hill HOA (Dana Pacific Management Services)	Laguna Hills Anticoagulation Clinic	San Juan Chamber of Commerce
Car Sound Exhaust System, Inc.	Laguna Hills Chamber of Commerce	San Onofre Parks Foundation
Cardinal Property Management	Laguna Hills Technology	Santa Ana Active Streets
Casa Romantica Cultural Center & Gardens	Laguna Niguel Chamber of Commerce	Santa Ana Business Council, Inc.
Casa Romantica Cultural Center and Gardens	Laguna Niguel Library	Santa Ana Chamber of Commerce
Casino San Clemente	Laguna Niguel Lions Club	Santa Ana College (SAC)
Casta Del Sol HOA	Laguna Niguel Republican Women Federated	Santa Ana Main Public Library
Catalina Express	Laguna Niguel Woman's Club	Santa Ana Unified Adult Transition
Center for Spiritual Living Capistrano Valley & Executive Suites at Talega	Laguna Playhouse/ Laguna Beach Chamber of Commerce	Santa Ana Unified School District (SAUSD)
Chamber of Commerce Mission Viejo	Laguna Presbyterian Church	Santa Margarita Water District
Chapman University	Laguna Sur HOA (Seabreeze Management)	Sawdust Art Festival
Chief Strategy Officer	Laguna Woods Democratic Club	SCKE - Odyssey Medical Group
Child Guidance Center, Inc.	Laguna Woods History Center	Sea & Sage Audubon Society
Chinese Baptist Church of Central Orange County	Laguna Woods Library	Sea & Sage Audubon Society - Orange County Chapter
Church By the Sea	Laguna Woods Village - Community Civic Association	Seniors in Transit
Church in Irvine	Lake Forest Chamber of Commerce	Serrano Creek Community Park
Church of Scientology of Orange County	Lake Forest Community Association	Shorecliffs Golf Course
City Harvest Church Orange County	Lake Forest Community Association	Sierra Club - Orange County Conservation Committee
City of Aliso Viejo	Lake Forest Golf and Practice Center	Sikh Center of Orange County
City of Costa Mesa	Lake Forest II - Ranchwood	SoCal Gas Company
City of Dana Point	Lake Forest II Master Homeowners Association	Soka Performing Arts Center
City of Irvine	Lake Forest Keys HOA	Soka University
City of Laguna Beach	Lake Forest Shores	South Coast Global Medical Center
City of Laguna Hills	Lake Forest Village Shopping Center	South Coast Medical Group
City of Laguna Niguel	Las Flores Elementary/ Middle School YMCA	South Coast Metro Alliance
City of Laguna Woods	Latino Health Access	South Coast Plaza
City of Mission Viejo	Laurelwood Homeowners Association	South Coast Roadrunners
City of Newport Beach	League of United Latin American Citizens (LULAC)	South Coast Water District
City of Newport Beach	Liberty Park	South County Chamber of Commerce
City of Rancho Santa Margarita	LIDO SANDS COMMUNITY ASSOCIATION	South County Outreach
City of San Clemente	Lions Club	South Laguna Civic Association
City of San Juan Capistrano	Lion's Heart - Aliso Viejo	South Orange County Community College District
City of Santa Ana	Little Balboa Property Owners Association	South Orange County Economic Coalition
City of Tustin	Little League	South Shores Church
Coalition for Clean Air	Little Saigon Foundation	Special Camp
Community Health Centers	Lowe's	Spectrum Church Irvine
Coast Hills Church	Main Place Mall	Spectrumotion
Coastland University Rancho Santa Margarita	MAKO Educational Foundation	St Edward the Confessor Parish School
Coastline Community College-Newport Beach	Marblehead Community Association (FirstService Residential)	St Francis By The Sea Catholic Church
Colinas De Capistrano Community Association	Marconi Automotive Museum	St. Joseph Health
College-Environmental Tech	Mares Foundation	St. Mary's Episcopal Church Laguna Beach
Columbus Grove HOA - Ainsley Park	Marina Hills Planned Community Association (Keystone Pacific)	Stanbridge University, Orange County
Columbus Grove HOA - Clarendon	Marine Adoption Committee	Summer Place Homeowners Association
Community Action Partnership of Orange County	Mariners Church	Sunhollow HOA (Accell Property Management)
Community Management Corporation	Marinita Homeowners Association	Sunset Place of Laguna Hills Homeowners Association
Community Outreach Alliance	Marque Urgent Care	Surf Rider Orange County Chapter
Compass Bible Church	McDowell School	Surfing Heritage and Culture Center

Organization	Organization	Organization
Concentra Urgent Care	Medical Concierge Mental Health Center	Surfrider Foundation
Concord USA/ Le Tip of Irvine Spectrum	Melissa Data	SVUSD
Concordia University Irvine	Memorial Care Health System	Talega Maintenance Corporation
Cornerstone HOA	Metro Town Square	Temple Hills Community Association
CORONA HIGHLANDS POA	MicroVention Inc	Terrace View Homeowners Association
Corpus Christi Church	Milano HOA (Action Property Management)	The ALS Guardian Angels Foundation
Costa Brava at Rancho Niguel	Mission Hospital	The Capistrano Dispatch
Costa Mesa Chamber of Commerce	Mission Hospital - Laguna Beach	The Chamber Newport Beach
Costa Mesa Marriott	Mission Viejo Activities Committee	The Chronically Awesome Foundation
Coto de Caza News	Mission Viejo Chamber of Commerce	The District at Tustin Legacy
County of Orange	Mission Viejo Community Foundation	The Doyle Foundation
Crown Valley Highlands Community Association	Mission Viejo Rotary Club	The Ecology Center
Crystal Cay HOA	Mission Viejo Senior Activities Committee	The Hydration Room IV and Injection Therapy
Crystal Cove Conservancy	Mobility 21	The Kennedy Commission
Cyprus Shore Homeowners Association	Modjeska Playhouse	The LAB Holding Company
Dana Point 5th Marine Regiment Support Group	MOMS Resource Center	The Laguna Beach Community Foundation
Dana Point Chamber of Commerce	Monarch Bay Plaza	The Laguna Playhouse
Dana Point Coastal Arts	Monarch Beach Master HOA (Keystone Pacific)	The Marina at Dana Point
Dana Point Community Center	Monarch Beach Promenade	The OC Marathon
Dana Point Fine Arts Association	Monarch Beach Resort	The Orchard
Dana Point Harbor Partners	Monarch Beach Sunrise Rotary Club	The Outlets at Orange
Dana Point Historical Society	Monarch Summit I HOA	The Redwoods Homeowners Association
Dana Point Lantern District Alliance	Moulton Niguel Water District	The Reserve at Rancho Mission Viejo
Dana Point Library	Moulton Ranch III (Action Property Management)	The Shops at Mission Viejo
Dana Point Marina Inn	Multi-Ethnic Collaborative of Community Agencies (MECCA)	The Village at Laguna Hills
Dana Point Physical Therapy	Music Preserves Foundation	The Westin South Coast Plaza
Dana Point Women's Community House	Nadadores - Dive	Tijeras Creek Elementary YMCA
Dana Point Yacht Club	Nadadores - Swim	Tijeras Creek Golf Club
Dana Wharf Sportfishing & Whale Watching	Neck & Back Medical Center	Toastmasters of Laguna Beach
Dennis and Leslie Power Library, Laguna College of Art and Design	Neighborhood Congregational Church	Trabuco Highlands Community Association (Keystone Pacific)
Destination Irvine	Nellie Gail Ranch Owners Association	Trabuco Mesa Park
Discovered Money	New Life Irvine	Traditional Fine Arts Organization
Doheny State Beach Interpretive Association	New University Newspaper, University of California, Irvine	Trails 4 All
Doheny State Park	Newport Beach Chamber of Commerce	Transit Advocates of Orange County
Dove Canyon Country Club	Newport Beach Foundation	Transportation Corridor Agencies
Downtown, Inc.	Newport Center Toastmasters	Turtle Rock Glen Community Association (Keystone Pacific)
EASTBLUFF HOMEOWNERS COMMUNITY ASSOC.	Newport Church	Tustin Chamber of Commerce
Edwards Lifesciences Corporation	Newport/Irvine Rotary Club	Tustin Community Foundation
Efficient Power Conversion Corporation	Newport-Mesa-Irvine Interfaith Council	Tustin Host Lions Club
El Toro Water District	Niguel Botanical Preserve	Tustin Meadows - West
Elks of Mission Viejo	Niguel Shores Community Association	Tustin Ranch Golf Club
Evolution Haiti	Norman P. Murray Community and Senior Center	Tustin Unified School District
Exodus3	OC Fair	Tustin/Santa Ana Rotary Club
Expressions HOA (Accell Property Management)	OC Health Care Agency	Unidos South OC Inc
Festival of Arts and Pageant of the Masters	OC Register	Unitarian Universalist Church
Firebrand Media/ Laguna Beach Chamber of Commerce	Ocean View Plaza	University of California, Irvine
FivePoint	O'Connell Landscape	University of Phoenix
Fluidmaster Inc	Octane OC	University of Southern California
Foothill Communities Association, Inc.	O'Neill Regional Park	Villa Pacifica Homeowners Association (c/o South Coast Property Management)
Fredric H. Rubel Fine Jeweler/ Laguna Beach Chamber of Commerce	Orange Coast College	Village Church of Irvine
Friends of Harbors, Beaches, and Parks	Orange County	Villagio 1 Community Association (Curtis Management Co.)
Friends of the Dana Point Headlands	Orange County Asian Pacific Islander Community Alliance (OCAPICA)	Vista La Cuesta Homeowners Association
Frisby Cellars Winery	Orange County Association of Realtors	Voyagers Bible Church
Future Leaders of Our Community	Orange County Bicycle Coalition	Vybed Out Radio
Gloria Dei Lutheran Church	Orange County Black Chamber of Commerce	Walmart Neighborhood Market
Good Shepard Lutheran Church	Orange County Business Council	We Rock The Spectrum Laguna Hills Kid's Gym
Grace City Church	Orange County Business Council (OCBC)	WIN-TEAM Racing
Great Opportunities	Orange County Coastkeeper	Women's Club of Laguna Beach
Greater Irvine Chamber of Commerce	for Responsible Development (OCCORD)	Woodbridge Community Church
Greater Light Family Church	Orange County Community Foundation	Wyland Foundation
Greater Orange County Lions Club	Orange County Council of Governments	Yesenia's Humanitarian Foundation
Harbor Christian Church	Orange County Department of Education	YMCA
HARBOR VIEW KNOLL COMMUNITY ASSN.	Orange County Fire Authority	Your Story Matters

Appendix D

Appendix D.4 Eblast #1 — Virtual Community Meeting, Survey and Virtual Meeting Room Invite

View this email in your browser

Help us plan for SOUTH ORANGE COUNTY'S TRANSPORTATION FUTURE

SOUTH ORANGE COUNTY
MULTIMODAL TRANSPORTATION STUDY

WE VALUE YOUR INPUT

The Orange County Transportation Authority (OCTA) wants to hear your feedback on how to improve streets, transit, freeways and bikeways in south Orange County in the future. Join us for our final virtual community meeting to get an update about the **South Orange County Multimodal Transportation Study (SOCMTS)** and ask questions.

We Want To Hear From You!

Please take a short survey online to share your feedback on alternative travel options that could help improve transportation in south county.

Survey Link: *SouthOCStudysurvey.com*

VIRTUAL MEETING ROOM

A Virtual Meeting Room will be open from Monday, March 14 to Friday, April 15, 2022 to learn more about the study, make comments and ask questions. Please visit octa.net/SouthOC Study to access the Virtual Meeting Room.

WHEN

Date: Wednesday, March 23, 2022
Time: 5:30 – 6:30 p.m.

A recording of the presentation will be available on the project website following the meeting.

WHERE

Online: https://bit.ly/3oVpj8z

US Phone: 1 669 900 6833

Webinar ID: 863 5463 2775

Passcode: 525228

All requests for reasonable accommodations and/or language services must be made three working days (72 hours) in advance of the scheduled meeting date by contacting Marissa Espino at mespino@octa.net or (833) 711-8070.

Todas las solicitudes sobre adaptaciones razonables a necesidades especiales y/o servicios deben realizarse tres días laborales (72 horas) antes de la reunión programada, contactando a Marissa Espino por correo electrónico (mespino@octa.net) o llamando al (833) 711-8070.

所有有关合理便利设施和/或语言服务的要求必须在预定的会议召开日期的三个工作日（72小时）之前提出，请发送电子邮件至 mespino@octa.net 或致电 (833) 711-8070 与Marissa Espino联系。

장애자를 위한 편의 제공이나 통역 요청은 반드시 회의 예정일 3 영업일(72시간) 전에 해야 합니다. 언략처는 마리사 에스피노(Marissa Espino) mespino@octa.net 또는 전화 (833) 711-8070.

Tất cả các yêu cầu về tiện nghi hợp lý và / hoặc dịch vụ ngôn ngữ phải được thông báo ba ngày làm việc (72 giờ) trước ngày họp được ấn định bằng cách liên lạc với Marissa Espino tại mespino@octa.net hoặc (833) 711-8070.

Para ver la invitación en español, visite: octa.net/SouthOCStudy
以简体中文查看邀请，请访问：octa.net/SouthOCStudy
한국어 초대장을 보시려면, 을 방문하십시오: octa.net/SouthOCStudy
Để xem lời mời bằng tiếng Việt, xin vui lòng truy cập: octa.net/SouthOCStudy

Marissa Espino,*Principal Community Relations Specialist*
Email: mespino@octa.net
Phone: (833) 711-8070
Project Site: octa.net/SouthOCStudy

Ayudenos a planificar el
FUTURO DEL TRANSPORTE
DEL CONDADO DE ORANGE DEL SUR

SOUTH ORANGE COUNTY
MULTIMODAL TRANSPORTATION STUDY

VALORAMOS SU OPINIÓN

La Autoridad de Transporte del Condado de Orange (OCTA, por sus siglas en inglés) quiere escuchar sus comentarios sobre opciones de viaje alternativas que podrían ayudar a mejorar el transporte en el sur del Condado de Orange. Únase a nosotros para una reunión comunitaria virtual para obtener más información sobre **el Estudio de Transporte Multimodal del sur del Condado de Orange (SOCMTS)** y hacer preguntas.

¡Queremos Saber Su Opinión!

Realice una breve encuesta en línea para compartir sus comentarios sobre las alternativas multimodales propuestas que ayudarán a mejorar el transporte en el sur del Condado de Orange en el futuro.

Enlace a la Encuesta: *SouthOCStudysurvey.com*

SALA DE REUNIONES VIRTUAL

También se abrirá una Sala de Reuniones Virtual desde lunes, 14 de marzo a viernes, 15 de abril de 2022 para aprender más sobre el estudio, hacer comentarios y hacer preguntas. Visite octa.net/SouthOC Study para acceder a la Sala de Reuniones Virtual.

CUANDO

Fecha: Miércoles, 23 de marzo de 2022
Horario: 5:30 - 6:30 p.m.

Una grabación de la presentación estará disponible en el sitio web del proyecto después de la reunión.

DÓNDE

En línea: https://bit.ly/3oVpj8z

U.S. Phone: 1 669 900 6833

Webinar ID: 863 5463 2775

Passcode: 525228

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Email: mcspine@octa.net
Phone: (833) 711-8070
Project Site: octa.net/SouthOCStudy

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Appendix D

Appendix D.5 Eblast #2 — Thank You for Joining Our Virtual Community Meeting, Survey and Virtual Meeting Room Reminder

View this email in your browser

THANK YOU FOR JOINING US!

Thank you for virtually attending our **South Orange County Multimodal Transportation Study (SOCMTS)** Community Meeting on March 23rd! We had great dialogue on transportation alternatives in south Orange County and enjoyed answering your questions about the study. If you were unable to attend the meeting, you can view the recording and presentation materials here on the project website.

Check out our Virtual Meeting Room and complete our survey by **April 15, 2022**! Your input is valuable in helping OCTA identify future mobility improvements in south Orange County.

Survey

Please take this short survey below. The survey is available in English, Spanish, Korean, Mandarin and Vietnamese.

Survey Link:
SouthOCStudysurvey.com

Virtual Meeting Room

Visit our Virtual Meeting Room to view project boards, make comments and ask questions. Please visit octa.net/SouthOCStudy to access the Virtual Meeting Room.

Share the survey and Virtual Meeting Room with family, friends, neighbors, or colleagues who live, work, or visit south Orange County.

We look forward to hearing from you!

Email: mespino@octa.net
Phone: 833.711.8070
Project Site: octa.net/SouthOCStudy

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Appendix D

Appendix D.6 Eblast #3 — Survey and Virtual Meeting Room Last Chance

View this email in your browser

LAST CHANCE TO TAKE OUR SURVEY!

The **South Orange County Multimodal Transportation Study (SOCMTS)** final phase is coming to an end, this is your last chance to take our survey and to visit our Virtual Meeting Room! Your input is valuable in helping OCTA identify future mobility improvements in south Orange County. The survey and Virtual Meeting Room will be closing this **Friday, April 15, 2022**.

Survey

Please take this short survey below. The survey is available in English, Spanish, Korean, Mandarin and Vietnamese.

Survey Link:
SouthOCStudysurvey.com

Virtual Meeting Room

Visit our Virtual Meeting Room to view project boards, make comments and ask questions. Please visit octa.net/SouthOCStudy to access the Virtual Meeting Room.

Share the survey and Virtual Meeting Room with family, friends, neighbors, or colleagues who live, work, or visit south Orange County.

We look forward to hearing from you!

Marissa Espino, *Principal Community Relations Specialist*
Email: mespino@octa.net
Phone: 833.711.8070
Project Site: octa.net/SouthOCStudy

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Appendix D

Appendix D.7 Virtual Community Meeting, Survey and Virtual Meeting Room Postcard (English; Spanish; Mandarin; Korean; Vietnamese)

Help us plan for **SOUTH ORANGE COUNTY'S** TRANSPORTATION FUTURE

Ayúdenos a planificar el FUTURO DEL TRANSPORTE del condado de Orange del sur

SOUTH ORANGE COUNTY MULTIMODAL TRANSPORTATION STUDY

The Orange County Transportation Authority (OCTA) wants to hear your feedback on proposed multimodal alternatives that would improve streets, transit, freeways and bikeways for the **South Orange County Multimodal Transportation Study (SOCMTS)**. Join us for a virtual community meeting to learn more about the Study and ask questions.

La Autoridad de Transporte del Condado de Orange (OCTA, por sus siglas en inglés) quiere escuchar sus comentarios sobre opciones de viaje alternativas que podrían ayudar a mejorar el transporte en el sur del Condado de Orange. Únase a nosotros para una reunión comunitaria virtual para obtener más información sobre ***el Estudio de Transporte Multimodal del sur del Condado de Orange (SOCMTS)*** *y hacer preguntas.*

We Want To Hear From You!

¡Queremos Saber Su Opinión!

Please take a short survey online to share your feedback on proposed multimodal alternatives that will help improve transportation in south Orange County in the future.

Realice una breve encuesta en línea para compartir sus comentarios sobre las alternativas multimodales propuestas que ayudarán a mejorar el transporte en el sur del Condado de Orange en el futuro.

Survey Link / *Enlace a la Encuesta: SouthOCStudysurvey.com*

VIRTUAL MEETING ROOM / *SALA DE REUNIONES VIRTUAL*

A Virtual Meeting Room will also be open from Monday, March 14 to Friday, April 15, 2022 to learn more about the study, make comments and ask questions. Please visit octa.net/SouthOCStudy to access the Virtual Meeting Room.

También se abrirá una Sala de Reuniones Virtual desde lunes, 14 de marzo a viernes, 15 de abril de 2022 para aprender más sobre el estudio, hacer comentarios y hacer preguntas. Visite octa.net/SouthOCStudy para acceder a la Sala de Reuniones Virtual.

WHEN / *CUANDO*

Date / *Fecha*:

Wednesday, March 23, 2022 /
Miércoles, 23 de marzo de 2022

Time / *Horario*: 5:30-6:30 p.m.

A recording of the presentation will be available on the project website following the meeting.

Una grabación de la presentación estará disponible en el sitio web del proyecto después de la reunión.

WHERE / *DÓNDE*

Online / En línea: https://bit.ly/3oVpj8z

US Phone: 1 669 900 6833

Webinar ID: 863 5463 2775

Passcode: 525228

Languages and Other Needs / *Idiomas y Otras Necesidades*

All requests for reasonable accommodations and/or language services must be made three working days (72 hours) in advance of the scheduled meeting date by contacting Marissa Espino at mespino@octa.net or (833) 711-8070.

Todas las solicitudes sobre adaptaciones razonables a necesidades especiales y/o servicios deben realizarse tres días laborales (72 horas) antes de la reunión programada, contactando a Marissa Espino por correo electrónico (mespino@octa.net) o llamando al (833) 711-8070.

한국어 초대장을 보시려면, 을 방문하십시오:

octa.net/SouthOCStudy

以简体中文查看邀请，请访问: octa.net/SouthOCStudy

Để xem lời mời bằng tiếng Việt, xin vui lòng truy cập: octa.net/SouthOCStudy

Marissa Espino
Principal Community Relations Specialist
mespino@octa.net
833.711.8070
octa.net/SouthOCStudy

Help us plan for **SOUTH ORANGE COUNTY'S** TRANSPORTATION FUTURE

Ayúdenos a planificar el FUTURO DEL TRANSPORTE del condado de Orange del sur

OCTA

Orange County Transportation Authority
C/O Marissa Espino
PO Box 14184
Orange, CA 92863-1584

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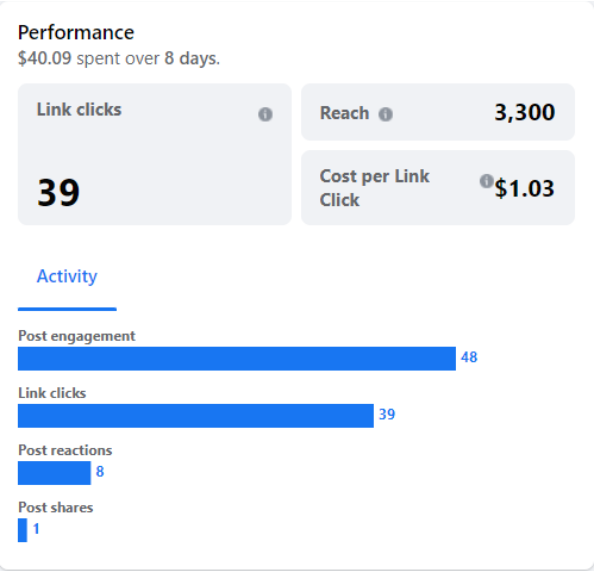
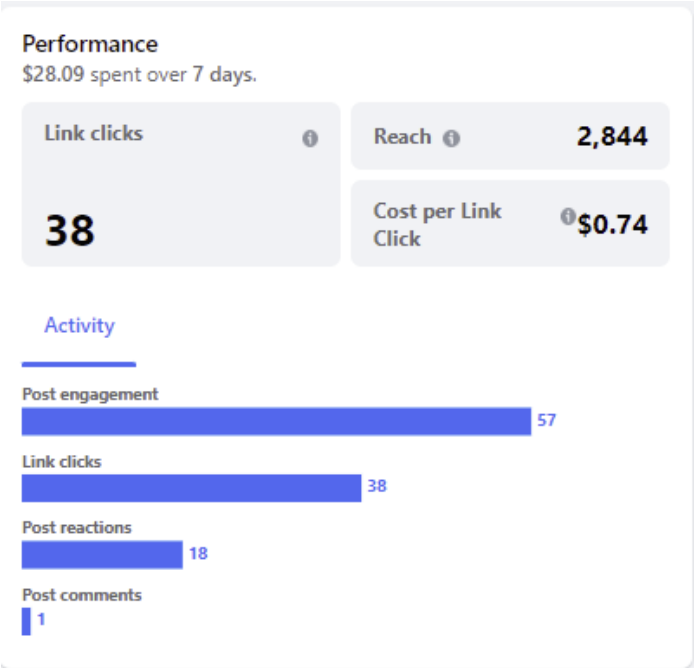
Appendix D

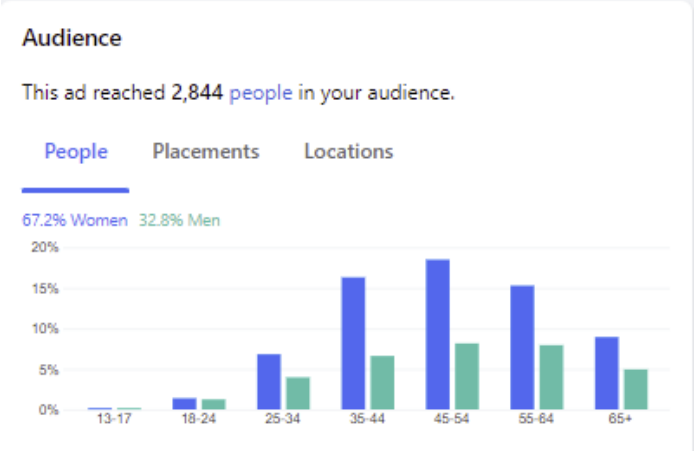
Appendix D.8 Facebook Posts

3/15/22 English Advertisement



3/15/22 Spanish Advertisement

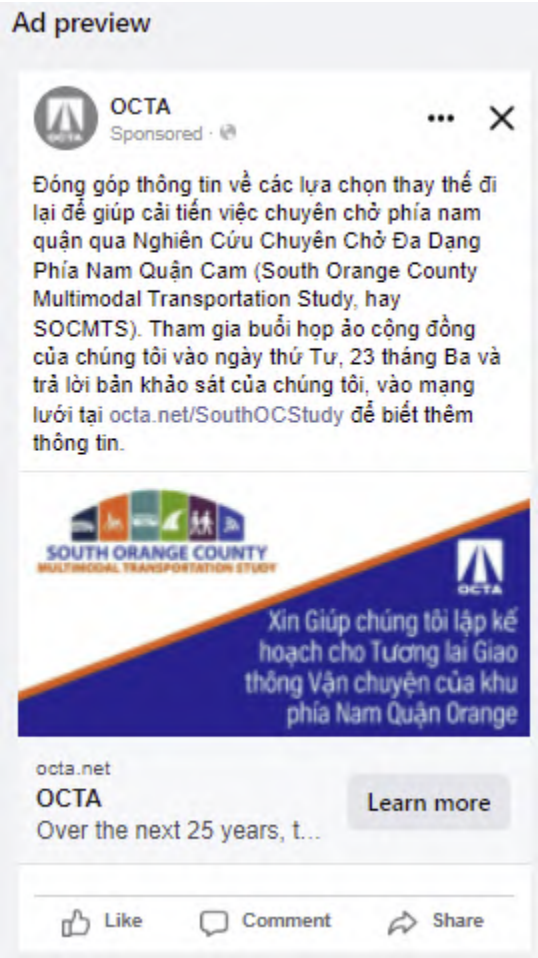


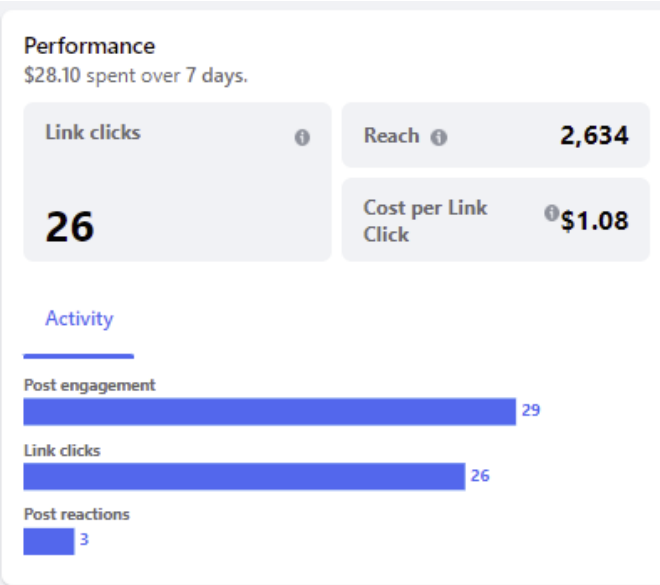


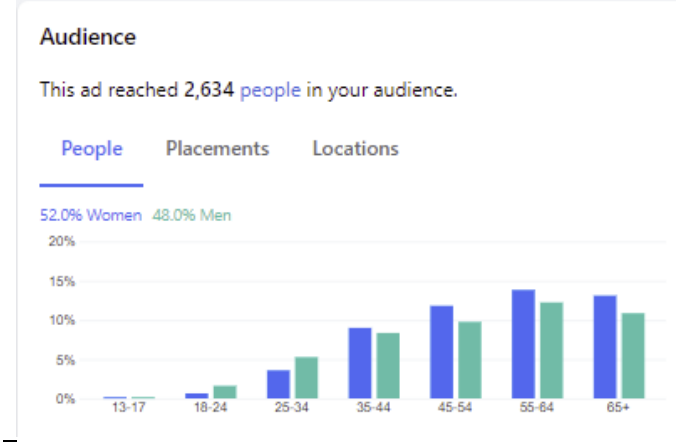
3/15/22 Korean Advertisement

3/15/22 Chinese Advertisement

3/15/22 Vietnamese Advertisement







3/22/2022 Regular Post

OCTA
Published by Sprinklr Prod2 · March 22 ·

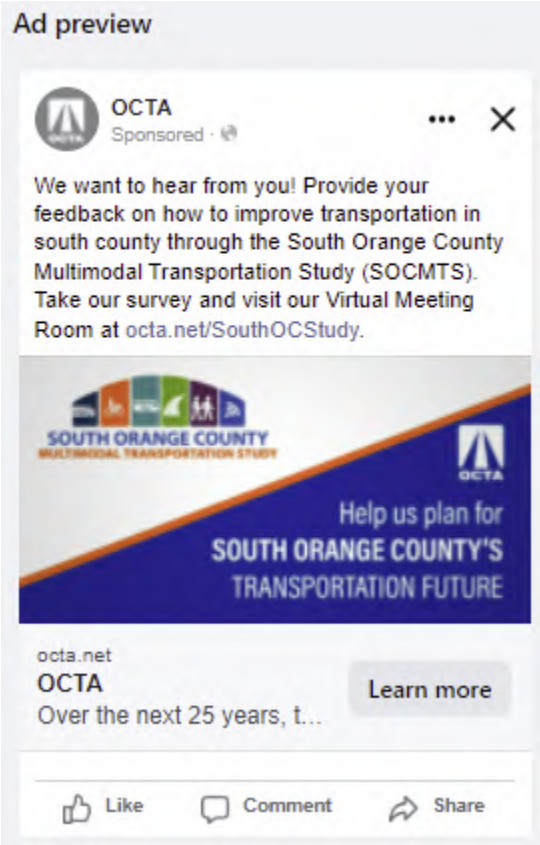
Join our virtual community meeting tomorrow from 5:30 to 6:30 p.m. for the South Orange County Multimodal Transportation Study (SOCMTS). Learn more about alternative travel options that could improve mobility in south Orange County at octa.net/SouthOCStudy.

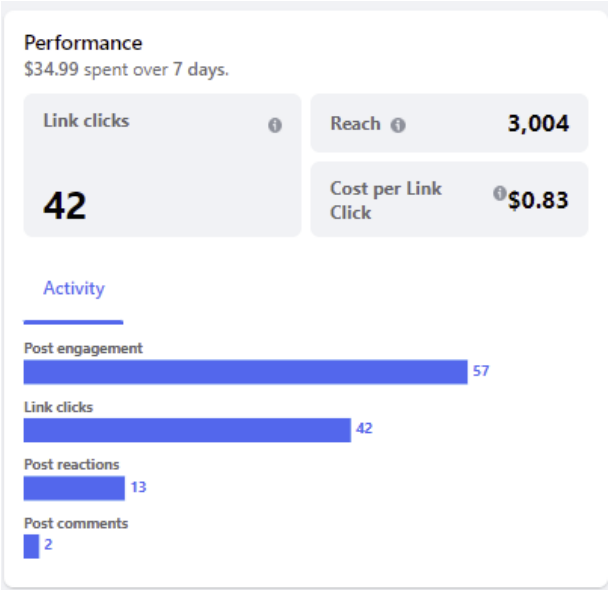
OCTA.NET
South OC Multimodal Transportation Study
This study will consider the transportation needs of residents and v...

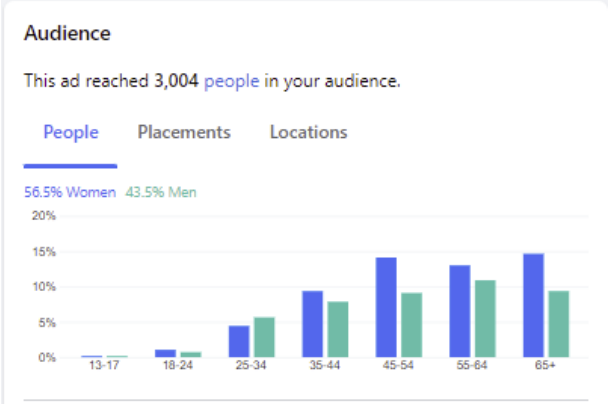
253	2	↓ -1.5x lower	Boost a post
People reached	Engagements	Distribution score	

2

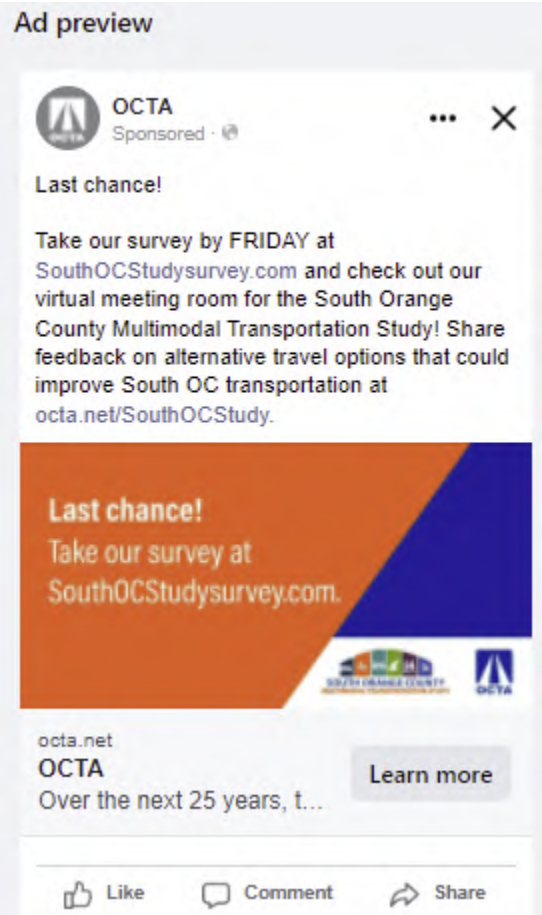
3/30/22 English Advertisement

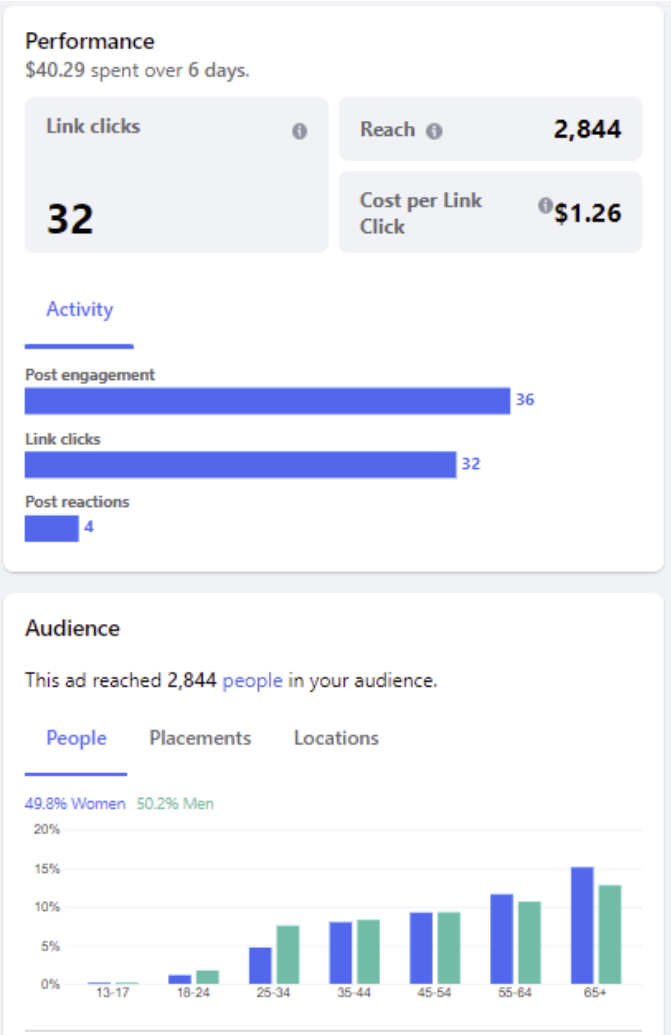




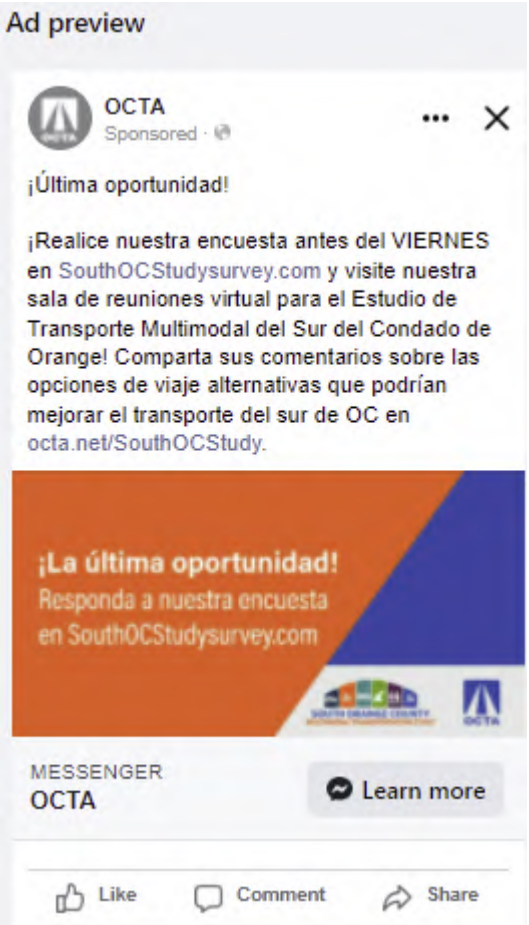


4/8/22 English Advertisement

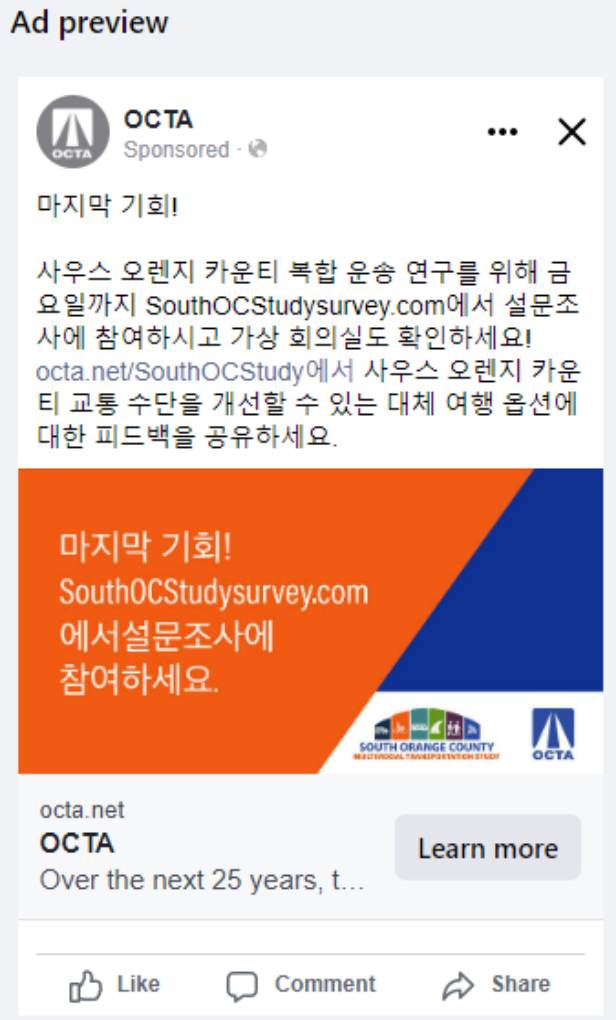


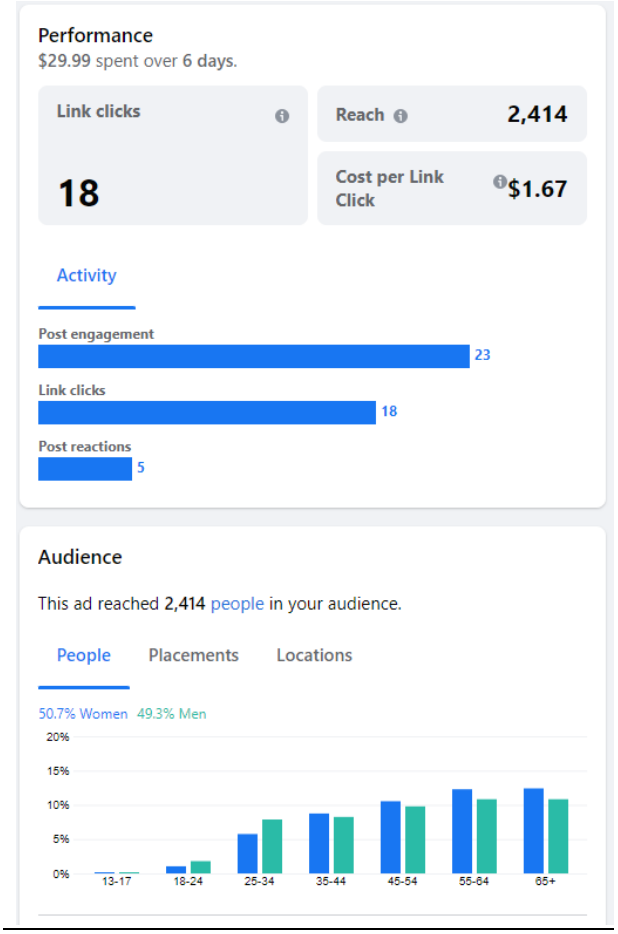


4/8/22 Spanish Advertisement

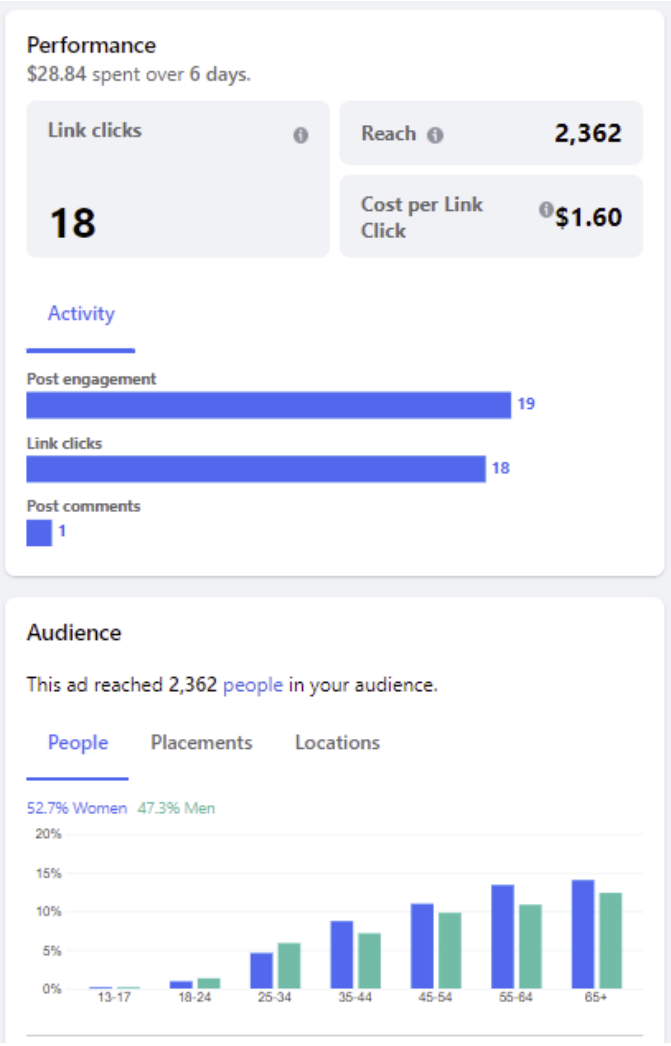


4/8/22 Korean Advertisement

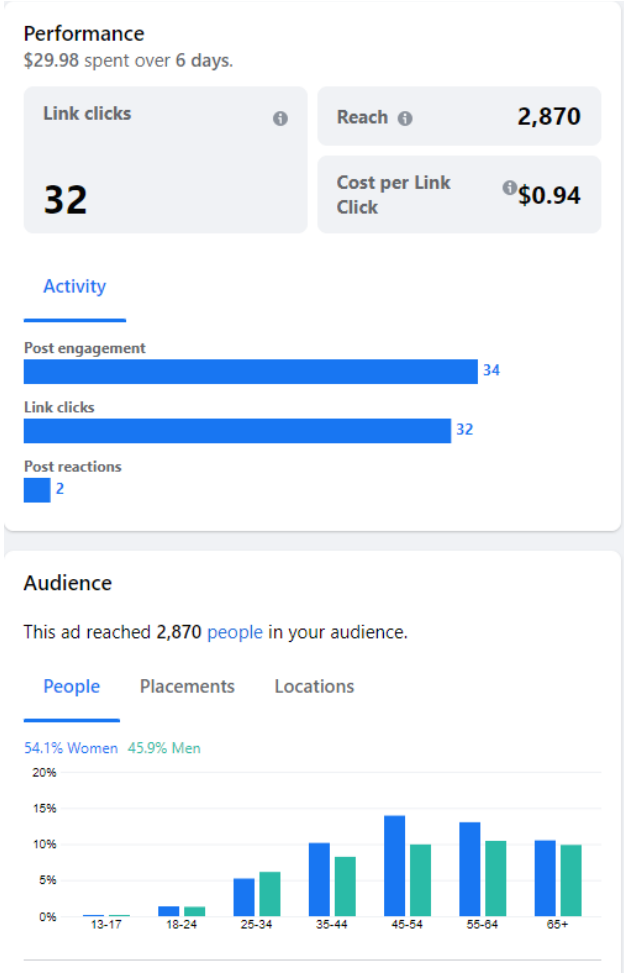




4/8/22 Chinese Advertisement



4/8/22 Vietnamese Advertisement



4/13/2022 Regular Post

OCTA
Published by Sprinklr Prod2 · April 13 at 10:00 AM ·

Last chance! Take our survey by Friday at SouthOCStudysurvey.com and check out our virtual meeting room for the South Orange County Multimodal Transportation Study! Share your feedback at octa.net/SouthOCStudy.

OCTA.NET
South OC Multimodal Transportation Study
Over the next 25 years, the population in south Orange County is a...

204	4	↓ -1.9x lower	Boost post
People reached	Engagements	Distribution score	

1

Appendix D

Appendix D.9 Twitter Posts

3/22/22 Twitter Post

OCTA @goOCTA · Mar 22

Join our virtual community meeting tomorrow from 5:30 to 6:30 p.m. for the South Orange County Multimodal Transportation Study (SOCMTS). Learn more about alternative travel options that could improve mobility in south Orange County at octa.net/SouthOCStudy.

5 7

4/13/22 Twitter Post

Appendix D

Appendix D.10 OCTA Eblast

Help us plan for
SOUTH ORANGE COUNTY'S
TRANSPORTATION FUTURE

SOUTH ORANGE COUNTY
MULTIMODAL TRANSPORTATION STUDY

The Orange County Transportation Authority (OCTA) wants to hear your feedback on how to improve streets, transit, freeways and bikeways in south Orange County in the future. Join us for our final virtual community meeting to get an update about the South Orange County Multimodal Transportation Study (SOCMTS) and ask questions.

Attend Tonight's Virtual Community Meeting

Date: Wednesday, March 23, 2022
Time: 5:30-6:30 P.M.

Online: https://bit.ly/3oVpj8z
US Phone: 1 669 900 6833
Webinar ID: 863 5463 2775
Passcode: 525228

(A recording of the presentation will be available on the project website following the meeting.)

We Want to Hear From You!

Please take a short survey online to share your feedback on alternative travel options that could help improve transportation in south county.

Survey Link: SouthOCStudysurvey.com.

Virtual meeting Room

A Virtual Meeting Room will be open from Monday, March 14 to Friday, April 15, 2022 to learn more about the study, make comments and ask questions. Please visit octa.net/SouthOC Study to access the Virtual Meeting Room.

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Orange, CA, 92863-1584, USA
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Appendix D

Appendix D.11 On the Move Article

Help Plan South Orange County's Transportation Future

Thursday, March 24, 2022

Share Tweet Share

During the next 25 years, the population in south Orange County is anticipated to grow by 16 percent (about 170,000 residents), and employment is expected to grow by 18 percent (about 130,000 jobs). This growth will result in more people traveling throughout south Orange County.

OCTA is studying future transportation needs and identifying improvement recommendations for all modes of transportation, including streets, transit, freeways and bikeways. The area covered by the study encompasses about 40 percent of Orange County, generally south of State Route 55 to the San Diego County line, and from the coast to the foothills.

Please take a short survey to share your feedback on alternative travel options that could help improve travel in south Orange County.

To learn more about the South Orange County Multimodal Transportation Study (SOCMTS), ask questions and make comments, visit the virtual meeting room through April 15. You can access the meeting room through the study website.

Related Posts

Celebrating Diversity All Year

During Celebrating Diversity Month in April and throughout the year, OCTA embeds diversity, equity and inclusion into everything

Last Chance! Apply by May 2 for Taxpayer Oversight Committee

Help uphold the integrity of OC Go by ensuring that all revenue is spent on voter-approved transportation projects.

Applications Due May 2 for Taxpayer Oversight Committee

Help ensure transportation projects specified in OC Go are built as promised.

Blog Categories

BUS

RAIL

RIDESHARE & ACTIVE

FREEWAY & STREETS

SUSTAINABILITY

AE

SIGN-UP FOR UPDATES AND ALERTS GET CONNECTED

STAY CONNECTED

Orange County Transportation Authority

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Appendix E
Local Community Events

Appendix E.1 Survey Presentation Board

Appendix E.2 Aliso Viejo Farmers Market Photos

Appendix E.3 San Juan Capistrano Spring Eggstravaganza Photos

Appendix E

Appendix E.1 Survey Presentation Board

Help us plan for
SOUTH ORANGE COUNTY'S
TRANSPORTATION FUTURE

SOUTH ORANGE COUNTY
MULTIMODAL TRANSPORTATION STUDY

We Want To Hear From You!

Take our short survey online to share your feedback on proposed multimodal alternatives that will help improve transportation in south Orange County in the future.

Survey Link:
SouthOCStudysurvey.com

Visit our Virtual Meeting Room!

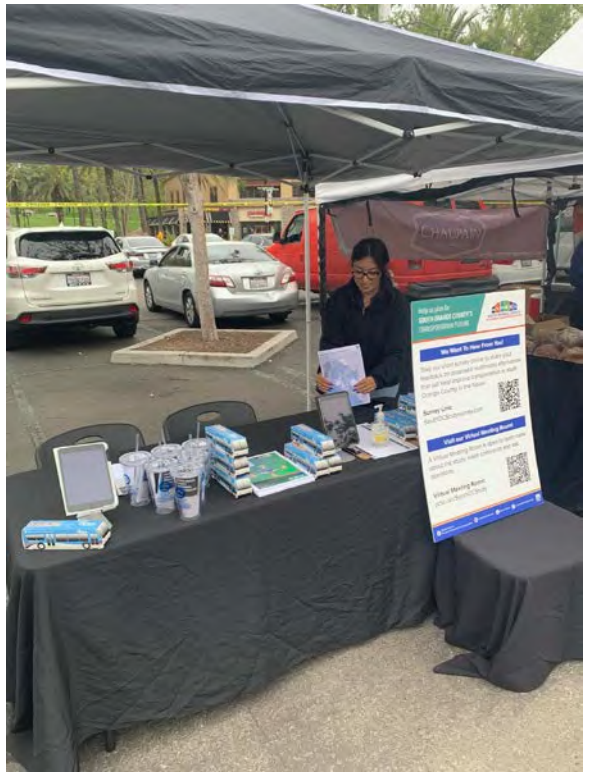
A Virtual Meeting Room is open to learn more about the study, make comments and ask questions.

Virtual Meeting Room:
octa.net/SouthOCStudy

Marissa Espino
Principal Community Relations Specialist
mespino@octa.net
833.711.8070
octa.net/SouthOCStudy
OCTA

Appendix E

Appendix E.2 Aliso Viejo Farmers Market Photos



Appendix C

Appendix C.3 San Juan Capistrano Spring Eggstravaganza Photos

Help us plan for:
SOUTH ORANGE COUNTY'S
TRANSPORTATION FUTURE
We Want To Hear From You!
Take our short survey online to share your feedback on proposed multimodal alternatives that will help improve transportation in south Orange County in the future.
Survey Link:
SouthOCStudySurvey.com
Visit our Virtual Meeting Room!
A Virtual Meeting Room is open to learn more about the study, make comments and ask questions.
Virtual Meeting Room:
octa.net/SouthOCStudy

SOUTH ORANGE COUNTY
MULTIMODAL TRANSPORTATION STUDY
UPDATE

June 6, 2022

Regional Planning and Highways Committee

Study Objectives

- Identify long-term mobility needs and challenges through 2045 and beyond
- Conduct robust public and stakeholder engagement
- Develop consensus on a multimodal transportation system vision
- Provide direction to develop focused strategies and project-level studies

Study Scope Highlights

We are here

Phase 1

- Identify Issues and Opportunities
- Develop Purpose and Need Statement
- Develop Initial Multimodal Solutions

2020

Phase 2

- Screen Initial Multimodal Solutions
- Select Reduced Set of Multimodal Solutions

2021

Phase 3

- Analyze Reduced Set of Multimodal Solutions
- Recommend a Locally Preferred Strategy

2022

Purpose and Need Statement

Make public transit, bicycling, and walking more convenient and accessible

•Increase availability of transit service and infrastructure for bicycling and walking | Provide convenient connections between travel modes (ex. transit and bicycling) | Coordinate with land-use development

Decrease the overall number of trips made each day

•Reduce overall travel demand | Enhance transportation safety and efficiency | Better utilize available freeway lanes, carpool lanes (high-occupancy vehicle lanes), and street space

Protect the environment and preserve transportation infrastructure

•Increase zero-emission vehicles | Improve access to clean, affordable travel options | Preserve transportation infrastructure from natural disasters | Minimize adverse environmental impacts

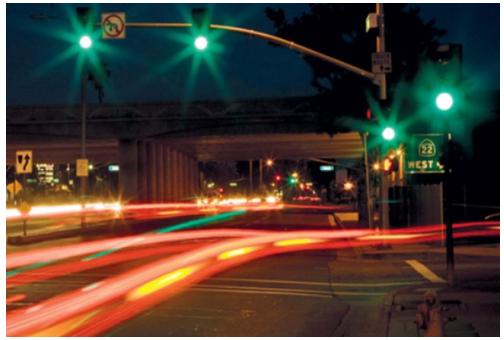
Adapt to new transportation technologies and services

•Consider autonomous vehicles or electric charging infrastructure | Pursue proven technologies | Support equity and innovation | Support telework strategies

Multimodal Solutions

Relieve Freeway Bottlenecks

Improve Carpool Lane Operations



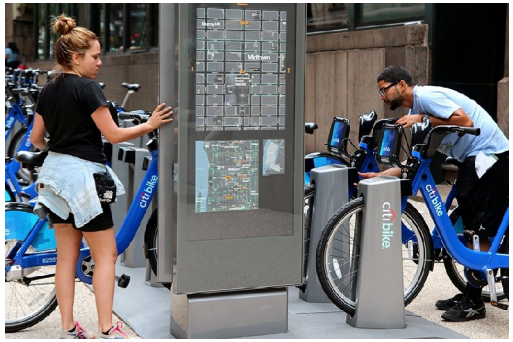
Improve Roadway Operations

High Frequency Transit

Local Circulators/Shuttles

Multimodal Solutions (continued)

Street Capacity for Active Transportation and Neighborhood Electric Vehicles



Mobility Hubs

On-Demand Microtransit Service (OC Flex)

Travel Demand Management (TDM)

Performance Targets

Caltrans' California Transportation Plan (CTP) 2050, SCAG's Connect SoCal 2020 (2020 RTP/SCS), and OCTA's LRTP were referenced as guides for establishing potential targets for benefits to be derived from implementation of the study's recommendations.

Quantitative Performance Measures	Potential Targets (based on CTP, SCAG RTP/SCS, OCTA LRTP)
Delay per capita	-14% from existing condition
GHG emissions reduction	-32% from existing condition
VMT reduction per capita	-8% from existing condition
Non-SOV (carpool, transit, bike, walk) mode share	+5% from existing condition

Caltrans – California Department of Transportation
GHG – Greenhouse Gas
LRTP - Long Range Transportation Plan
Non-SOV – Non-Single Occupant Vehicle/Drive Alone
RTP/SCS- Regional Transportation Plan/Sustainable Communities Strategy
SCAG - Southern California Association of Governments
VMT – Vehicle Miles Traveled

Preliminary Equity Analysis

- Identified areas in south Orange County with higher mobility needs based on the following indicators:
  - Low income
  - Zero car
  - Single-parent households
  - Disability population
  - Senior population
  - Communities of color
  - Limited English proficiency

- Next steps for the equity analysis: high-level assessment of how well the Multimodal Vision Alternatives address mobility and accessibility in the equity focus areas

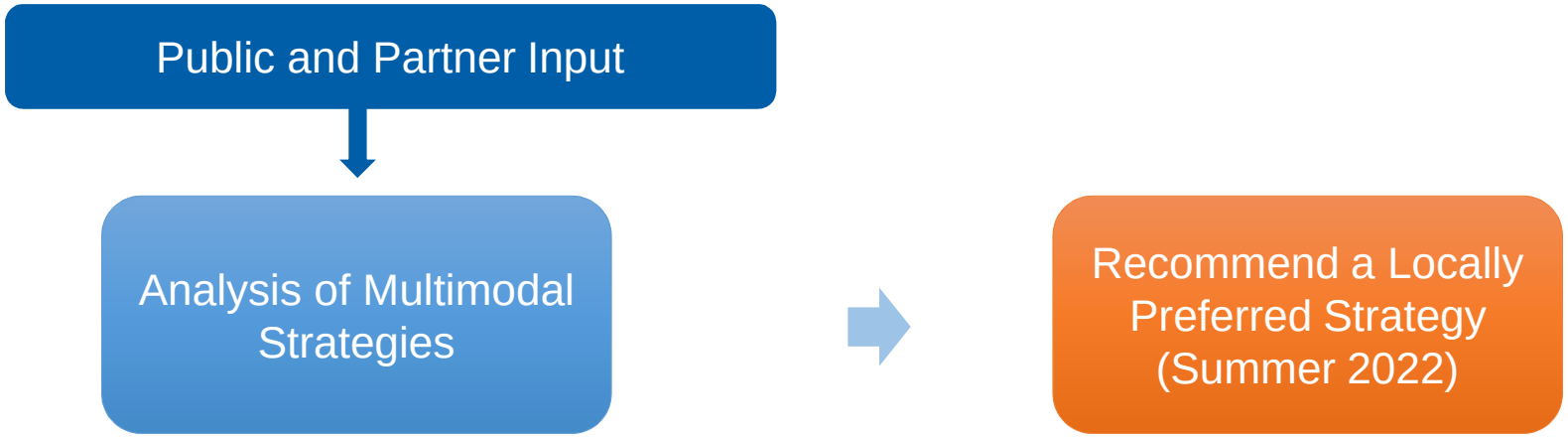
Public Engagement

Completed Phase 3 on 4/15:

- Online survey
- Digital media
- Postcards to disadvantaged communities
- Multilingual helpline
- Virtual meeting room
- Virtual stakeholder and elected officials roundtables and public webinar

Next Steps

- Complete evaluation of multimodal vision alternatives
- Engage with stakeholders and partner agencies on development of a locally preferred strategy
- Complete study by August 2022



COMMITTEE TRANSMITTAL

June 13, 2022

To: Members of the Board of Directors

From: Andrea West, Interim Clerk of the Board

Subject: Approval to Adopt the Mitigated Negative Declaration Finding for the Orange County Maintenance Facility Project

Transit Committee Meeting of June 9, 2022

Present: Directors Jones, Jung, Nguyen, and Sarmiento
Absent: Directors Do and Harper

Committee Vote

This item was passed by the Members present.

Committee Recommendation

Adopt Resolution No. 2022-025 to adopt the Mitigated Negative Declaration and Mitigation Monitoring and Reporting Program, pursuant to the California Environmental Quality Act, for the Metrolink Orange County Maintenance Facility.

OCTA

June 9, 2022

To: Transit Committee

From: Darrell E. Johnson, Chief Executive Officer

Subject: Approval to Adopt the Mitigated Negative Declaration Finding for the Orange County Maintenance Facility Project

Overview

On July 21, 2020, the Orange County Transportation Authority, in cooperation with the Southern California Regional Rail Authority, entered into a Cooperative Agreement which defined roles, responsibilities, and funding for the preliminary engineering and environmental phase of the Metrolink Orange County Maintenance Facility. The Orange County Transportation Authority has been the lead agency for the preliminary engineering and environmental documentation. Board of Directors' adoption of the Mitigated Negative Declaration and Mitigation Monitoring and Reporting Program is required for the project to advance to the next phase.

Recommendation

Approve Resolution No. 2022-025 to adopt the Mitigated Negative Declaration and Mitigation Monitoring and Reporting Program, pursuant to the California Environmental Quality Act, for the Metrolink Orange County Maintenance Facility.

Discussion

The proposed Metrolink Orange County Maintenance Facility (OCMF) project is part of the Metrolink Southern California Optimized Rail Expansion Capital Program, which is primarily funded by the State of California's Transit and Intercity Rail Capital Program. The OCMF project (Project) is also included in the Federal Transportation Improvement Program (FTIP) as ORA210601.

The Project will construct a rail maintenance facility that will allow for locomotive and railcar servicing and storage facilities for Metrolink trains. The construction of the OCMF will improve Metrolink's operational efficiency and overall system performance. Metrolink currently operates three maintenance facilities across its

service area: Central Maintenance Facility (CMF) in Los Angeles, Eastern Maintenance Facility (EMF) in San Bernadino County, and the North County Transit District's Stuart Mesa Facility in northern San Diego County. These existing facilities are near or at near capacity. A facility located in Orange County will increase the capacity at CMF and EMF and allow for more efficient train movement.

The Project site is a 21.3-acre parcel of land purchased by the Orange County Transportation Authority (OCTA) from the City of Irvine (City) on March 9, 2015, for the express purpose of a commuter rail maintenance facility. The site is located within the railroad corridor between Milepost (MP) 183.3 and MP 184.5. The Project will include the construction of a new rail yard, a new rail bridge over the Bee Canyon Channel, lead tracks and yard tracks, storage, operations and maintenance buildings, train wash, ancillary structures, landscape improvements, and safety and security features (Attachment A). The Project also includes the construction of street and traffic signal improvements to the extension of existing Ridge Valley south of Marine Way to allow access to the Project site.

The Project requires federal and state environmental clearance. OCTA is the California Environmental Quality Act (CEQA) lead agency, and the Federal Transit Administration (FTA) is the National Environmental Policy Act lead agency.

Due to the Project location within Planning Area 51 of the updated City General Plan, adopted in June 2015, the proposed use is conditionally allowable under the existing zone subject to the approval of a Conditional Use Permit (CUP) per the City's zoning ordinance. The City is currently processing the CUP approval for the Project, which will include public hearings at the City's Transportation Commission and Planning Commission. The City would act in the capacity of a CEQA-responsible agency as defined by CEQA Guideline §15381, and in accordance with the process for a responsible agency as provided in CEQA guidelines, the City would adopt the final CEQA documentation as part of the City's consideration for approval of the CUP.

Preliminary plans have been completed to 30 percent design, and the site-specific analysis was done to address detailed environmental impacts associated with the Project. The findings support the conclusion that the Project will not have a significant impact on the environment with the implementation of mitigation measures during construction of the Project. The final Mitigated Negative Declaration (MND) comprises the environmental analysis and findings, and a discussion on public outreach efforts for the Project (Attachment B). The MND appendices include technical data and reports in support of the findings

therein, responses to public comments during the public circulation period, and the Mitigation Monitoring and Reporting Program (MMRP).

The discussion below summarizes the findings in the MND supporting the conclusion that the proposed Project will not result in significant effects on the environment with the implementation of mitigation measures.

In accordance with CEQA guidelines, the proposed Project was evaluated for its effect on 21 environmental factors. The results of this evaluation showed that the Project would have no impact, or less than significant impact on 13 of 21 environmental factors, including aesthetics, hydrology/water quality, recreation, utilities/services systems, agriculture and forestry resources, greenhouse gas emissions, land use/planning, population/housing, transportation, wildfire, energy, mineral resources, and public services.

The environmental evaluation anticipates the Project to have potentially significant temporary effect on the remaining eight environmental factors related to construction including air quality, biological resources, cultural resources, geology/soils (paleontological resources), hazards and hazardous materials, noise, tribal cultural resources, and mandatory findings of significance (quality of the environment and substantial adverse effects on humans and human beings). However, technical studies on these resource areas determined that the implementation of mitigation measures during Project construction would be sufficient to avoid potentially significant effects and reduce all impacts to less than significant.

Staff has prepared a MMRP in compliance with Public Resources Code 21081.6 and CEQA Guideline 15097 to ensure compliance with the mitigation measures identified in the final MND during project construction. It should be noted that the MMRP was made available for review as Appendix K of the MND. The MMRP includes construction mitigation measures to address environmental impacts prior to and during construction. In addition, some of the measures will require further coordination with regulatory agencies that are further detailed in the MND. These measures would reduce the level of impacts to less than significant for the Project.

A public notice of intent for the MND was released on February 28, 2022 through March 29, 2022, to allow the public, affected and interested parties, and agencies an opportunity to provide input on the MND during the public review period. OCTA's process for public outreach during preliminary design and environmental review included the following efforts:

- A virtual public meeting was held on October 5, 2021, via zoom to inform the public about the Project. The public was notified of the meeting via a

postcard distributed to all properties within 500-feet of the Project property. This 500-foot area included two residences within the Travata community, a 55 and older community, which is the closest residential community to the Project. It was decided that the while only two residents were within the 500-foot area, the whole Travata community would be included in the notification. Five members of the public attended. A recording of this meeting was made available on the Project website and sent to the Travata property manager for distribution to residents.

- On Thursday, Nov. 4, 2021, a member of the OCTA outreach team went to the Travata community to provide information on the Project to those that may have missed the virtual meeting. The invitation was coordinated through the Travata property manager, as this is a gated private community, who sent the invitation in an email to residents. There were approximately 15 people in attendance.

- On Wednesday, January 12, 2022, the OCTA outreach team and a member of the technical team went back to the Travata community to answer questions and provide detail about the environmental process. The invitation was again coordinated through the property manager. There were approximately 25 people in attendance.

- On Monday, March 14, 2022, the OCTA outreach team and members of the technical team went back to Travata to go into further detail about the information in the draft Initial Study (IS)/MND and answer any questions, and to reiterate the comment process. Comment cards were handed out at the meeting if people wanted to submit an official comment the same day. City staff were also present at the meeting. The invitation was also coordinated through the property manager. There were approximately 60 people in attendance.

- The draft IS/MND and notices were posted on the OCTA web page, sent to the Travata property manager for distribution to residents via emails, and officially noticed in the Orange County Register newspaper.

- A special email address link was implemented on the web page to facilitate interested parties to comment on the draft IS/MND.

- The MND was sent to the State Clearinghouse and 16 public agencies during the public review period, including the City, and was available for review at OCTA's administrative office. A hard copy was delivered to the Travata Community for review in their club house.

During the MND 30-day public review period, OCTA received approximately 90 written comments, mostly from the Travata Community, as well as a petition signed by 288 people against the Project. The comments were primarily focused on concerns of noise, pollution, traffic, and lighting. All these concerns have been studied and found to be less than significant. The following is a summary from the IS/MND of these issues:

Section 3.3 of the IS/MND states impacts related to air quality would be less than significant with mitigation measures incorporated, and the criteria air pollutant emissions associated with the proposed Project would not expose sensitive receptors to substantial criteria pollutant concentrations.

As detailed in Table 3.3-15, Summary of Excess Cancer Risks, of the MND, and shown in Figure 10.2-2 (Contour Map of 30-Year Residential Cancer Risk) of Appendix B of the MND, the maximum excess cancer risk for an individual is less than the South Coast Air Quality Management District threshold of ten in a million. Therefore, the Project would not expose the surrounding residents to significant air quality impacts.

Section 3.13 of the IS/MND states impacts related to noise would be less than significant with mitigation measures, and the generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the Project above the standards established in the local general plan or noise ordinance, or applicable standards of other agencies would be less than significant. Additionally, total Project sound levels would not meet or exceed the FTA thresholds for both on-site operational noise sources associated with the rail shops and yard, as well as automobile and truck traffic moving in and out of the Project site.

Section 3.17 of the IS/MND states impacts related to vehicle miles traveled would be less than significant. The estimated daily trip volumes would not exceed local or regional thresholds and meets the requirements of the Congestion Management Program Highway System.

Section 3.1 of the IS/MND states sensitive receptors (the Great Park and residences) would be too far from the Project site to experience spillover lighting from security lighting. Additionally, the nighttime lighting fixtures would be installed to direct the majority of the light adjacent to the OCMF, and away from sensitive areas to the maximum extent feasible. Therefore, impacts would be less than significant. This section also states views from the residences located to the northwest of the Project site would be blocked by existing mature trees on their properties, as well as the concrete wall that surrounds the residential complex. The view would also be blocked by fencing that would surround the Project site during construction and a six-foot concrete wall with landscaping during operations. The Project would not substantially alter the visual character for residential viewers primarily due to the distance of the Project buildings from the

residential viewers, and because the residences are surrounded by an existing tall concrete wall and large trees within their property. Additionally, no aesthetically significant view or landmark would be altered or blocked. Therefore, impacts would be less than significant.

The final MND is presented to the Board of Directors (Board) for adoption as the final environmental document (Attachment C). If the Board approves the MND, a Notice of Determination will be filed with and posted at the Orange County Clerk's office and the State Clearinghouse. In addition, staff will continue working with the City in their assessment and consideration of the CUP approval.

Summary

The MND for the OCMF indicates the Project would not have a significant effect on the environment with incorporation of the mitigation monitoring and reporting measures. The MND was circulated to allow the public, affected and interested parties, and agencies an opportunity to provide input on the MND during the public review process. The responses to questions/comments submitted is not part of the CEQA requirements but have been incorporated into the appendices of the MND. Staff recommends the Board approve Resolution No. 2022-025 to adopt the MND and MMRP, pursuant to the CEQA guidelines, for the OCMF.

Attachments

A. Metrolink Orange County Maintenance Facility - Project Location
B. Metrolink Orange County Maintenance Facility Project, Initial Study/Mitigated Negative Declaration Appendices, Dated June 2022
C. Resolution No. 2022-025

Prepared by:

Lora Cross
Project Manager
(714) 560-5788

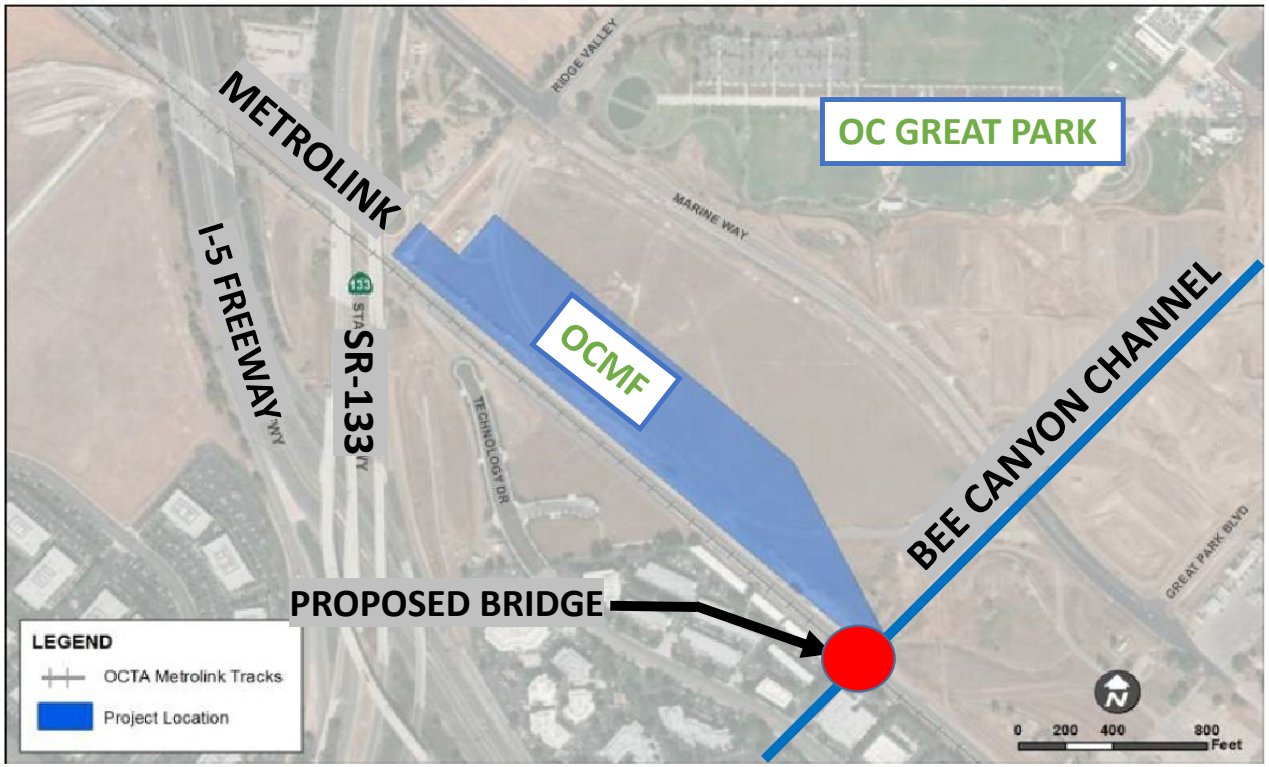
Approved by:

James G. Beil, P.E.
Executive Director, Capital Programs
(714) 560-5646

Metrolink Orange County Maintenance Facility – Project Location

- **LOCATION:** CITY OF IRVINE
- **PROPERTY OWNER:** OCTA
- **USE:** METROLINK MAINTENANCE FACILITY

FIGURE 2: PROJECT LOCATION



Source: Google Maps, 2018

ATTACHMENT B

METROLINK ORANGE COUNTY MAINTENANCE FACILITY PROJECT

INITIAL STUDY/
MITIGATED NEGATIVE DECLARATION

ORANGE COUNTY TRANSPORTATION AUTHORITY

June 2022

Initial Study/
Mitigated Negative Declaration

Metrolink Orange County Maintenance Facility Project

Orange County Transportation Authority
June 2022

Prepared for:
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Los Angeles, CA 90017

Prepared by:
AECOM
401 W A St., Suite 1200
San Diego, CA 92101

Review Log

REVISION	DESCRIPTION	DATE
0	Administrative Draft IS/MND	05/28/2021
1	Revised Administrative Draft IS/MND	08/30/2021
2	Draft IS/MND	12/09/2021
3	Revised Draft IS/MND	02/15/2022
4	Revised Draft IS/MND	02/23/2022
5	Final IS/MND	04/01/2022
6	Revised Final IS/MND	05/05/2022

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Appendix G Paleontological Resources Technical Memorandum
Appendix H Traffic Technical Memorandum
Appendix I Public Outreach
Appendix J Response to Comments
Appendix K Mitigation Monitoring and Reporting Program

Acronyms and Abbreviations

AB	Assembly Bill
ACM	Asbestos-containing materials
ADA	Americans with Disabilities Act
afy	Acre-feet per year
APSA	Aboveground Petroleum Storage Act
APE	Area of Potential Effect
AQAP	Air quality attainment plans
AQMD	Air Quality Management District
AQMP	Air Quality Management Plan
ARB	California Air Resources Board
AT&SF	Atchison, Topeka and Santa Fe Railway
BATs	Best Available Technology
BCTs	Best Conventional Pollutant Control Technology
bgs	Below ground surface
BMP	Best Management Practice
BSA	Biological Survey Area
CAA	Clean Air Act
CAAQS	California Ambient Air Quality Standards
CalEEMod	California Emissions Estimator Model
CALGreen	California Green Building Standards Code
Caltrans	California Department of Transportation
CCAA	California Clean Air Act
CCR	California Code of Regulations
CDFW	California Department of Fish and Wildlife
CDFG	California Department of Fish and Game
CEQA	California Environmental Quality Act
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CESA	Californian Endangered Species Act
CFGC	California Fish and Game Code
CFR	Code of Federal Regulations
cfs	Cubic feet per second
CH_4	Methane
City	City of Irvine
CMF	Central Maintenance Facility
CMP	Congestion Management Program
CNDDB	California Natural Diversity Database
CNEL	Community Noise Equivalent Level
CNRA	California Natural Resources Agency
CO	Carbon monoxide

CO_2	Carbon dioxide
CO_2e	Carbon dioxide equivalent
CP	Control Point
CRHR	California Register of Historical Resources
CRMDP	Cultural Resources Monitoring and Discovery Plan
CRMMP	Cultural Resources Monitoring and Management Plan
CUP	Conditional Use Permit
CUPA	Certified Unified Program Agency
CWA	Clean Water Act
DAMP	Drainage Area Management Plan
dBA	A-weighted decibel
DCSD	Design Capture Storm Depth
Diesel PM	Diesel particulate matter
DOC	California Department of Conservation
DON	Department of the Navy
DON	United States Department of the Navy
DTSC	Department of Toxic Substances Control
DWR	Department of Water Resources
EIR	Environmental Impact Report
EIS	Environmental Impact Statement
EMA	California Emergency Management Agency
EMF	Eastern Maintenance Facility
EMFAC	Emission Factor
EPA	U.S. Environmental Protection Agency
EPCRA	Emergency Planning and Community Right-to-Know Act
ESA	Environmental Site Assessment
FEIR	Final Environmental Impact Report
FEMA	Federal Emergency Management Agency
FESA	Federal Endangered Species Act
FIRM	Flood Insurance Rate Map
FTA	Federal Transit Administration
GBN	Ground-Born Noise
GBV	Ground-Borne Vibration
GHG	Greenhouse gas
gpm	gallons per minute
GWP	Global Warming Potential
HCP	Habitat Conservation Plan
HFC	Hydrofluorocarbon
HMBP	Hazardous Materials Business Plan
HMMP	Habitat Mitigation and Monitoring Plan
HRA	Health Risk Assessment

I-405	Interstate 405
I-5	Interstate 5
IC	Institutional Control
IDR	Intensity Duration Recurrence
in/sec	Inches per second
IPaC	Information for Planning and Consultation
IRP	Installation Restoration Program
IRWD	Irvine Ranch Water District
IS/MND	Initial Study / Mitigated Negative Declaration
ITP	Incidental Take Permit
IUSD	Irvine Unified School District
kBtu	Thousand British Thermal Units
KOP	Key Observation Point
kWh	Kilowatt-hours
LARWQCB	Los Angeles Regional Water Quality Control Board
lbs/day	Pounds per day
L_{dn}	Day-night average sound level
L_{eq}	Equivalent sound level
LHMP	Local Hazard Mitigation Plan
L_{max}	Maximum sound level
L_{min}	Minimum sound level
LOP	Letter of Permission
LOS	Level of Service
LSAA	Lake and Streambed Alteration Agreement
LST	Localized Significance Threshold
LT	Long-Term
Magnuson-Stevens Act	Magnuson-Stevens Fisher Conservation and Management Act
MATES IV	Multiple Air Toxics Exposure Study IV
MBTA	Migratory Bird Treaty Act
MCAS	Marine Corps Air Station
MEIR	Maximally Exposed Individual Resident
MEIW	Maximally Exposed Individual Worker
Metrolink	SCRRA Metrolink Commuter Rail System
MLC	Mineral Land Classification
MMBTu	Million British Thermal Units
MMT	Million metric tons
MRZ	Mineral Resource Zone
MS4	Municipal separate storm sewer system
MT	Metric tons
MWD	Metropolitan Water District
N_2O	Nitrous oxide

NAAQS	National Ambient Air Quality Standards
NAHC	Native American Heritage Commission
NB	Northbound
NCCP	Natural Community Conservation Planning
NCTD	North County Transit District
NEPA	National Environmental Policy Act
NHTSA	National Highway Traffic and Safety Administration
NO_2	Nitrogen dioxide
NO_X	Nitrogen oxides
NPDES	National Pollutant Discharge Elimination System
NRHP	National Register of Historic Places
OCFA	Orange County Fire Authority
OCFCD	Orange County Flood Control District
OCGP	Orange County Great Park
OCHCA	Orange County Health Care Agency
OCMF	Orange County Maintenance Facility
OCTA	Orange County Transportation Authority
OCWD	Orange County Water District
OEHHA	Office of Environmental Health Hazard Assessment
OPR	Office of Planning and Research
OU	Operating Unit
P-C	Production and consumption
PFC	Perfluorocarbon
PMI	Point of Maximum Exposure
PM_{10}	Particulate matter less than 10 microns in diameter
$PM_{2.5}$	Particulate matter less than 2.5 microns in diameter
PP	Pocket penetrometer
PPV	Peak particle velocity
PRC	Public Resources Code
Project	Orange County Maintenance Facility
PVC	Polyvinyl chloride
Qyf	Quaternary Young Alluvial Fan
Qof	Old Alluvial Fan
RCB	Reinforced concrete box
RCP	Reinforced concrete pipe
RCRA	Resource Conservation and Recovery Act
REC	Recognized Environmental Condition
RGP	Regional General Permit
ROW	Right-of-way
RMS	Root mean square
RTP/SCS	Regional Transportation Plan/Sustainable Communities Strategy

RV	Recreational vehicle
RWQCB	Regional Water Quality Control Board
S&I	Service and Inspection
SAMP	Special Area Management Plan
SARA	Superfund Amendments and Reauthorization Act
SARWQCB	Santa Ana Regional Water Quality Control Board
SB	Senate Bill
SB	Southbound
SCAB	South Coast Air Basin
SCAG	Southern California Association of Governments
SCAQMD	South Coast Air Quality Management District
SCCIC	South Central Coastal Information Center
SCE	Southern California Edison
SCG	Southern California Gas
Scoping Plan	*Climate Change Scoping Plan. A Framework for Change*
SCORE	Southern California Optimized Rail Expansion
SCRRA	Southern California Regional Railroad Authority
SDC	San Diego Creek
SF_6	Sulfur hexafluoride
SGMA	Sustainable Groundwater Management Act
SGU	Shallow Groundwater Unit
SHPO	State Historic Preservation Officer
SLF	Sacred Lands File
SMARA	Surface Mining and Reclamation Act of 1975
SMGB	State Mining and Geology Board
SO_2	Sulfur dioxide
SO_X	Sulfur oxides
SPCC	Spill Prevention Control and Countermeasures
SR-133	State Route 133
SRA 19	Saddleback Valley Source Receptor Area
ST	Short-Term
SWPPP	Storm Water Pollution Prevention Plan
SWRCB	State Water Resources Control Board
TAC	Toxic air contaminant
TDP	Transportation Design Procedure
TMDLs	Total Maximum Daily Loads
TSCA	Toxic Substances Control Act
tsf	Tons per square feet
UBC	Uniform Building Code USACE U.S. Army Corps of Engineers
USACE	U.S. Army Corps of Engineers
USFWS	U.S. Fish and Wildlife Service

VdB	Velocity Level in Decibels (Vibration)
VMT	Vehicle Miles Traveled
VOC	Volatile organic compounds
WEAP	Worker Environmental Awareness Program
WL	Watch List
WMP	Waste Management Plan
WQMP	Water Quality Management Plan
$\mu g/m^3$	Micrograms per cubic meter

ORGANIZATION OF THIS DOCUMENT

This document is organized to comply with the guidelines for Initial Study and Mitigated Negative Declaration as provided in the 2021 California Environmental Quality Act (CEQA) Guidelines. As such, the organization of this document is as follows:

- **Environmental Factors Potentially Affected**. The language and format of this section are taken from Appendix G of the 2021 CEQA Guidelines, specifically Page 329. This section provides a determination of the Initial Study provided in Section 3. It also contains the signature of the lead agency.
- **Mitigated Negative Declaration**. This section contains a brief summary of the Project information. This section also provides a consolidated list all of the mitigation measures presented in Section 3 Initial Study. This listing of mitigation measures in this section is typical and similar in format to an executive summary.
- **Section 1 Introduction**. This section provides an introduction to the lead agency, the history of the proposed Project, and its setting.
- **Section 2 Project Description**. This section provides a detailed description of the proposed Project, its elements, and construction and operational information, as well as figures.
- **Section 3 Initial Study**. This section follows the 21 environmental topics as presented in the 2021 CEQA Guidelines Appendix G. The questions contained in Appendix G are presented and responses to each question are provided with research to back up the determinations. Mitigation measures are presented where needed.
- **Section 4 List of Preparers**. This section lists all of the preparers and reviewers of this document by agency and consultant.
- **Section 5 References**. This section presents the references used for the completion of the Initial Study.
- **Appendices**. This document has eight (8) appendices, which are related to technical memos completed for Aesthetic Resources, Air Quality and Greenhouse Gas Resources, Biological Resources, Cultural Resources, Paleontological Resources, Hazards and Hazardous Materials, Noise and Vibration, and Transportation.

ENVIRONMENTAL FACTORS POTENTIALLY AFFECTED

The environmental factors checked below would be potentially affected by this Project, as indicated by the checklist on the following pages.

☒ Aesthetics	☒ Agriculture and Forestry Resources	☒ Air Quality
☒ Biological Resources	☒ Cultural Resources	☒ Energy
☒ Geology /Soils	☒ Greenhouse Gas Emissions	☒ Hazards & Hazardous Materials
☒ Hydrology / Water Quality	☒ Land Use/Planning	☒ Mineral Resources
☒ Noise	☒ Population/Housing	☒ Public Services
☒ Recreation	☒ Transportation	☒ Tribal Cultural Resources
☒ Utilities / Service Systems	☒ Wildfire	☒ Mandatory Findings of Significance

DETERMINATION: (To be completed by the lead agency)

On the basis of this initial evaluation:

☐ I find that the proposed project COULD NOT have a significant effect on the environment, and a NEGATIVE DECLARATION will be prepared.

☒ I find that although the proposed project could have a significant effect on the environment, there will not be a significant effect in this case because revisions in the project have been made by or agreed to by the project proponent. A MITIGATED NEGATIVE DECLARATION will be prepared.

☐ I find that the proposed project MAY have a significant effect on the environment, and an ENVIRONMENTAL IMPACT REPORT (EIR) is required.

☐ I find that the proposed project MAY have a "potentially significant impact" or "potentially significant unless mitigated" impact on the environment, but at least one effect 1) has been adequately analyzed in an earlier document pursuant to applicable legal standards, and 2) has been addressed by mitigation measures based on the earlier analysis as described on attached sheets. An ENVIRONMENTAL IMPACT REPORT is required, but it must analyze only the effects that remain to be addressed.

☐ I find that although the proposed project could have a significant effect on the environment, because all potentially significant effects (a) have been analyzed adequately in an earlier EIR or NEGATIVE DECLARATION pursuant to applicable standards, and (b) have been avoided or mitigated pursuant to that earlier EIR or NEGATIVE DECLARATION, including revisions or mitigation measures that are imposed upon the proposed project, nothing further is required.

June XX, 2022

Signature

Date

James G. Beil, Executive Director, Capital Programs
Orange County Transportation Authority

MITIGATED NEGATIVE DECLARATION

Date of Publication of Final Mitigated Negative Declaration: 06/XX/2022	
Lead Agency: Orange County Transportation Authority **Agency Contact Person:** Lora Cross	**Telephone:** (714) 560-5788
Project Title: Metrolink Orange County Maintenance Facility Project **Project Sponsor:** Southern California Regional Rail Authority **Project Contact Person:** Robert Mason	**Telephone:** (909) 929-2372
Project Location: Great Park, Irvine, CA **City and County:** Orange County	

Project Description: Refer to Section 2 in the main document.

THIS PROJECT WILL NOT HAVE A SIGNIFICANT EFFECT ON THE ENVIRONMENT. This finding is based upon the criteria of the Guidelines of the State Secretary for Resources, Sections 15064 (Determining Significant Effect), 15065 (Mandatory Findings of Significance), and 15070 (Decision to Prepare a Negative Declaration), and the reasons documented in the Environmental Evaluation (Initial Study) for the Project, which is attached. Mitigation measures are included in this Project to avoid potentially significant effects and reduce all impacts to less than significant. Mitigation measures are presented in summary in the table below. The impacts that necessitated these mitigation measures are evaluated in Section 3 Initial Study, along with the determination of significance after their implementation.

AIR QUALITY	
MM-AQ-1: *Utilize low VOC paint for architectural coating activities during Phase 2 construction.*	To reduce volatile organic compound (VOC) emissions during construction, the Project contractor shall utilize water-based or low VOC interior and exterior paints. The VOC content of the architectural coatings shall comply with the VOC content limits in South Coast Air Quality Management District (SCAQMD) Rule 1113 or not exceed 100 grams per liter, whichever is lower. To ensure that low VOC paint will be used during Project construction, this requirement will be included in applicable bid documents, purchase orders, and contracts. Successful contractor(s) must demonstrate the ability to supply the compliant architectural coatings for use prior to any coating activities. A copy of each proposed architectural coating Material Safety Data Sheet and VOC content shall be available upon request. Alternatively, the contractor may utilize tilt-up concrete buildings that do not require the use of architectural coatings.
BIOLOGICAL RESOURCES	
MM-BIO-1: *Designate Project Biological Monitor(s).*	Ground-disturbing activities during construction shall occur outside of the nesting bird season (generally February 15 through September 1). If avoiding the nesting season is not practicable, the following additional measures shall be employed:

	• A pre-construction nesting survey shall be conducted by a qualified biologist within 3 days prior to the start of construction activities to determine whether active nests are present within or directly adjacent to the construction zone. All nests found shall be recorded. • If construction activities must occur within 300 feet of an active nest of any passerine bird or within 500 feet of an active nest of any raptor, with the exception of an emergency, a qualified biologist shall monitor the nest on a weekly basis, and the activity shall be postponed until the biologist determines that the nest is no longer active. • If the recommended nest avoidance zone is not feasible, the qualified biologist shall determine whether an exception is possible and obtain concurrence from the resource agencies before construction work can resume within the avoidance buffer zone. All work shall cease within the avoidance buffer zone until either agency concurrence is obtained or the biologist determines that the adults and young are no longer reliant on the nest site.
MM-BIO-2: *Compliance with USACE SAMP Mitigation Procedures.*	Pursuant to Special Area Management Plan (SAMP) requirements, if a permanent loss of regulated waters or streambed occurs because of the Project, compensatory mitigation (purchase of credit at an in-lieu fee or mitigation bank approved by the resource agencies, or applicant proposed enhancement or establishment of waters or streambed) shall be provided at a minimum ratio of 1:1. Temporary impacts shall be restored to pre-Project conditions to the extent practicable.
CULTURAL RESOURCES	
MM-CUL-1: *Cultural Resources Awareness Training.*	Prior to construction, OCTA shall retain a qualified archaeologist who meets the Secretary of the Interior's Guidelines for Archaeology (36 CFR Part 61). The qualified archaeologist shall prepare a Cultural and Tribal Cultural Resources Awareness Training as part of the Project Worker Environmental Awareness Program (WEAP). The training will instruct workers as to the laws protecting cultural and tribal cultural resources and also give examples of the kinds of resources that can be reasonably expected to be found in the Area of Potential Effect (APE). An environmental compliance contact responsible for enforcing mitigation measures and who is to be notified in the event of a find will be identified in the training. Training will be delivered to all staff involved in ground-disturbing activities prior to their working on the project.

MM-CUL-2: *Preparation of a Cultural Resources Monitoring and Discovery Plan.*	Prior to construction, a project-specific cultural resources monitoring and discovery plan (CRMDP) will be developed by a qualified archaeologist who meets the Secretary of the Interior's Guidelines for Archaeology (36 CFR Part 61). The monitoring plan should identify what construction activities that occur in native soils would require archaeological and tribal monitoring, describe monitoring procedures, and outline the protocol to be followed in the event of a find. Criteria will be defined and triggers identified as to when further consultation is required for the treatment of finds. Plans of treatment of typical finds will be detailed, as will a plan of treatment for any human remains that are inadvertently encountered. If a potentially significant discovery is made and cannot feasibly be avoided, then additional work, potentially including data recovery excavations, may be required. Key staff will be identified, and the process of notification and consultation will be specified within the CRMDP. A curation plan will also be outlined within the CRMDP. All work should be conducted under the direction of a qualified archaeological Principal Investigator who meets the Secretary of the Interior's standards for archaeology. Consulting tribes under AB52 for the Project shall have the opportunity to review and comment on the draft CRMDP.
PALEONTOLOGICAL RESOURCES	
MM-GEO-1: *Worker Environmental Awareness Program.*	Prior to construction, OCTA shall retain a qualified paleontologist who meets the requirements to be included in Orange County's list of qualified paleontologists. The qualified paleontologist shall prepare a WEAP. The WEAP will describe the types of resources that may be encountered during construction, the laws protecting those resources, and the procedures to follow when finds are encountered. The WEAP will be presented either in person or in video form to all construction employees involved in ground-disturbing activities before they begin work at the Project Site.
MM-GEO-2: *Response to Unanticipated Paleontological Finds.*	If buried paleontological resources are uncovered during construction, all work shall be halted in the vicinity of the discovery until a qualified paleontologist can visit the site of discovery and assess the significance of the resource and, if necessary, recommend treatment.
HAZARDS AND HAZARDOUS MATERIALS	
MM-HAZ-1: *Notifications to Federal, State and Local Agencies.*	The Project applicant shall notify the appropriate agencies (e.g., Orange County Health Care Agency [OCHCA], Department of Toxic Substances Control [DTSC], United States Environmental Protection Agency [EPA], or the Regional Water Quality Board) regarding soil, soil gas and/or groundwater contamination in connection with the ongoing military clean-up site associated with the former El Toro Marine Corps Air Station (MCAS) Superfund site.

MM-HAZ-2: *Groundwater Monitoring Requirements.*	Where the Project Site construction and operational activities coincide with the current groundwater monitoring systems (e.g., wells, water transfer conveyance lines), the requirements of the Institutional Control (IC) in connection with IRP Site 24 for the ongoing military clean-up site associated with the former El Toro MCAS Superfund site shall be adhered to in order to protect human health and the environment from potential hazardous materials exposures.
MM-HAZ-3: *Soil Assessment for Hazardous Materials.*	Prior to construction activities at the Project Site, if required by the state or local regulatory oversight agencies, then further assessment including soil, soil vapor and/or groundwater investigations shall be conducted to reveal the presence, if any, of potential hazardous materials at the Project Site that were identified as a result of the Phase I ESA, and would assist in determining further mitigations required to address human health and/or the environmental impacts due to potential hazardous materials exposures.
NOISE	
MM-NOI-1: *Relocate Pile Driving Activities*.	If feasible, relocate Project elements requiring pile driving to locations greater than 250 feet from occupied buildings.
MM-NOI-2: *Alternative Pile Insertion*.	If MM-NOI-1 is not feasible, use a less intrusive form of pile insertion, such as pre-augured piling.
MM-NOI-3: *Schedule Pile Driving Activities.*	Arrange to conduct pile driving activities during a period when the affected building(s) are not in use (such as Saturdays).

TRIBAL CULTURAL RESOURCES

MM-TCR-1: *Retain a Native American Monitor Prior to Commencement of Ground-Disturbing Activities.*

A. The project applicant/lead agency shall retain a Native American Monitor from or approved by the Gabrieleño Band of Mission Indians – Kizh Nation. The monitor shall be retained prior to the commencement of any "ground-disturbing activity" for the subject project at all project locations (i.e., both on-site and any off-site locations that are included in the project description/definition and/or required in connection with the project, such as public improvement work). "Ground-disturbing activity" shall include, but is not limited to, demolition, pavement removal, potholing, auguring, grubbing, tree removal, boring, grading, excavation, drilling, and trenching.

B. A copy of the executed monitoring agreement shall be submitted to the lead agency prior to the earlier of the commencement of any ground-disturbing activity, or the issuance of any permit necessary to commence a ground-disturbing activity.

C. The monitor will complete daily monitoring logs that will provide descriptions of the relevant ground-disturbing activities, the type of construction activities performed, locations of ground-disturbing activities, soil types, cultural-related materials, and any other facts, conditions, materials, or discoveries of significance to the Tribe. Monitor logs will identify and describe any discovered TCRs, including but not limited to, Native American cultural and historical artifacts, remains, places of significance, etc., (collectively, tribal cultural resources, or "TCR"), as well as any discovered Native American (ancestral) human remains and burial goods. Copies of monitor logs will be provided to the project applicant/lead agency upon written request to the Tribe.

D. On-site tribal monitoring shall conclude upon the latter of the following (1) written confirmation to the Kizh from a designated point of contact for the project applicant/lead agency that all ground-disturbing activities and phases that may involve ground-disturbing activities on the project site or in connection with the project are complete; or (2) a determination and written notification by the Kizh to the project applicant/lead agency that no future, planned construction activity and/or development/construction phase at the project site possesses the potential to impact Kizh TCRs.

E. Upon discovery of any TCRs, all construction activities in the immediate vicinity of the discovery shall cease (i.e., not less than the surrounding 50 feet) and shall not resume until the discovered TCR has been fully assessed by the Kizh monitor and/or Kizh archaeologist. The Kizh will recover and retain all discovered TCRs in the form and/or manner the Tribe deems appropriate, in the Tribe's sole discretion, and for any purpose the Tribe deems appropriate, including for educational, cultural and/or historic purposes.

MM-TCR-2: *Unanticipated Discovery of Human Remains and Associated Funerary Objects.*	A. Native American human remains are defined in PRC 5097.98 (d)(1) as an inhumation or cremation, and in any state of decomposition or skeletal completeness. Funerary objects, called associated grave goods in Public Resources Code Section 5097.98, are also to be treated according to this statute. B. If Native American human remains and/or grave goods discovered or recognized on the project site, then all construction activities shall immediately cease. Health and Safety Code Section 7050.5 dictates that any discoveries of human skeletal material shall be immediately reported to the County Coroner and all ground-disturbing activities shall immediately halt and shall remain halted until the coroner has determined the nature of the remains. If the coroner recognizes the human remains to be those of a Native American or has reason to believe they are Native American, he or she shall contact, by telephone within 24 hours, the Native American Heritage Commission, and Public Resources Code Section 5097.98 shall be followed. C. Human remains and grave/burial goods shall be treated alike per California Public Resources Code section 5097.98(d)(1) and (2). D. Construction activities may resume in other parts of the project site at a minimum of 200 feet away from discovered human remains and/or burial goods, if the Kizh determines in its sole discretion that resuming construction activities at that distance is acceptable and provides the project manager express consent of that determination (along with any other mitigation measures the Kizh monitor and/or archaeologist deems necessary). (CEQA Guidelines Section 15064.5(f).) E. Preservation in place (i.e., avoidance) is the preferred manner of treatment for discovered human remains and/or burial goods. Any historic archaeological material that is not Native American in origin (non-TCR) shall be curated at a public, non-profit institution with a research interest in the materials, such as the Natural History Museum of Los Angeles County or the Fowler Museum, if such an institution agrees to accept the material. If no institution accepts the archaeological material, it shall be offered to a local school or historical society in the area for educational purposes. F. Any discovery of human remains/burial goods shall be kept confidential to prevent further disturbance.

MM-TCR-3: *Procedures for Burials and Funerary Remains.*

A. As the Most Likely Descendant ("MLD"), the Koo-nas-gna Burial Policy shall be implemented. To the Tribe, the term "human remains" encompasses more than human bones. In ancient as well as historic times, Tribal Traditions included, but were not limited to, the preparation of the soil for burial, the burial of funerary objects with the deceased, and the ceremonial burning of human remains.

B. If the discovery of human remains includes four or more burials, the discovery location shall be treated as a cemetery and a separate treatment plan shall be created.

C. The prepared soil and cremation soils are to be treated in the same manner as bone fragments that remain intact. Associated funerary objects are objects that, as part of the death rite or ceremony of a culture, are reasonably believed to have been placed with individual human remains either at the time of death or later; other items made exclusively for burial purposes or to contain human remains can also be considered as associated funerary objects. Cremations will either be removed in bulk or by means as necessary to ensure complete recovery of all sacred materials.

D. In the case where discovered human remains cannot be fully documented and recovered on the same day, the remains will be covered with muslin cloth and a steel plate that can be moved by heavy equipment placed over the excavation opening to protect the remains. If this type of steel plate is not available, a 24-hour guard should be posted outside of working hours. The Tribe will make every effort to recommend diverting the project and keeping the remains in situ and protected. If the project cannot be diverted, it may be determined that burials will be removed.

E. In the event preservation in place is not possible despite good faith efforts by the project applicant/developer and/or landowner, before ground-disturbing activities may resume on the project site, the landowner shall arrange a designated site location within the footprint of the project for the respectful reburial of the human remains and/or ceremonial objects.

F. Each occurrence of human remains and associated funerary objects will be stored using opaque cloth bags. All human remains, funerary objects, sacred objects and objects of cultural patrimony will be removed to a secure container on site if possible. These items should be retained and reburied within six months of recovery. The site of reburial/repatriation shall be on the project site but at a location agreed upon between the Tribe and the landowner at a site to be protected in perpetuity. There shall be no publicity regarding any cultural materials recovered.

G. The Tribe will work closely with the project's qualified archaeologist to ensure that the excavation is treated carefully, ethically and respectfully. If data recovery is approved by the Tribe, documentation shall be prepared and shall include (at a minimum) detailed descriptive notes and sketches. All data recovery data recovery-related forms of documentation shall be approved in advance by the Tribe. If any data recovery is performed, once complete, a final report shall be submitted to the Tribe and the NAHC. The Tribe does NOT authorize any scientific study or the utilization of any invasive and/or destructive diagnostics on human remains.

1. INTRODUCTION

The Southern California Regional Railroad Authority (SCRRA) Metrolink commuter rail system (Metrolink) is proposing to construct the Orange County Maintenance Facility (hereafter referred to as "OCMF" or "the Project") in the City of Irvine (or City). The Project would include several facilities including a transportation building, employee parking area, train-wash building, pump house, utility building, guard booth, equipment booth, sand silos, a maintenance facility, a maintenance facility extension, and 11 tracks. The Project consists of buildings that would have a total building area of approximately 90,000 square feet when combined. Approximately 80 employees would report to the Project. Metrolink currently operates three maintenance facilities across its service area: Central Maintenance Facility (CMF) in Los Angeles, Eastern Maintenance Facility (EMF) in San Bernardino County, and the North County Transit District's (NCTD's) Stuart Mesa Facility in northern San Diego County. Due to projected population expansion within its service area, Metrolink will require an increased number of commuter rail services, as well as additional train storage and maintenance facilities associated with an increased fleet size. As a significant proportion of the expanded services will operate in Orange County, the Project Site would provide an optimal location for a new Metrolink maintenance facility. The Orange County Transportation Authority (OCTA) is the lead agency under the California Environmental Quality Act (CEQA). The City of Irvine and SCRRA are the responsible agencies under CEQA.

1.1. Background

The six counties served by SCRRA include: Los Angeles, Orange, Riverside, San Bernardino, Ventura and San Diego. Based on the projected population expansion within the six-county area currently served by the SCRRA, Metrolink will operate an increased number of commuter rail services to support that growth. Consequently, the Metrolink system (Figure 1.1-1) will require additional train storage and maintenance facilities to support an increased fleet size. As a significant proportion of the expanded services will operate in Orange County, the proposed site would provide the optimal location for the additional Metrolink facility.

Metrolink currently operates three maintenance facilities across its service area. Its CMF is located on the east bank of the Los Angeles River near the Interstate 5 (I-5) and Interstate 10 (I-10) freeways, just south of the location of the former Southern Pacific Taylor Yard. The EMF is located in Colton and provides daily and routine servicing for San Bernardino Line trains. Metrolink trains are also serviced at NCTD's Stuart Mesa Facility, which is located in Camp Pendleton South between Oceanside and Marine Corps Base Camp Pendleton in San Diego County.

CMF is currently near capacity, which will impact the ability to provide the necessary train servicing for the planned service expansion of various Metrolink lines throughout the system under the Southern California Optimized Rail Expansion (SCORE) program. By transferring a portion of the current fleet from CMF to the proposed OCMF (specifically the Orange County Line trains), capacity for the non-Orange County trains will be increased at CMF. The Orange County Line has the highest ridership within the

Metrolink system; therefore, a maintenance facility to serve the Orange County area with sufficient storage and servicing capabilities for both locomotives and rail cars is critical to controlling operating costs.

Figure 1.1-1: Metrolink System Map

Source: SCRRA, 2019

To optimize rail service in the region, the proposed OCMF would need to be completed by 2028. The SCORE program may also require heavy overhaul capabilities at OCMF, depending on pending decisions regarding fleet technology and management.

The expansion of Orange County and overall Metrolink commuter rail service will ultimately require additional or expanded equipment servicing capabilities for both locomotives and rail cars. Because a significant portion of the fleet will serve Orange County, a maintenance facility located along the Metrolink route through Orange County would be the optimal location as it would reduce operating costs by limiting non-revenue moves to the existing SCRRA storage and maintenance facilities in the cities of Los Angeles and Colton. The proposed OCMF would provide equipment to inspect, clean, and maintain cars and locomotives on a regular and efficient basis. Much of the inspection and maintenance activity is federally mandated and must be performed at specific intervals.

1.2. Project Setting

The proposed Project Site is on a 21.3-acre OCTA-owned parcel on Ridge Valley south of Marine Way in the City of Irvine Tracks, between mileposts 183.50 and 184.00 (Figure 1.2-1). This location is within a closed military base (Marine Corps Air Station [MCAS] El Toro) formerly owned by the United States Department of the Navy (DON). After MCAS El Toro was closed, the site was quitclaimed by the Navy to Heritage Fields El Toro, LLC in 2011, and then by way of grant deed conveyed by Heritage Fields to the City that same year. OCTA then purchased the fee ownership of the Project Site from the City. Regional vehicle access to the Project Site is from I-5 at Sand Canyon Avenue. Local vehicle access is via Marine Way to Ridge Valley.

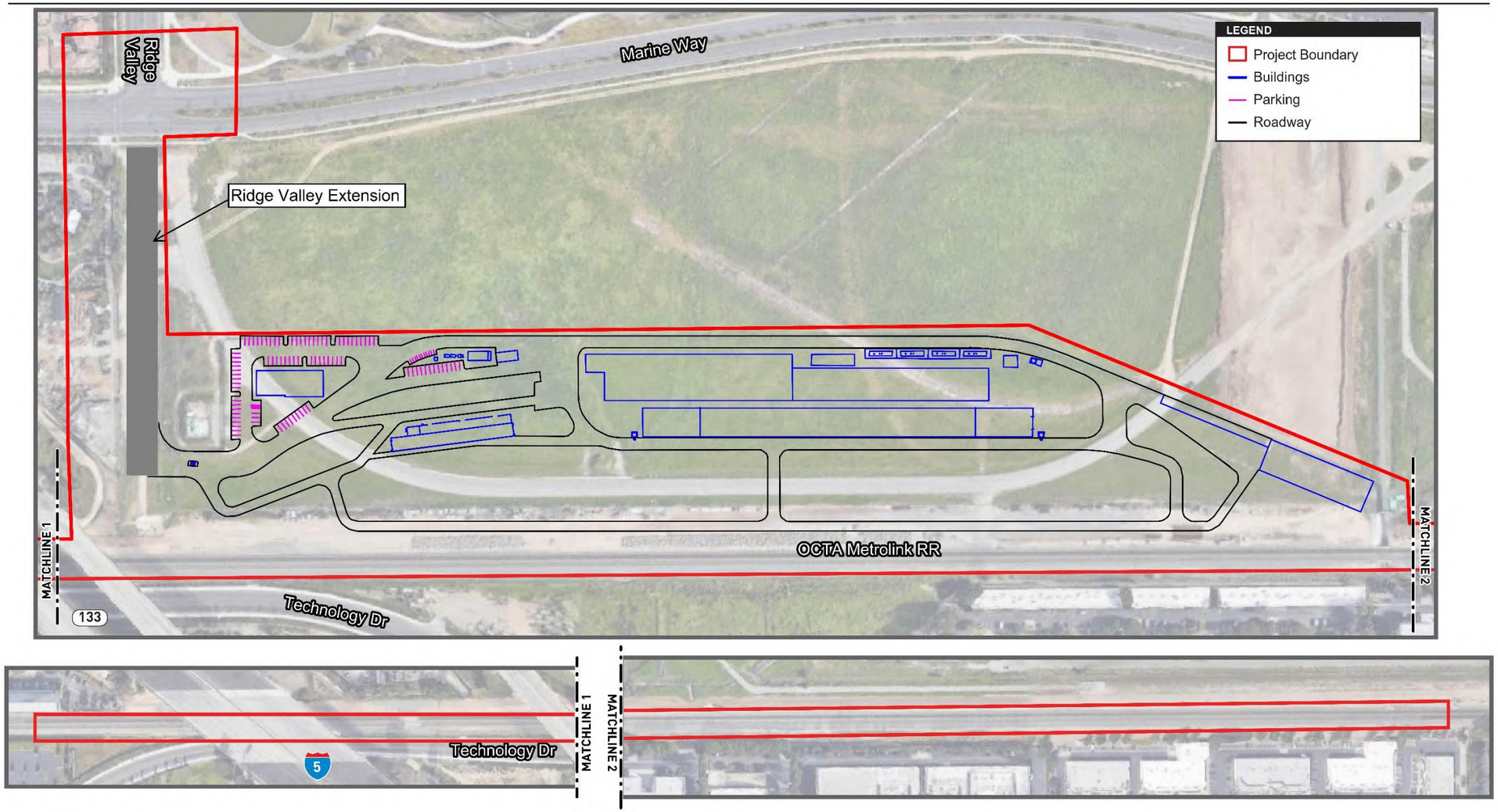
1.3. Project Location

The Project Site is currently vacant and includes 1,000-foot-long storage for miscellaneous rail equipment including temporary railroad bridges, signal houses, railroad ties, and electrical conduits. Although not part of the Project, OCTA has immediate plans to install a single 1,000-foot-long, single-ended storage track and fencing of the perimeter of the property. The storage track will be connected to the mainline with a left-hand No. 10 turnout that would feed into and out of the yard site from the north end.

The Project will be developed in two phases with an anticipated completion date of 2028. Phase 1 focuses on developing facilities needed for train storage. The yard is planned to have phased construction, with Phase 1 consisting of the Service and Inspection (S&I) Facility tracks, train wash track, storage tracks, set-out track(s), yard lead tracks, transportation building, and employee parking. Phase 2 includes construction of the Maintenance Building and associated tracks. Other potential items in this phase are the conversion of the West Lead Track into a drill track, and the construction of a second run-around track within the mainline track corridor.

The Project is within Planning Area 51 of the updated City of Irvine General Plan, adopted in June 2015. Per the City's zoning ordinance, the proposed use is a conditionally allowable use under the existing zone. Therefore, OCTA has filed a CUP application for this Project.

Figure 1.3-1.3-1: Project Location



Source: GoogleEarth 2021, AECOM

0 250 500 Feet

Figure 1.3-1 Project Location

Metrolink Orange County Maintenance Facility

Path:\\na.aecomnet.com\lfs\AMER\SanDiego-USSDG1\DCS\Projects_6063\60632397_GF_OCTA_MSF\900-CAD-GIS\930 Graphics\2.2-2 Proj Layout_Elements.ai, 12/09/2021, BradyD

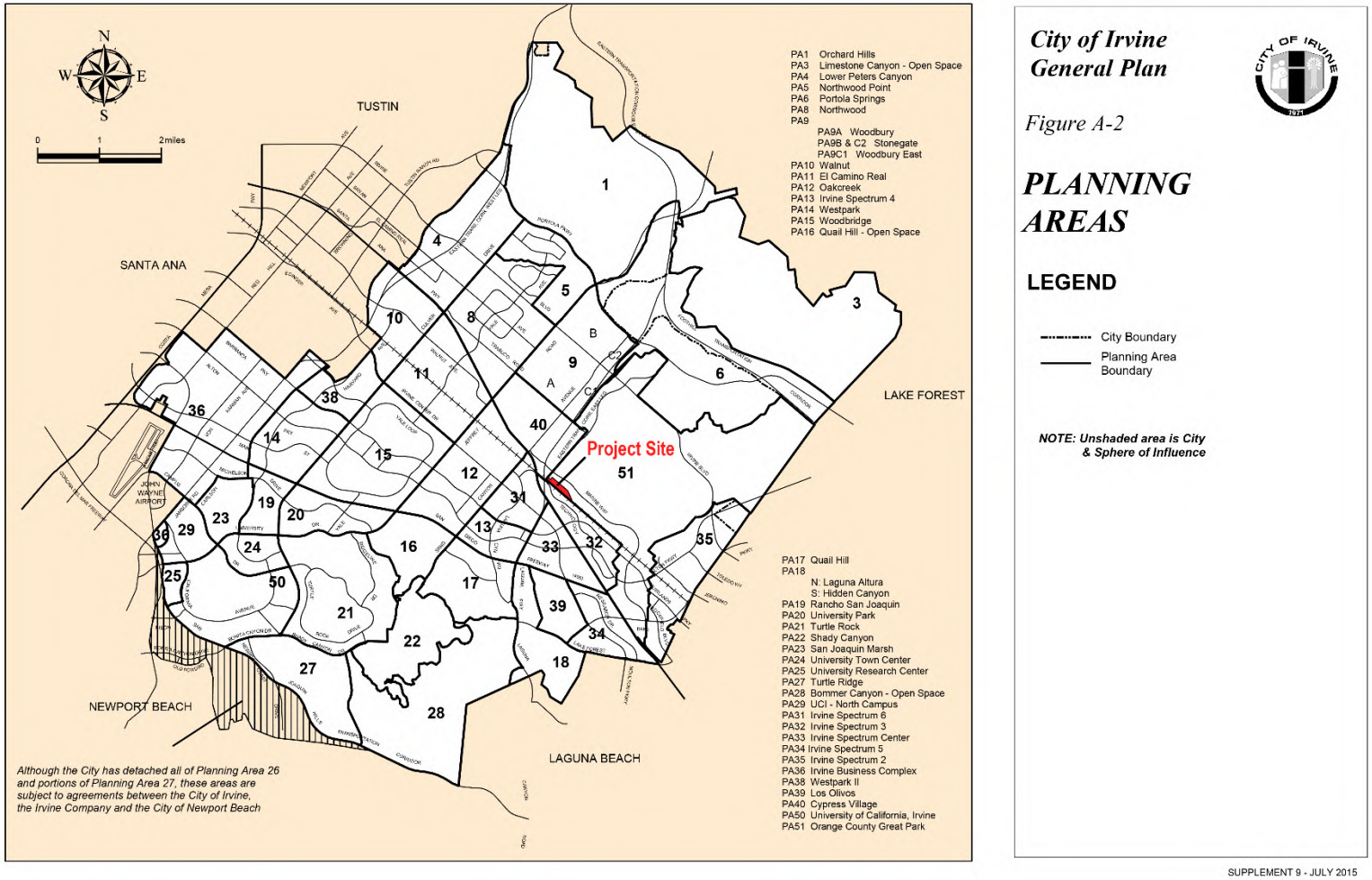
Source: ESRI, 2021, and OCTA, 2021

2. PROJECT DESCRIPTION

2.1. Existing Land Uses

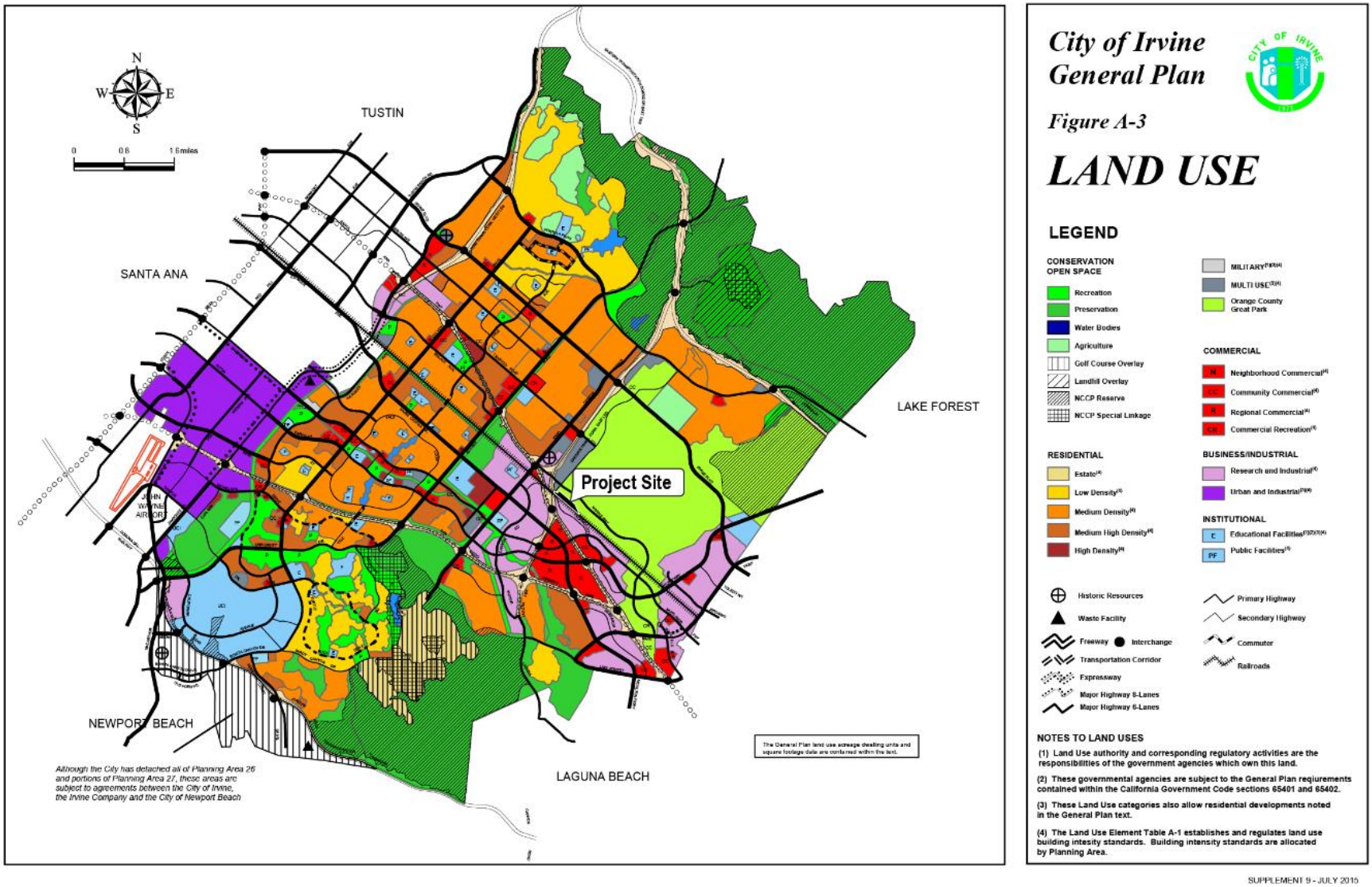
The City of Irvine General Plan has designated the area where the Project Site is located as Planning Area 51 (Figure 2.1-1), with land use designated as the Great Park (Figure 2.1-2) and is zoned as 6.1 Institutional (Figure 2.1-3).

Figure 2.1-1: City of Irvine Planning Areas Map



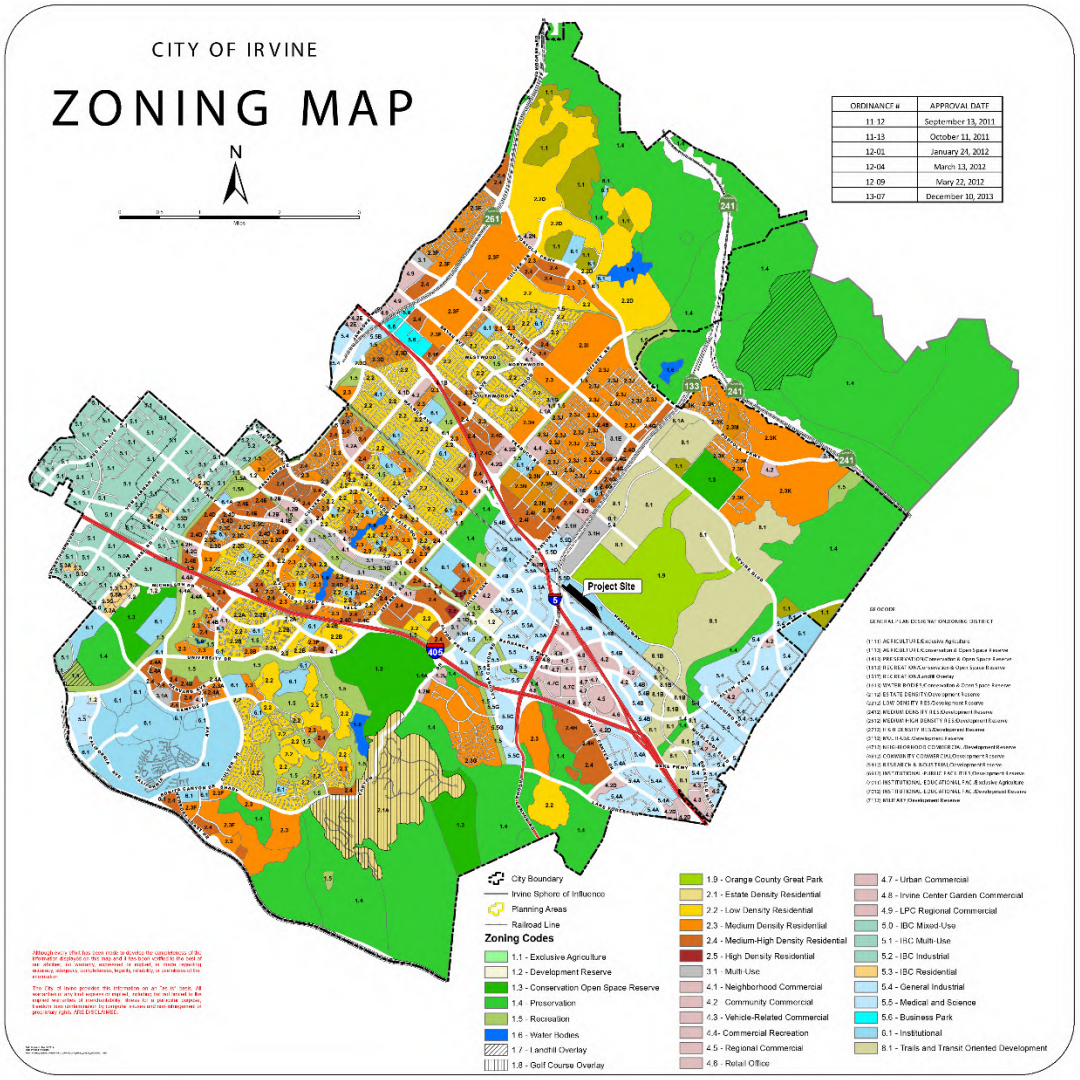
Source: City of Irvine, 2015

Figure 2.1-2: City of Irvine Land Use Map



Source: City of Irvine (2015)

Figure 2.1-3: City of Irvine Zoning Map



Source: City of Irvine (2015)

2.2. Alternatives Considered

Alternative layouts have been developed for the site with the main difference among the alternatives being the location of the S&I Facility. Below is a brief description of each of the proposed alternative layouts.

Layout 1 - S&I Facility South

The S&I Facility and the Train Wash Building would be located on the south side of the Project Site to optimize the space available on the Project's longest track. The storage tracks would be located north of the S&I Facility with an offset of 23.25 feet from track centerline to track centerline. The storage track alignment would run parallel to the Train Wash building and would be accessible from the S&I tracks.

The Maintenance Building would be located closest to the north side of the property while the Fueling Tanks and Sanding Silos would be located near the S&I Facility in an at-grade configuration.

Layout 1 would require large vehicle deliveries, including fuel trucks, to utilize the perimeter road that crosses the storage tracks at both ends of the site. Therefore, Layout 1 was withdrawn from consideration.

Layout 2 - S&I Facility North

Layout 2 would position the S&I Facility on the north side of the Project Site. The distance between the S&I Facility and mainline tracks would allow SCRRA to store up to two (2) incoming trains on lead tracks to the S&I Facility and leave the East Lead track free of train traffic. This would provide additional capacity so that trains would not have to idle due to ingress and egress capabilities through the East Lead to exit the yard.

Fueling Tanks and Sanding Silos would be located near the S&I Facility in an at-grade configuration. The Maintenance Building would be located within the center of the yard between the S&I Facility and the storage tracks.

Storage tracks would have alternating track spacing of 23.25 feet and 18 feet, and both S&I tracks converge into the Train Wash with no run-around track.

Layout 2 has potential safety issues during operations. This alternative's track configuration and the resulting access road layout would compromise Fire Department standards for access due to the 60-foot tangent between reverse curves. The southeast corner of the Project Site would be in violation of fire code. Therefore, Layout 2 was withdrawn from further consideration.

Layout 3 - S&I Facility Center

Layout 3 would place the S&I Facility in the center of the Project Site. Compared to the other layout alternatives, Layout 3 would minimize the length of piping for fueling and sanding elements and the frequency of crossing tracks for material deliveries. The future Maintenance Building would be located closest to the north side of the property.

Fueling tanks would be located near the Maintenance Building in an at-grade configuration. While this alternative layout would necessitate higher quantities of piping for fuel during operations, delivery trucks would not need to cross the Metrolink tracks. Sanding silos would be located near the S&I Facility in an at-grade configuration, which results in delivery trucks crossing the tracks for the Maintenance Building and S&I Facility in order to make deliveries and then exit the yard. The Maintenance Building is located at the north end of the yard enabling future construction to take place outside of the normal operation of the yard. This alternative has been selected as the Preferred Alternative and is evaluated in this document.

Storage tracks have alternating spacing of 23.25 feet and 18 feet, and there would be tracks to run around the Train Wash accessible from one of the S&I tracks, for which the run-around track also serves as a set-out track.

2.3. Project Description

The Project would be developed in two phases. Phase 1 focuses on developing facilities needed for train storage. The yard would have phased construction, with Phase 1 comprising of the following facilities: the transportation building, employee parking area, train-wash building, pump house, utility building, guard booth, equipment booth and sand silos. A total of 11 tracks would be constructed including two lead tracks, six storage tracks, one runaround track, and two temporary stub-ended set out tracks that would be converted to shop tracks in Phase 2. Phase 2 would construct the Maintenance Building and the future Maintenance Building Expansion. Other potential items in this phase are the conversion of the West Lead Track into a drill track, and the construction of a second run-around track within the mainline track corridor.

2.3.1. General Yard Layout

The proposed maintenance facility has three (3) basic components: S&I Facility, Train Wash, and Storage Tracks (refer to Figure 2.3-1). During normal operation of the yard, trains would go through each of these facilities in this order to be inspected: serviced (sanding and fueling), washed, and then stored for their next use. Most of the movements in and out of the yard would be from the east, with few trains entering the yard from the west. As such, based on the order of normal operations, the S&I Facility is the first destination for trains entering the yard and is located toward the east end of the yard. The Train Wash follows and is located along the same set of tracks toward the west end of the facility. Since the site is not long enough for storage tracks to be in line with the S&I and Train Wash tracks, a tail track is needed at the west end of the Project Site to move trains from the Train Wash to the Storage Tracks. For the OCMF, the West Lead Track serves as a tail track as it is long enough for a train to pull forward on to it, stop, and reverse direction.

The OCMF would also have a Maintenance Building approximately 430 feet long as part of a future phase, which is to handle preventative maintenance and light repair, with two double-ended tracks going through it. In coordination with SCRRA, a secondary future phase for the Maintenance Building has been provisioned to allow the building to be extended to accommodate a full train length. The yard layout has been designed to not preclude this expansion.

The Storage Tracks, S&I Facility, and future Maintenance Building would be parallel to each other. Trains would need to use one of the lead tracks when traveling to and from these locations.

2.3.2. Parking and Roadway

Parking

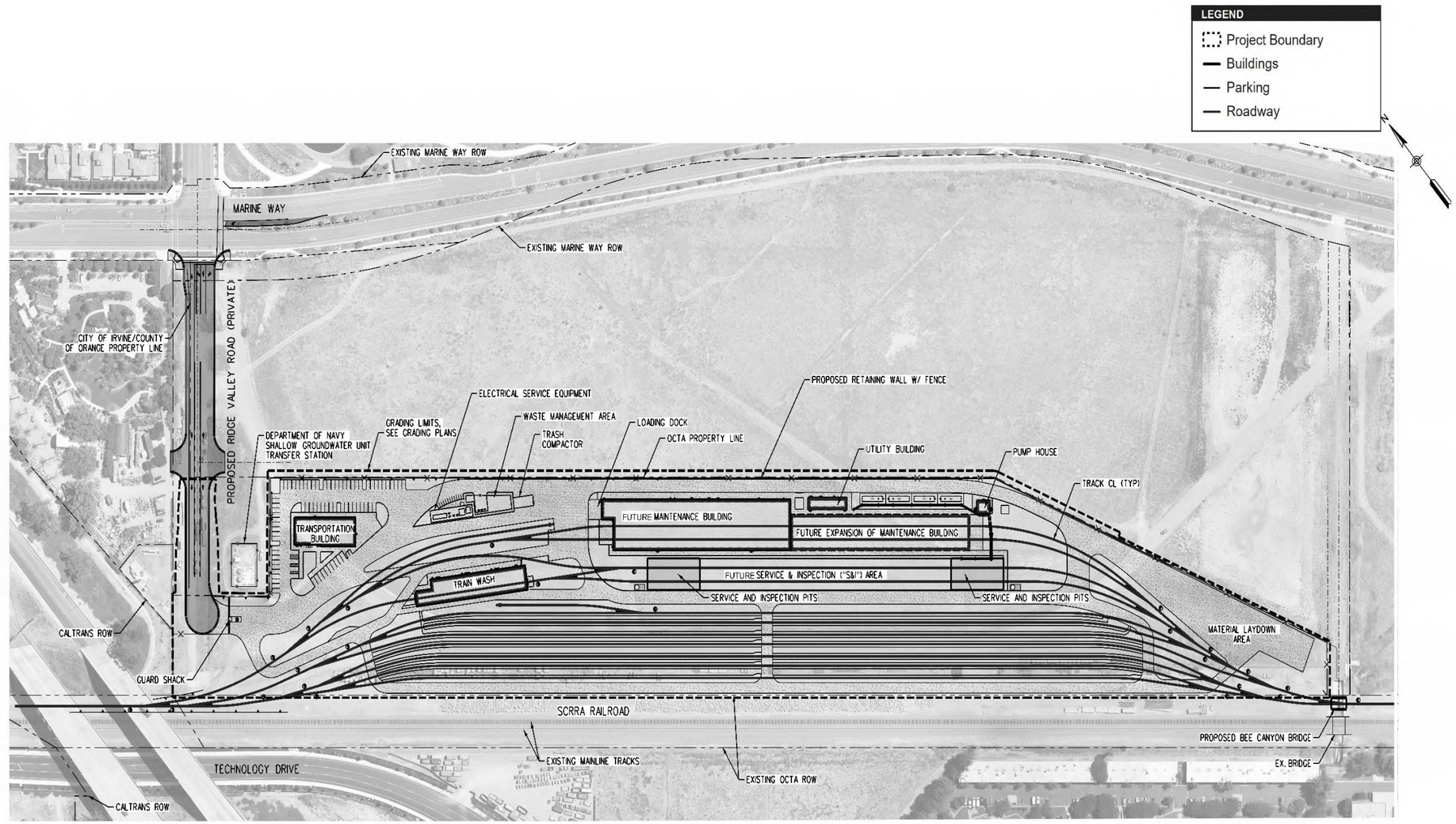
Parking would be provided surrounding the Transportation Building in the Northwest corner of the site. Additional parking would be placed near the Water Treatment Room as well as near the Maintenance Shop and S&I area, with an approximate total of 114 parking spaces.

Roadway

The roadway design and vehicle routing are heavily influenced by the track design and configuration. Fire truck access would be compliant with the Orange County Fire Authority (OCFA) Requirements. Vehicle routes for fuel/materials and small parts deliveries are being considered within the evaluation. Roadways and vehicle routing are being evaluated utilizing four different vehicles:

- Single Tanker Truck
- Double Tanker Truck
- Caltrans 65
- Orange County Fire Authority Emergency Vehicles

Figure 2.3-1: Project Layout and Elements



Source: GoogleEarth 2021, AECOM

Figure 2.3-1
Project Layout and Elements

Metrolink Orange County Maintenance Facility

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The Project would allow large vehicles to cross storage tracks within the Project Site. Additionally, the Project provides flexibility in large-vehicle routing in the form of loop- and hammerhead-turns. Both large vehicle route options require crossing of the maintenance tracks on the west side of the Maintenance Building.

The Site Entrance would be 40-feet wide with track centers at 18-feet spacing. Access roads are 12-feet wide between storage tracks. Light poles between the tracks would restrict the width of a vehicle to 5-feet when travelling parallel to tracks. At the ends of the storage tracks, the width of the access road would be a minimum of 5-feet.

Within the facility, access roads vary from 15 to 37 feet wide. Access roads to specific locations or facilities are a minimum of 10-feet wide.

Site Access

Access to the OCMF would require a roadway extension along Ridge Valley from the intersection of Ridge Valley and Marine Way. The final design configuration for the access road would be coordinated with third-party stakeholders, including but not limited to the County of Orange, City of Irvine, Irvine Ranch Water District, and Heritage Fields LLC. The only site access comes from the new Ridge Valley Extension. At the entrance a security booth, gate arms, and fencing are provided to limit unauthorized access to the site.

2.3.3. Drainage

The Project would relocate existing drainage and install new drainage infrastructure for new storage and grading needs. The Project would tie into existing City and County facilities within the Project Site.

Existing Drainage Facilities

The existing topography of the site provides a drainage pattern that slopes from east to west. Run-off is collected at the surface via open earth channels and concrete drainage inlets, which is then routed to the north end of the site through two 24-inch corrugated steel pipes. Run-off leaves the site through an open concrete channel and empties downstream into a channel owned by the Orange County Flood Control District (OCFCD). The Bee Canyon Channel, located on the south end of the site, runs east to west and does not take run-off from the Project Site. Part of the project includes a reprofiling of the existing Bee Canyon Channel in order to construct a second railroad bridge. The Project proposes the reprofiling of an approximately 70-foot segment of the Bee Canyon Channel. This will result in a lower top of channel wall, a lower Hydraulic Grade Line with freeboard contained within the new top of wall elevation, and a 2.5-feet channel drop at the inlet of the 60-inch reinforced concrete pipe lateral to the channel. The existing hydraulic performance of the Bee Canyon Channel would be maintained at the lower profile. It is anticipated that this existing drainage pattern would be not be altered or re-routed after the development of the maintenance facility. The existing outlet discharge would also be maintained so that the OCFCD facilities are not impacted.

Drainage Analysis

In order to establish the correct sizing of the drainage facilities, a drainage analysis shall be performed to establish the Project requirements. The following drainage criteria shall form the basis of analysis:

- 25-Year Design Storm for Roadway based on the Orange County Hydrology Manual Intensity Duration Recurrence (IDR) curves and intensity calculations
    - Intensity (25-year) = 4.82 inch/hour based on the intensity calculation for mean precipitation. Intensities for non-mountainous areas.
- 25-Year Design Storm for urban flood protection
- 50-Year Design Storm for Roadway (sump conditions) based on the Orange County Hydrology
- Manual IDR curves and intensity calculations.
    - Intensity = 5.44 inch/hour based on the intensity calculation for mean precipitation Intensities for non-mountainous areas.
- All new culverts would have a minimum cleanout velocity of 5 feet/s, according to the City of Irvine Storm Drain Design Manual.
- Design Capture Storm Depth (DCSD) shall be the 85th percentile of a 24-hour rain event
- DCSD = 0.80 inch (from 85th percentile 24-hour event)

Water Quality Management Plan (WQMP)

The Project Site is located within the Santa Ana Regional Water Quality Control Board (SARWQCB) jurisdiction and shall follow the Model Water Quality Management Plan (WQMP) that the OCFCD uses to address post-construction urban runoff and stormwater pollution from new developments or significant redevelopments. The Project is located within the Upper San Diego Creek Watershed, which is a high-risk receiving watershed. The San Diego Creek Reach 2 has established Total Maximum Daily Loads (TMDLs) that need to be considered during the development of the WQMP. Based on this, the preferred Best Management Practice (BMP) type would be infiltration, evapotranspiration, or harvest/use. The Project would install a 115 foot by 115 foot by 5 feet deep underground cistern that would hold approximately 552,254 gallons for retention and capture/reuse.

2.3.4. Trackwork

The yard features six (6) storage tracks, each long enough to store two (2) full trains. At least four (4) spots are provided for a train with two (2) locomotives, with six (6) spots being the preferred capacity.

Special trackwork within the Project Site would utilize only #8 turnouts per SCRRA Standards and be located on horizontal and vertical tangents. At least 15-feet of tangent is provided leading to each switch with 30 feet being the preferred minimum distance.

Track Leads

There are two (2) lead tracks to the yard: the west and east lead tracks. Both lead tracks are positioned such that a third main track can be constructed between the lead track and the SCRRA Orange Subdivision Main Track 1.

At the request of SCRRA, the Project shall incorporate the turnout to the East Lead Track into Control Point (CP) Tinkham in order to increase the clear capacity of the lead. The extended length of the East Lead would allow two (2) trains to be set out on the lead prior to entering the OCMF. Having the East Lead Track tie into CP Tinkham would minimize protect-in-place activities for the existing 30-inch Southern California Gas (SCG) line located on the southern portion of the Project Site.

The West Lead Track must be able to hold one (1) train, so that a train coming from the west can clear the main tracks and the track can be used as a tail track to facilitate movements from the S&I track to the storage tracks for normal yard operations. The design of the yard would use the existing track to the west of the yard as the West Lead Track. A #10 Left Hand Crossover would be installed to the west of the existing #10 Turnout to facilitate movements from Main Track 2 into the yard. The crossover and turnout would become a new Control Point.

Set-Out Track

Two set-out tracks would be provided that can hold up to three (3) passenger cars. In Phase 1 construction, the Maintenance Building tracks can be partially constructed to provide set-out tracks on each side of the future maintenance building. The ability to set cars on those tracks would then be converted with the construction of the Maintenance Building as shop tracks.

Run-Around Track

One (1) run-around track is necessary so that trains or locomotives can get from one end of the yard to the other without going out onto the main tracks. If future operations require a second run-around track, the West and East Lead Tracks can be connected which would provide this benefit.

2.3.5. Vehicle and Train Dimensions

Passenger vehicles are 85-feet long and 9-feet 10 inches wide. Locomotives may be either 58-feet or 69-feet long depending on the model and are about 10-feet wide at and below the platform level. For design purposes, locomotives are assumed to be 70-feet long. The design train length is 750-feet. This accounts for eight passenger cars (each 85-feet long) and 1 locomotive. In the storage tracks several spots for trains with 2 locomotives would be provided with the design train length being 820-feet.

It is anticipated that eight-car trains can be pulled by a single locomotive. Trains with a second locomotive are anticipated in cases of emergency whereby the second locomotive pulls the entire train. Therefore, the S&I Facility and Maintenance Building are designed for a train length of 750-feet. The Project would not increase operational services or expand ridership through the increase in vehicle numbers or capacity.

2.3.6. Total Yard Storage

A total number of 21 trains can be accommodated on the site at full build out, with 12 trains on the storage tracks, 2 trains on the S&I Facility tracks, 2 trains on the Maintenance Building tracks, 2 trains on the Run-Around track, 1 train on the West Lead Track and 2 trains on the East Lead Track. Excluding run-around and lead tracks, 16 trains can be stored on the tracks within the yard.

2.3.7. Building Layouts

The buildings are functionally located throughout the yard to comply with day-to-day operations. The approximate square footage and building heights for the building layouts and facilities are shown in Table 2.3-1. Trains enter from the main line tracks and access the S&I Tracks for daily service of the 8-car consists. This service cycle lasts roughly 30-45 minutes and includes fueling, sanding, fluid topping, toilet dump, and locomotive inspection. Upon completion of the service and inspection cycle the consists then operate through the Train Wash Building and over to a designated track at the storage tracks. Accessibility from the storage tracks is available for locomotives or cars requiring detailed maintenance service. At this time, they are moved through the access tracks to the Maintenance Building (Phase 2) where repair work is performed on the locomotives and cars. Train consists, once serviced, are staged in the storage tracks for dispatch and morning pull-out.

The building structure requirements are programmed to serve various functions within the working yard. This includes Phase 1 and Phase 2 design concepts for the ultimate facility. These structures include:

- Transportation Building (Phase 1)
- Maintenance Building (Phase 2)
- Service and Inspection Facility (Phase 1)
- Utility Building (Phase 1)
- Train Wash Building (Phase 1)
- Maintenance Building Expansion(Phase 2)

Table 2.3-1: Building Specifications

Building/Facility/Item	Building Area	Building Height
Transportation Building	7,495 sq. ft.	20 ft
Train Wash Building	11,110 sq. ft.	21 ft
Maintenance Building	40,392 sq. ft.	48 ft
Maintenance Building Expansion	27,880 sq. ft.	---
Utility Building	981 sq. ft.	20 ft
Pump House	750 sq. ft.	14 ft
Guard Booth	36 sq. ft.	---
Equipment Booth	48 sq. ft.	---
Sand Silos (2 Total)	576 sq. ft.	---
Total	89,268 sq. ft.	

Source: Gannett Fleming, Metrolink (2022)

Note: sq. ft. = square feet; ft = feet

Transportation Building

The Transportation Building is approximately 7,495 square feet with an industrial architectural style. This building would have administrative functions and would be used to serve all employees working in the facility. Locker room and restroom areas are designated in this building for all crew members, mechanics, cleaners, and supervisors for multiple shifts in the facility. The exact layout of locker and restroom facilities would be determined during final design.

Maintenance Building

The Maintenance Building is approximately 40,392 square feet with an industrial architectural style. This building has two (2) maintenance and inspection service bays: one single flat bay for minor maintenance and another bay with a service pit and platforms on both sides for access to roof tops of trains. A dual overhead crane also helps service both bays, with a dedicated component and material drop-off area and Support Shop adjacent to the service bays. A secure High-Level Automated Parts Storage Area is also adjacent to the service bays, with a shipping, receiving, and staging area inside the Storage Area for deliveries.

Service and Inspection Facility

The S&I Area is approximately 815 feet by 60 feet. The S&I Facility consists of several services for train cars in the facility, listed below:

- Dual S&I Fueling and Inspection Tracks/Areas (for bi-directional train access)
- Locomotive Fueling Area
- Platform Area Sanding Stations and Lubricant Reels at engine compartment access.
- Inspection Pit level.
- Toilet Dump Stations throughout the length of the eight-car consist

Utility Building

The Utility Building is approximately 981 square feet with an industrial architectural style. An additional 45 feet in length adjacent to the building is designated for the trash compactor and the baler, where the trash and waste from throughout the facility is handled. See full list of the building's program below:

- Lube Pump Room (Storage of new and used fluids)
- Air Compressor Room
- Trash Compactor and Bailer outdoor area with roll-off container pick up access
- Propane Storage Room
- Welding Gas Cylinder Storage Area
- Water Treatment Room (Oil Water Separator)
- Sewer Ejector Lift Station (Outside Building)
- Industrial Waste Tank (Outside Building)

Pump Building and Fuel Storage

The Pump House is a one-story unoccupied facility located on the south east side of the yard near the Utility Building. The square footage of the building is 750 square feet, and it has a building height of approximately 15'-6" from grade, with an industrial architectural style. It houses the elaborate fuel pumping system that will distribute diesel fuel to two locations at the S&I fuel stations to support the four fuel cranes. The Pump Building is also supported by a rubber tire vehicle fuel station and an adjacent Diesel Exhaust Fluid (DEF) tank and pump system that will support the dispensing of DEF at the fuel stations.

The tank farm located adjacent to the Pump Building provides a total of 120,000 gallon of diesel fuel storage located in four 30,000-gallon double walled aboveground tanks (AST) supplied with fuel delivery spill boxes and alarm systems. Distribution piping routed between the Utility Building, AST tanks, Pump Building and Fuel Stations is supported via a structural pipe bridge interconnection the Utility Building, Pump House, and S&I Fueling canopies for Phase 1 construction. Phase 2 construction will allow the extension of such bridge for fluid and air distribution to the future maintenance Building.

- Pump room housing diesel pump system and supporting equipment.
- Four 30,000-gallon aboveground double wall diesel fuel tanks.
- DEF tank and pump system.
- Rubber tire vehicle fueling station.
- Supply pipe bridge for distribution of fuel line, fluid lines and air distribution lines along with all required electrical conduit

Train Wash Building

The Train Wash Building is approximately 11,110 square feet with an industrial architectural style. Train cars are cleaned in this building. Coordination with the City of Irvine is necessary to establish the requirement of a canopy. The design of the Train Wash and its tracks would enable trains to pass through it in either direction. The wash would activate on only when desired so trains can go through the wash without being washed. A full list of the building's program is listed below:

- Drive-Thru Brush Vehicle Wash Bay with Speed Control and Water Stripper System
- Equipment Room
- Reclamation System
- Reverse Osmosis Spot Free Rinse
- Storage Vessels
- Pump Systems
- Underground pit collection system
- Electrical Room

Material Storage Building

The Material Storage Building is approximately 15,600 square feet with an industrial architectural style. Most material and equipment for the facility is stored in this building, as well as hazardous material and batteries. Final confirmation with SCRRA is pending to determine if the storage site is to be an enclosed prefabricated structure or an open-site area. Additional coordination with the City of Irvine is necessary to establish allowable proximity of the structure face to the property line. See full list of the building's program below:

- Large Material Storage Area
- Equipment Storage Area
- Battery Shop for battery charging and storage
- Hazardous Materials Storage Area

2.4. Construction

The Project would be developed in two phases with an anticipated completion date of 2028.

2.4.1. Phase 1

Phase 1 of the Project would involve construction of most of the infrastructure in the yard, including the S&I Facility tracks, train wash track, storage tracks, set-out track(s), yard lead tracks, transportation building, and employee parking. The construction activities, their duration, and personnel assumptions for construction of Phase 1 are shown in Table 2.4-1.

2.4.1. Phase 2

The second phase would construct the Maintenance Building and the Maintenance Building Expansion. Other potential items in this phase are the conversion of the West Lead Track into a drill track, and the construction of a second run-around track within the mainline track corridor. The construction activities, their duration and personnel assumptions for construction of Phase 2 are shown in Table 2.4-2.

Table 2.4-1: Construction Assumptions for Phase 1

Activity	Duration (Months)	Personnel
Clear and Grub	3	10
Site Utilities	24	16
Demolition	3	10
Earthwork-Excavation, grading and compacting	6	16
Foundations	4	24
Roadway/Paving/Curbs	4	15
Building	19	57
Bridge (assume precast)	6	36
Trackwork- Ballasted- (top of sub ballast up)	10	30
Trackwork- Direct Fixation	3	10
Major Equipment	6	33
Commissioning	2	N/A

Source: Gannett Fleming, 2021

Table 2.4-2: Construction Assumptions for Phase 2

Activity	Duration (Months)	Personnel
Clear and Grub	<1	10
Site Utilities	4	16
Demolition	1	10
Earthwork-Excavation, grading and compacting	2	16
Foundations	2	24
Roadway/Paving/Curbs	2	15
Building	15	57
Trackwork- Ballasted- (top of sub ballast up)	4	30
Trackwork- Direct Fixation	3	10
Major Equipment	6	33
Commissioning	2	N/A

Source: Gannett Fleming, 2021

2.5. Operations

2.5.1. Proposed Rail Conditions and Operations

The OCMF would provide overnight servicing and storage for trains – like Orange County Line trains – ending their day or revenue operations in or near Orange County. The OCMF would provide regular light repair, daily, and scheduled light maintenance on a three, six, and twelve-month schedule. Heavy repair

operations would continue to be performed at the CMF in Los Angeles. The rail operations functions of the yard may include, but not be limited to, the following:

- Rail Fleet Services – vehicle storage, maintenance, and repair. Provides for 3 or 4 shifts per day for rail fleet services staff and Yard Crew.
- Rail Transportation – train operator's services including:
    - Train operators report desk services.
    - Train operators transport services.

Typically, trains would enter the yard from the mainline going directly to the S&I pits. Once serviced, fueled, sanded, and cleared of waste, the trains head to the train wash for exterior cleaning. From the train wash they are sent to the storage yard for overnight keeping. Trains leaving the yard are inspected daily on the storage tracks before being released to revenue service by rail fleet services. The daily inspections include:

- The Automatic Train Protection system is tested
- Emergency braking system is tested
- The brakes are tested
- The doors are tested including their sensitive edges
- The couplers are checked
- The destination signs are tested
- The master controller and deadman controls are checked
- Defaced (graffiti) and worn passenger seats are documented
- Interior and exterior lights are checked
- Public address and intercom systems are tested
- Air conditioning system is checked
- Vehicle horn and gong is checked

Once the daily inspection is complete, trains are released to transportation services for operations. Trains passing the pre-trip inspections would be routed from storage to lead tracks in preparation for entry to the mainline. Specific train movements have been identified as standard movements in the daily operation of the yard:

- Mainline Northbound (NB) to Service and Inspection
- Service and Inspection to Train Wash
- Train Wash to Lead Tracks
- Lead Tracks to Storage Tracks
- Storage Tracks to Daily Inspection
- Daily Inspection to Lead Tracks
- Lead Tracks to Mainline Southbound (SB)

Approximately 80 employees are expected to access the Project Site daily following the Project's full buildout and the completion of Phase 2. Phase 1 and Phase 2 of the Project would anticipate

approximately approximately 52 and 28 employees respectively. Employees would enter the Project Site throughout the entire day, split across three eight-hour shifts.

2.6. Required Permits

OCTA is the lead agency for this Project and must oversee environmental review under CEQA, prior to approving the Project. OCTA recognizes the need for a close relationship with the City of Irvine and wishes to pursue the planning and environmental review of the Project in such a way that OCTA and the City of Irvine can agree that the Project would be of overall community benefit and that all reasonable efforts to avoid significant environmental effects have been made. Towards this end, OCTA would comply with regulations regarding site planning and construction, including such ordinances as the noise regulations and provisions of the City of Irvine's stormwater sewer system discharge permit.

The Project requires the following approvals and permits from agencies including:

- Army Corps of Engineering Clean Water Act (CWA) Section 404 Permit
- Army Corps of Engineering Amendment to the approved Habitat Mitigation and Monitoring Plan ("HMMP"), if necessary
- City of Irvine Public Works and Building and Safety Department - Grading Permit
- City of Irvine Building and Safety Department - Building Permit
- City of Irvine Community Development Services Department – Conditional Use Permit (CUP)
- Department of Navy
- Orange County Flood Control District ("OCFCD") - Encroachment permits may be required if any improvements are proposed within OCFCD right-of-way
- Santa Ana Regional Water Quality Control Board (SARWQCB)'s National Pollutant Discharge Elimination System (NPDES) Construction General Permit Order 2009-0009-DWQ
- South Coast Air Quality Management District (SCAQMD) - Issue any needed Air Quality Permits
- A consultation with U.S. Fish and Wildlife Service (USFWS) and the California Department of Fish and Wildlife (CDFW) would be conducted if special status plant species cannot be protected and an Incidental Take Permit (ITP) would be attained

2.7. Public Outreach of Draft IS/MND

In anticipation of the release of the Draft IS/MND, OCTA held meetings with the nearby residential community of Travata on various dates. All of the outreach materials are presented in Appendix I.

The meetings held with the Travata residents prior to the release of the Draft IS/MND included:

Meeting Date	Meeting Time	Meeting Format	Purpose
October 5, 2021	5:30 p.m.	Virtual	Introduce Project
November 4, 2021	10:30 a.m.	In-Person	Provide residents with ways to access Project information if they missed the virtual meeting
January 12, 2022	5:00 p.m.	In-Person	Review project, answer questions and clarify environmental process

In addition, one public meeting during the public review period was held on March 14, 2022. This meeting was held at 5 p.m. at the Travata Clubhouse and included a presentation by the OCTA Project Manager and the OCTA Outreach Manager. Many questions were taken at the meeting by residents and the written comments are included in the response to comments matrix in Appendix J.

3. INITIAL STUDY

This section follows the Environmental Checklist format as provided by Appendix G of the 2020 CEQA Thresholds of the California Office of Planning and Research. The purpose of this section is to present the evaluation of the proposed Project against the questions in all environmental categories listed below. All answers must take account of the whole action involved, including off-site as well as on-site, cumulative as well as project-level, indirect as well as direct, and construction as well as operational impacts. Brief but adequate explanation is required for all answers and these answers must adequately be supported by the information sources a lead agency cites in the parentheses following each question. A "No Impact" answer is adequately supported if the referenced information sources show that the impact simply does not apply to projects like the one involved (e.g., the project falls outside a fault rupture zone). A "No Impact" answer should be explained where it is based on project-specific factors as well as general standards (e.g., the project will not expose sensitive receptors to pollutants, based on a project-specific screening analysis). Once the lead agency has determined that a particular physical impact may occur, then the checklist answers must indicate whether the impact is potentially significant, less than significant with mitigation, or less than significant. "Potentially Significant Impact" is appropriate if there is substantial evidence that an effect may be significant. If there are one or more "Potentially Significant Impact" entries when the determination is made, an EIR is required.

3.1. AESTHETICS

Except as provided in Public Resources Code Section 21099, would the project:		Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
3.1.3.1	Have a substantial adverse effect on a scenic vista?	☐	☐	☐	☒
3.1.3.2	Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings and historic buildings within a state scenic highway?	☐	☐	☐	☒
3.1.3.3	If the project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality?	☐	☐	☒	☐
3.1.3.4	Create a new source of glare which would adversely affect day or nighttime views in the area?	☐	☐	☒	☐

3.1.1. Existing Conditions

The Project Site is in a relatively flat area adjacent to the Great Park, with a multi-sport complex to the northeast, office/industrial uses to the southwest, and I-5 to the east and State Route 133 (SR-133) to

the north. The existing area in the vicinity of the Project Site consists of an active railroad corridor; vacant, undeveloped land; active parkland associated with the Great Park; and urbanized areas containing medium-high rise commercial office buildings (Google Maps, 2021). A complex of two-story single-family homes (Travata 55+) is located at the northwest corner of Marine Way and Ridge Valley.

The Santa Ana Mountains can be seen to the east of the Project Site, and Bommer and Shady Canyon can be seen southwest of the Project Site. There are no designated California Department of Transportation (Caltrans) scenic vistas or scenic resources in the area (Caltrans, 2019). The City of Irvine General Plan does not delineate or designate any scenic resources or specific views as protected scenic vistas in the Project Site (City of Irvine, 2015).

At this time, there is no planned development for the area between the Project and Marine Way. The existing Project Site does not have any light sources. Sources of lighting in the vicinity include the Great Park's tennis courts, sports fields, and parking lot security lighting. Additionally, the adjacent highways have light sources for roadway visibility and headlights from motor vehicle traffic.

Project Site

The Project Site is currently vacant and undeveloped; its visual character exhibits some natural landforms and vegetation, such as low grasses. A narrow, paved road traverses the Site. Minor visual structural features include unused stormwater drains, valves and vents, rail equipment, signal houses, and storage of other rail or electrical equipment. The form of the Project Site is generally flat and low, with no vertical elements that dominate the landscape. The lines associated with the Project Site are generally horizontal, curving, and continuous, but occasionally irregular, and do not visually dominate the view. Colors visible within the landscape primarily include hues of brown, with some patches of greens and grays. The texture of the Project Site is fine-grained, dense, patchy, with occasional areas of striation. The existing visual quality of the Project Site is considered to have low vividness, intactness, and unity because it does not exhibit distinctive or memorable visual elements; the integrity of the visual environment is not consistent or patterned; and the visual elements do not combine to form a coherent visual design or organization.

Most of the areas surrounding the Project Site vary greatly in visual character from the Project Site in terms of form, line, color, and texture due to the presence of more and taller vertical features such as trees, residences, and elevated highways, as well as vibrant large areas of green spaces. The visual quality of the surrounding area varies but generally exhibits a slightly higher degree of vividness, intactness, and unity.

Viewer Characteristics and Sensitivity

In considering aesthetic impacts of the Project, key views and visually prominent features have been assessed to determine how they would most influence impact perception. The viewer population is a mix of viewer groups, including residents, park patrons, office building and industrial workers, transit patrons, commuters, and bicyclists. Motorists are anticipated to have low sensitivity to visual change than other viewer groups because they are focused on driving in traffic. Workers in the nearby office

buildings and industrial buildings are anticipated to have low sensitivity to visual change. The residents and park patrons would have high sensitivity to visual change in the area because their activities are elective or because they spend a great deal of time in the area of the Project Site.

Light sensitive receptors or land uses may include, but are not limited to, all types of residences; commercial or institutional uses that require minimal nighttime illumination for proper function, physical comfort, or commerce; and natural areas.

3.1.2. Regulatory Framework

City of Irvine General Plan Land Use Policy Objective A-1 Policy (a) - Objective A-1 of the City of Irvine's Land Use Policy is to strengthen Irvine's identity. One policy mechanism to achieve this objective is through the conservation of visual resources along the scenic corridors that define the City of Irvine.

3.1.3. Discussion

3.1.3.1. Would the Project have a substantial adverse effect on a scenic vista?

Determination: NO IMPACT

Construction and Operational Impacts

A scenic vista generally provides focal views of objects, settings, or features of visual interest; or panoramic views of large geographic areas of scenic quality, primarily from a given vantage point. A significant impact would occur if a project introduced incompatible visual elements within a field of view containing a scenic vista or substantially altered a view of a scenic vista.

As described in Appendix A (Aesthetics Technical Memorandum), the City of Irvine General Plan does not delineate or designate any specific views as protected scenic vistas in the Project Site. There are no designated Caltrans scenic vistas or scenic resources in the area. Therefore, no construction and operational impacts would occur related to a substantial adverse effect on a scenic vista.

3.1.3.2. Would the Project substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?

Determination: NO IMPACT

Construction and Operational Impacts

The Project is not located along or near an officially designated California Scenic Highway or locally designated scenic highway. There are no designated Caltrans scenic vistas or scenic resources in the area. The closest designated scenic highway is Highway 91 approximately 13 miles away from the Project. Old Town Irvine is a registered California historical landmark,

approximately half-mile away from the Project Site; however, it is occluded by SR-133 and I-5 (Caltrans, 2019).

The Project would not impact any groves of trees, street trees, rock outcroppings, historic buildings, or any other potential scenic resources during construction or operations, as no existing scenic resources are present on the Project Site. Therefore, no construction or operational impacts would occur related to scenic resources, including but not limited to trees, rock outcroppings, and historic buildings within a state scenic highway.

3.1.3.3. In non-urbanized areas, would the Project substantially degrade the existing visual character or quality of public views of the site and its surroundings?

Determination: <u>LESS THAN SIGNIFICANT IMPACT</u>

Construction Impacts

Visually, the Project Site consists of a vacant area with a minor accessory structure and access roads. The Project Site does not contain any buildings, trees, or landscaping and the existing landscape is not memorable. This is a contrast from the green space area to the north that includes the Great Park. During the construction phase, construction equipment, staging areas, construction trucks and vehicles, and temporary fencing would be visible to several viewer groups and would result in a contrast and change in visual character from the existing vacant area. However, construction is currently ongoing for the County of Orange's RV storage area; thus, construction activities such as grading would not be different than what is encountered now.

Transit patrons, motorists, and bicyclists would primarily experience views of construction activities while riding trains on the adjacent Metrolink tracks, driving along Marine Way adjacent to the Project Site, and while traveling in the bike path along Marine Way. The change in the visual character of the Project Site during the construction phase would be noticed by these viewer groups; however, transit patrons, motorists, and bicyclists are considered receptors with low sensitivity.

The employees of office buildings and industrial land uses in the vicinity of the Project Site would primarily experience views of the construction activities on the Project Site as they approach and leave their place of work. Therefore, their views of the construction activities would mostly take place while en route to and from these locations. The change in the visual character of the Project Site during the construction phase would be noticed by these viewer groups. However, employees of office buildings and industrial land uses are considered to have a low sensitivity to visual changes on the Project Site.

Residents and Great Park patrons would primarily experience views of construction activities while traveling to and from their homes and while recreating in the Great Park. Views from the residences located northwest of the Project Site would be blocked by existing mature

trees on their properties, as well as the concrete wall that surrounds the residential complex. The view would also be blocked by fencing that would surround the Project Site during construction and operations.

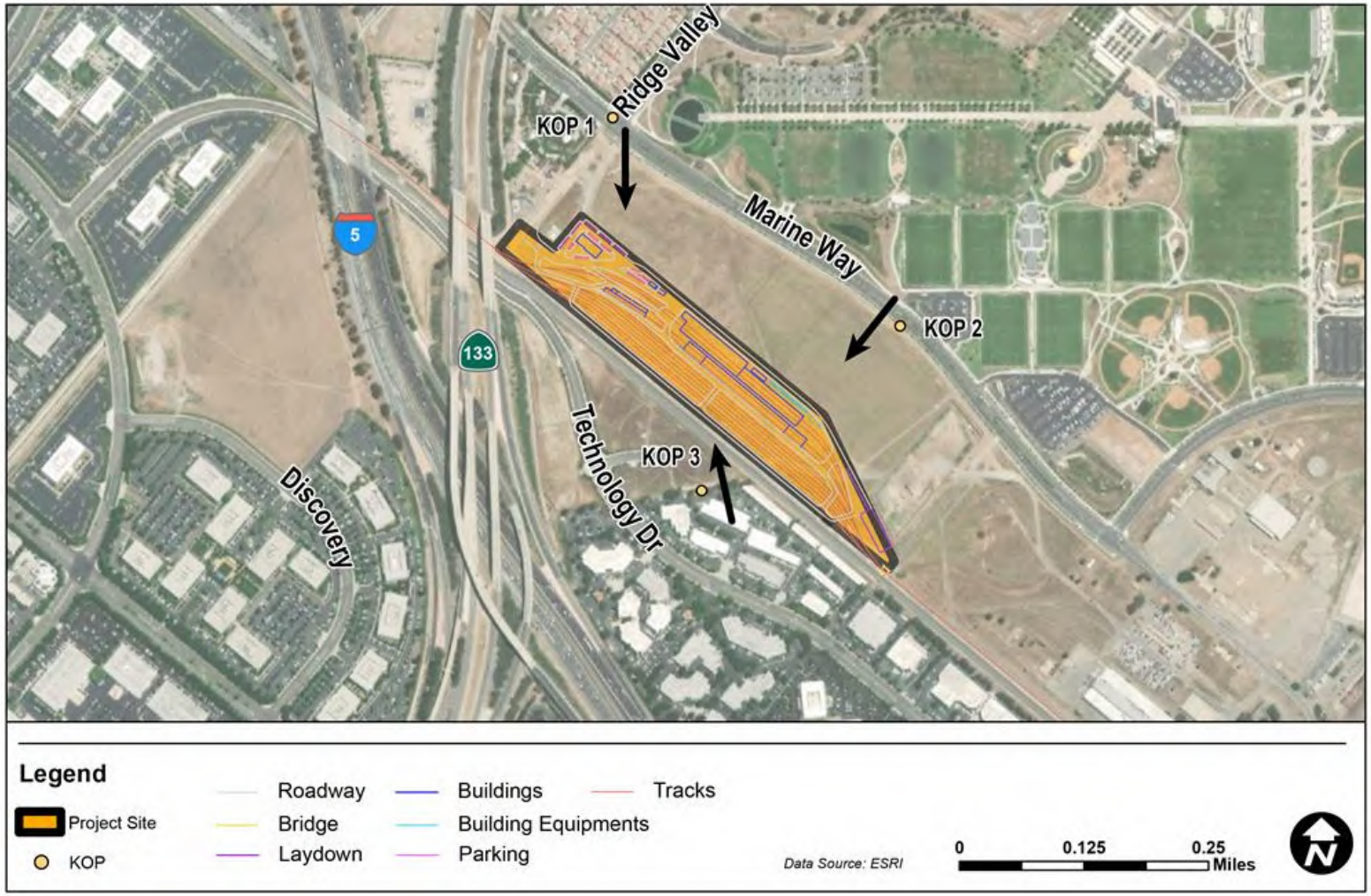
Overall, the construction phase would represent a temporary change in the visual quality and character of the Project Site. However, the construction site would be visibly similar to other construction projects in the City. During construction, the Project Site would be surrounded by fencing that would also block the majority of the construction activities. Therefore, construction impacts related to visual character would be less than significant.

Operational Impacts

The Project would include a new maintenance facility adjacent to the Metrolink right-of-way (ROW) and would involve the construction and operation of up to 30-foot-tall buildings, and approximately 30-foot-tall metal structures that would serve as bridges for utility lines. The new structures would be set back on the site over 500 feet from Marine Way to the north. The Project would be within an urban environment and would be consistent with the City's General Plan goals of conservation of visual resources along the scenic corridors in the City. To assess the potential visual changes that would result from the operation of the Project, three Key Observation Points (KOPs) were selected specifically for the Project, as shown below. KOPs represent key locations where the visual character is representative and can be used for visual simulations to evaluate potential visual impacts. Visual simulations from these KOPs were prepared to provide a before and after comparison of the visual effects that would result from the Project. The locations of the three KOPs are shown Figure 3.1-1. The KOP existing views and simulations are shown in Figures 3.1-4 through 3.1-6.

The KOPs are representative of direct views within the Project Site and its surrounding area. Simulations from the same locations show how these views would change as a result of the implementation of the Project. The simulated views represent conceptual design and are not intended to represent the Project's final design.

Figure 3.1-1: Location of Key Observation Points



Source: ESRI (2021), OCTA (2021)

KOP 1 shows the Project Site looking southeast from along Marine Way and the intersection with Ridge Valley (see Figure 3.1-2). The Marine Way ROW, including traffic signals and a streetlight pole, dominate the foreground of the view. Public parkway landscaping and fencing are visible directly adjacent to the roadway. The flat and somewhat vegetated Project Site is visible in the middle ground of the view with no existing structures present. The background of the view includes a segment of elevated freeway on the right, as well as trees and tall office buildings on the center and left. In the distance, the tops of hills can be seen above the elevated I-5.

As shown in Figure 3.1-2, the Project is visible in the middle ground of the view. The new buildings interrupt some of the background views of the distant office buildings, trees, and the elevated I-5. The tops of the hills can still be seen. The Project includes a solid wall that is visible throughout the center of the view from right to left. The simulated view from KOP 1 represents a visual change compared to existing conditions as development would occur on a site with no existing structures. However, due to the urban and visual environment of the area surrounding the Project Site, including various types of uses and structures, this visual change would not be inconsistent with other development in the vicinity of the Project Site. The Project would include new large aboveground structures; however, the height and massing of the buildings would not substantially alter visual character for residential viewers from this viewpoint primarily due to the distance of the Project buildings from the residential viewers, and because the residences are surrounded by a tall concrete wall and large trees. Additionally, no aesthetically significant view or landmark would be altered or blocked. Therefore, operational impacts related to visual character would be less than significant for KOP 1.

KOP 2 shows the Project Site looking southwest from along Marine Way, approximately 1,800 feet southeast of Ridge Valley (see Figure 3.1-3). The Great Park is located approximately 94 feet behind the view perspective. This view represents the perspective of motorists, pedestrians, cyclists, and Great Park patrons. Visible in the foreground is the public sidewalk, landscaping, small bushes, a small tree, and a small concrete slab housing a manhole cover and a small, green aboveground utility box. Visible in the middle ground is a narrow dirt road, and a large area of green and brown ground vegetation within the Project Site. The elevated I-5 is visible in the background on the right and center of the view. Mature trees, commercial and office buildings, other development, and distant hills are visible in the background in the center and partially in the right side of the view.

Figure 3.1-2: KOP 1 – Before and After Simulation View, Looking Southeast from Residential Uses at Marine Way/Ridge Valley Intersection

Source: OCTA/Trimble (2021), OCTA (2021)

As shown in the simulated view of Figure 3.1-3, the Project would be visible in the middle ground of the view, with the tallest buildings being on the right. The new buildings would block the background views of the elevated I-5 on the right, and would only partially block views of the mature trees, commercial and office buildings, other development, and distant hills. The Project would include a solid wall that would be visible throughout the center of the view from right to left. The simulated view from KOP 2 represents a visual change compared to existing conditions as development would occur on a site with no existing structures. However, due to the urban and visual environment of the area surrounding the Project Site, including various types of uses and structures, this visual change would not be inconsistent with other development in the vicinity of the Project Site. The Project would include new large aboveground structures; however, the height and massing of the buildings would not substantially alter visual character for motorists, pedestrians, cyclists, and Great Park patrons from this viewpoint primarily due to the distance of the Project from the viewers. Additionally, no aesthetically significant view or landmark would be altered or blocked. Therefore, operational impacts related to visual character would be less than significant for KOP 2.

KOP 3 shows the Project Site looking north from the parking lot adjacent to a commercial/office building approximately 335 feet south of the Project Site (see Figure 3.1-4). This view represents the perspective of commercial and industrial building users. Visible in the foreground is a portion of the paved and striped surface parking lot, and a mature and smaller tree, as well as small bushes and a chain link fence that spans the view from right to left. Visible in the middle ground of the view is a vacant site that is not a part of the Project Site, as well as the Project Site itself. The ground vegetation on the vacant site and Project Site render the sites indistinguishable in this view. The Metrolink ROW divides these two sites, but this is indistinguishable in this view due to the vegetation. The background includes distant views of residential buildings on the center/left, as well as mature trees, Great Park, and hills on the right and center.

As shown in the simulated view in Figure 3.1-4, the Project would be visible in the middle ground of the view. The proposed maintenance building would block the distant background views of mature trees, the Great Park, and hills that would be visible on the right and center of the view. The simulated view from KOP 3 represents a visual change compared to existing conditions as development would occur on a site with no existing structures. However, due to the urban and visual environment of the area surrounding the Project Site, including various types of uses and structures, this visual change would not be inconsistent with other development in the vicinity of the Project Site. The Project would include new large aboveground structures and although the height and massing of the buildings would substantially alter views for commercial, office, and industrial building users, these are considered viewers with low to moderate sensitivity. Additionally, no aesthetically significant view or landmark is being altered or blocked. Therefore, no operational impacts related to visual character would occur for KOP 3.

Figure 3.1-3: KOP 2 – Before and After Simulation View, Looking Southwest from Marine Way and the Great Park

Source: OCTA/Trimble (2021), OCTA (2021)

Figure 3.1-4: KOP 3 – Before and After Simulation View, Looking North from Commercial and Industrial Uses

Source: OCTA/Trimble (2021), OCTA (2021)

Overall, the operation of the Project would represent a change in visual character as compared to the existing Project Site as development would occur on a site with no existing structures. However, the Project is in an urban area that currently has a mix of open space, industrial and office buildings, residential homes, and adjacent elevated freeway segments. Users of commercial businesses and offices would have a low to moderate sensitivity to this visual change. Residents and park patrons would likely have high sensitivity to the visual change; however, views from the residences would be interrupted by mature trees and existing and proposed walls, as well as the RV storage area between Marine Way and the Project Site. As a result, the Project would not conflict with any other regulations governing scenic quality because the Project would not substantially change views in the area or along any scenic corridor. Therefore, operational impacts related to visual character would be less than significant.

3.1.3.4. Would the Project create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?

Determination: <u>LESS THAN SIGNIFICANT IMPACT</u>

Construction Impacts

The Project Site does not currently have any sources of lighting. A high level of existing ambient lighting currently exists surrounding the Project Site, including a substantial amount of high-poled sports field lighting located in the Great Park complex to the north. Construction of the Project would not include nighttime construction activities (primarily due to construction noise restrictions on work hours), which would require nighttime construction lighting. However, the Project Site would include standard safety lighting during construction. Nevertheless, sensitive receptors (the Great Park and residences) would be too far from the Project Site to experience spillover lighting due to security lighting. Therefore, construction impacts related to lighting would be less than significant. Regarding glare, construction equipment is not likely to be a significant source of glare. Therefore, no impacts related to glare would occur.

Operational Impacts

The Project would include installation of new standard exterior and interior security lighting around and within the OCMF, including buildings, which would operate continuously. The sensitive receptors for lighting are too far from the Project Site to be impacted by spillover lighting. However, per BMPs, the nighttime lighting fixtures would be installed to direct the majority of the light to within and directly adjacent to the OCMF, and away from sensitive areas, to the maximum extent feasible. In addition, the materials used in the exterior of buildings and structures visible above the proposed 6-foot-tall wall between the Project Site and Marine Way would comply with applicable City regulations under its Municipal Code (Division 9) and Zoning Ordinance (Section 3.16) to ensure no substantial source of glare.

Figure 3.1-5 and Figure 3.1-6 illustrate that the existing CMF and EMF, to which the Project would be similar, include typical exterior building materials, such as concrete, and do not exhibit reflective properties that could result in glare. Therefore, operational impacts related to the creation of a substantial source of light or glare would be less than significant.

Figure 3.1-5: Existing Central Maintenance Facility, Exterior Building Materials

Source: Google Maps (2021)

Figure 3.1-6: Existing Eastern Maintenance Facility, Exterior Building Materials

Source: Google Maps (2021)

3.2. AGRICULTURE AND FORESTRY RESOURCES

		Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
In determining whether impacts to agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997) prepared by the California Department of Conservation as an optional model to use in assessing impacts on agriculture and farmland. In determining whether impacts to forest resources, including timberland, are significant environmental effects, lead agencies may refer to information compiled by the California Department of Forestry and Fire Protection regarding the State's inventory of forest land, including the Forest and Range Assessment Project and the Forest Legacy Assessment Project; and forest carbon measurement methodology provided in Forest Protocols adopted by the California Air Resources Board. Would the project:				
3.2.3.1	Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?	☐	☐	☐	☒
3.2.3.2	Conflict with existing zoning for agricultural use, or use or a Williamson Act contract?	☐	☐	☐	☒
3.2.3.3	Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220 (g)), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g))?	☐	☐	☐	☒
3.2.3.4	Result in the loss of forest land or conversion of forest land to non-forest use?	☐	☐	☐	☒
3.2.3.5	Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland to non-agricultural use or conversion of forest land to non-forest use?	☐	☐	☐	☒

3.2.1. Existing Conditions

The California Department of Conservation (DOC) (2018) has designated the Project Site's existing land use as Other Land with some Urban and Build-out land use (see Figure 3.2-1). Additionally, the City of Irvine has designated the Project Site's existing land use as part of the Great Park (refer to Section 3.11 Land Use and Planning) and is zoned for 6.1 Institutional purposes. The Project Site is not located or zoned for any farmland, agriculture, or forestland land use.

3.2.2. Regulatory Framework

State

California Land Conservation Act of 1965 (also known as the Williamson Act) - The Williamson Act enables local governments to enter into contracts with private landowners for the purpose of restricting specific parcels of land to agricultural or related open space use. The Act allows the DOC to establish agricultural conservation easements on farmland.

Local

City of Irvine General Plan, Land Use Element - The Project Site is currently undeveloped and is designated by the City of Irvine General Plan as Planning Area 51, the Great Park land use type.

City of Irvine Zoning Ordinance - The Project Site is zoned for 6.1 Institutional uses.

3.2.3. Discussion

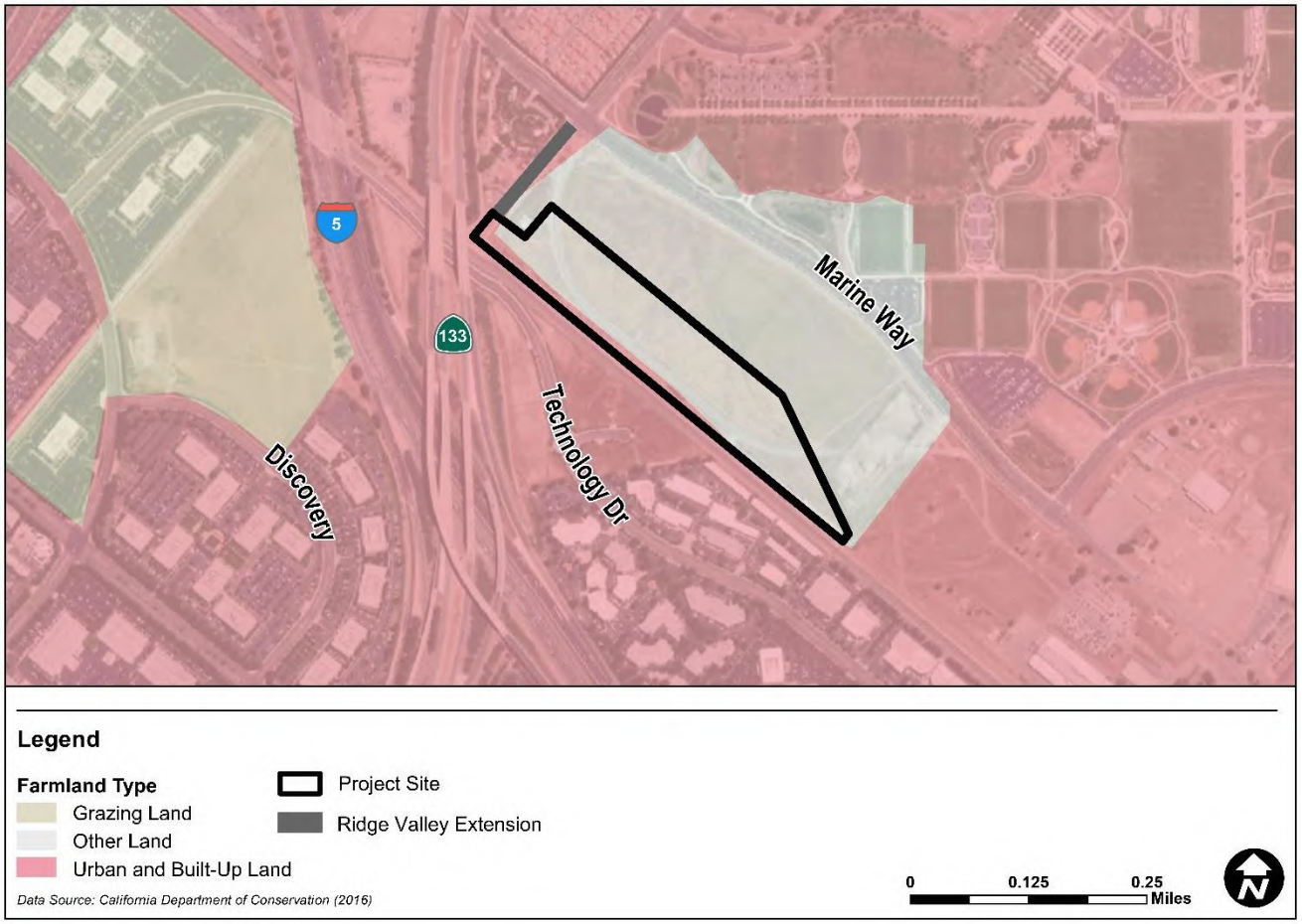
3.2.3.1. Would the Project convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance?

Determination: NO IMPACT

Construction and Operational Impacts

As stated in Section 3.2.1, the DOC has designated the Project Site's existing land use as Other Land with some Urban and Built-Up land use. The City of Irvine has designated the Project Site's existing land use as part of the Great Park (refer to Chapter 3.11 Land Use and Planning) and is zoned for 6.1 Institutional purposes. Although the proposed Project is not an institutional land use, a CUP would be requested to ensure compliance with existing goals of the City. Therefore, no construction or operational impacts would occur related to the conversion of any Prime Farmland, Unique Farmland, or Farmland of Statewide Importance.

Figure 3.2-1: Existing Farmland In the Vicinity of the Project Site



Source: DOC (2016), and OCTA (2020)

3.2.3.2. Would the Project conflict with existing zoning for an agricultural use or a Williamson Act contract?

Determination: NO IMPACT

Construction and Operational Impacts

The Project Site is not on agricultural land (refer to 3.2.3.1) and would, consequently, not conflict with existing zoning for an agricultural use or a Williamson Act contract. Therefore, no construction or operational impacts would occur related to existing zoning for an agricultural use or a Williamson Act contract.

3.2.3.3. Would the Project conflict with existing zoning, or cause rezoning of, forest land?

Determination: NO IMPACT

Construction and Operational Impacts

The Project Site is not zoned as forestland, timberland, or timberland production. Therefore, no construction and operational impacts that would conflict with existing zoning or cause rezoning of forestry resources would occur.

3.2.3.4. Would the Project result in the loss of forest land or result in the conversion of forest land to non-forest use?

Determination: NO IMPACT

Construction and Operational Impacts

The Project Site is not zoned as forestland, timberland, or timberland production. Therefore, no construction and operational impacts that would result in the loss of forestland or result in the conversion of forestland to non-forest use would occur.

3.2.3.5. Would the Project involve other changes in the existing environment which could result in the conversion of farmland to non-agricultural use or conversion of forestland to non-forest use?

Determination: NO IMPACT

Construction and Operational Impacts

The Project Site is not located within the vicinity of land use categorized as farmland or forestland. Therefore, no construction and operational impacts that would result in the conversion of farmland to non-agricultural use or conversion of forestland to non-forest use would occur.

3.3. AIR QUALITY

Where available, the significance criteria established by the applicable air quality management district or air pollution control district may be relied upon to make the following determinations. Would the project:		Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
3.3.3.1	Conflict with or obstruct implementation of the applicable air quality plan?	☐	☐	☒	☐
3.3.3.2	Result in cumulatively considerable net increase of any criteria pollutant for which the project region is in non-attainment under an applicable federal or state ambient air quality standard?	☐	☒	☐	☐
3.3.3.3	Expose sensitive receptors to substantial pollutant concentrations?	☐	☐	☒	☐
3.3.3.4	Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?	☐	☐	☒	☐

3.3.1. Existing Conditions

Criteria Air Pollutants

The primary purpose of an air quality plan is to bring an area that does not attain National Ambient Air Quality Standards (NAAQS) and California Ambient Air Quality Standards (CAAQS) into compliance with those standards pursuant to the requirements of the Clean Air Act (CAA) and California Clean Air Act (CCAA). NAAQS and CAAQS have been established for the following criteria pollutants: ozone, carbon monoxide (CO), sulfur dioxide (SO_2), nitrogen dioxide (NO_2), particulate matter less than 10 micrometers in diameter (PM_{10}), particulate matter less than 2.5 micrometers in diameter ($PM_{2.5}$), and lead. The NAAQS and CAAQS are described in more detail in Appendix B.

The Project Site is located within the South Coast Air Basin (SCAB) in the Saddleback Valley Source Receptor Area (SRA 19). The SCAQMD is the regulatory agency that oversees all of Orange County and the non-desert portions of Los Angeles, Riverside, and San Bernardino Counties. Under the CCAA, the SCAQMD is required to develop an air quality attainment plan for nonattainment criteria pollutants within the air district. The most recent air quality plan developed by the SCAQMD is the 2016 Air Quality Management Plan (AQMP). The 2016 AQMP is the legally enforceable blueprint for how the region will meet and maintain the NAAQS and CAAQS. The 2016 AQMP identifies strategies and control measures needed to achieve attainment of the 8-hour ozone standard and federal annual and 24-hour standard for $PM_{2.5}$ in the SCAB (SCAQMD, 2017a). The future emission forecasts are primarily based on demographic and economic growth projections provided by the Southern California Association of Governments (SCAG). As detailed in Appendix B, with respect to the NAAQS, the SCAB is designated as a nonattainment area for ozone and $PM_{2.5}$, a maintenance area for CO and PM_{10}, and as an attainment or

unclassified area for all other pollutants. With respect to the CAAQS, the SCAB is designated as a nonattainment area for ozone, PM_{10}, and $PM_{2.5}$, and as an attainment area for all other pollutants (SCAQMD, 2016; EPA, 2020).

Toxic Air Contaminants

In addition to criteria pollutants, both federal and state air quality regulations also focus on toxic air contaminants (TACs). TACs can be separated into carcinogens and noncarcinogens based on the nature of the effects associated with exposure to the pollutant. TACs may be emitted by stationary, area, or mobile sources. Common stationary sources of TAC emissions include gasoline stations, dry cleaners, and diesel backup generators, which are subject to local air district permit requirements. The other, often more significant, sources of TAC emissions are motor vehicles on freeways, high-volume roadways, or other areas with high numbers of diesel particulate matter-emitting activities, such as distribution centers and railyards. Off-road mobile sources are also major contributors of TAC emissions and include construction equipment, ships, and trains. In 2015, the SCAQMD published the Multiple Air Toxics Exposure Study IV (MATES IV), a monitoring and evaluation study conducted in the SCAB. The MATES IV consists of a monitoring program, an updated emissions inventory of TACs, and a modelling effort to characterize risk across the SCAB. The study focuses on the carcinogenic risk from exposure to air toxics. The MATES IV estimated population weighted risk in the SCAB is 897 per million, a decrease of about 57 percent compared to the previous study (MATES III). The study also showed that diesel exhaust emissions had declined by about 70 percent, but diesel particulate matter (diesel PM) continued to account for about two-thirds of the cancer risk from air toxics (SCAQMD, 2017b). MATES IV estimates an excess cancer risk of 626 per million for the Project Site (SCAQMD, 2015).

Sensitive Receptors

Some members of the population are especially sensitive to air pollutant emissions and should be given special consideration when evaluating air quality impacts from projects. The SCAQMD considers a sensitive receptor to be a receptor such as a residence, hospital, or convalescent facility where it is possible that an individual could remain for 24 hours (SCAQMD, 2008). Residential areas are considered sensitive to air pollution because residents (including children and the elderly) tend to be at home for extended periods of time, resulting in sustained exposure to pollutants present. Recreational land uses are considered moderately sensitive to air pollution. Exercise places a high demand on respiratory functions, which can be impaired by air pollution even though exposure periods during exercise are generally short. In addition, noticeable air pollution can detract from the enjoyment of recreation. Industrial and commercial areas are considered the least sensitive to air pollution because exposure periods are relatively short and intermittent as the majority of the workers tend to stay indoors most of the time.

The Project Site is adjacent to the Great Park, which serves outdoor recreational activities for the community. The nearest receptors to the Project Site are the residences of a senior community approximately 650 feet north of the Project Site on Ridge Valley, worker receptors located at the

buildings along Technology Drive and at the nursery to the west of the Project Site, and the recreational receptors at the Great Park.

3.3.2. Regulatory Framework

State

California Clean Air Act - The CCAA was adopted in 1988 and requires the California Air Resources Board (ARB) to establish CAAQS. In most cases, CAAQS are more stringent than NAAQS. Other ARB responsibilities include, but are not limited to, overseeing local air district compliance with state and federal laws; approving local air quality plans; submitting State Implementation Plans to EPA; monitoring air quality; determining and updating area designations and maps; and setting emission standards for new mobile sources, consumer products, small utility engines, off-road vehicles, and fuels.

Tanner Toxics Act - TACs in California are regulated primarily through the Tanner Air Toxics Act (Chapter 1047, Statutes of 1983) and the Air Toxics Hot Spots Information and Assessment Act (Chapter 1252, Statutes of 1987). Assembly Bill (AB) 1807 sets forth a formal procedure for ARB to designate substances as TACs. Research, public participation, and scientific peer review must occur before ARB can designate a substance as a TAC. The Air Toxics Hot Spots Information and Assessment Act requires that TAC emissions from stationary sources be quantified and compiled into an inventory according to criteria and guidelines developed by ARB, and, if directed to do so by the local air district, a health risk assessment must be prepared to determine the potential health impacts of such emissions.

Local

SCAQMD Regional Significance Thresholds - As stated in Appendix G of the CEQA Guidelines, the significance criteria established by the applicable air quality management board or air pollution control district may be relied on to make the impact determinations for specific program elements. The SCAQMD has established recommended screening level thresholds of significance for regional emissions. The SCAQMD regional significance thresholds are shown in Table 3.3-1. The regional thresholds of significance were designed to identify those projects that would result in significant levels of air pollution and to assist the region in attaining the applicable state and federal ambient air quality standards, which were established using health-based criteria to protect the public with a margin of safety from adverse health impacts due to exposure to air pollution. Because regional air quality standards have been established for these criteria pollutants to protect the public with a margin of safety from adverse health impacts due to exposure to air pollution, these thresholds of significance can also be used to assess Project emissions and inform the Project's impacts to regional air quality and health risks under CEQA.

Table 3.3-1: SCAQMD Regional Thresholds of Significance for Select Criteria Pollutants

Pollutant	Daily Emissions lbs/day (Construction)	Daily Emissions lbs/day (Operation)
NO_X	100	55
PM_{10}	150	150
$PM_{2.5}$	55	55
CO	550	550
VOC	75	55
SO_X	150	150
Lead[1]	3	3

Notes: SCAQMD = South Coast Air Quality Management District; NO_X = nitrogen oxides; PM_{10} = suspended particulate matter less than 10 micrometers in diameter;
$PM_{2.5}$ = fine particulate matter less than 2.5 micrometers in diameter; CO = carbon monoxide;
VOC = volatile organic compounds; SO_X = sulfur oxides; lbs/day = pounds per day.
[1] This analysis does not directly evaluate lead because little to no quantifiable and foreseeable emissions of this substance would be generated by the Project. Lead emissions have significantly decreased due to the near elimination of leaded fuel use.
Source: SCAQMD, 2019

SCAQMD Localized Significance Thresholds (LSTs) - The SCAQMD also established LSTs, which represent the maximum emissions from a project that will not cause or contribute to an exceedance of the most stringent applicable federal or state ambient air quality standards. The LSTs are developed based on the ambient concentrations of that pollutant for each source receptor area. Since the LSTs consider the ambient air quality, LSTs can also be used to identify those projects that would result in significant levels of air pollution and impact sensitive receptors.

The LST Methodology provides Look-Up Tables with different thresholds for nitrogen oxides (NO_X), CO, PM_{10}, and $PM_{2.5}$ based on the location and size of the project site and distance to the nearest sensitive receptors. The Look-Up Tables provide thresholds for 1, 2, and 5-acre project sites. Since the Project Site has an area of approximately 21.3 acres, the 5-acre project site threshold was utilized to provide a conservative analysis for CO and PM_{10} emissions. The 5-acre project site threshold can be used as a conservative measure because it assumes daily emissions associated with the emissions-generating activities are emitted on a 5-acre site (and therefore concentrated over a smaller area with higher air pollutant concentrations to the surrounding receptors). Thus, if emissions are less than the LSTs developed by SCAQMD for a 5-acre project, then a more detailed evaluation for a larger project site is not required. However, since the region is in nonattainment for ozone and $PM_{2.5}$ and the Project Site is larger than 5 acres, consistent with SCAQMD guidance, project-specific localized dispersion modeling was performed for NO_2 (an ozone precursor) and $PM_{2.5}$. The Project limits are located within Source Receptor Area 19, Saddleback Valley.

As described previously, the nearest sensitive receptors are residences in the senior housing community located approximately 650 feet (200 meters) north of the Project Site. As such, the applicable LST for PM_{10} was determined assuming a receptor distance of 200 meters. In addition, since it is reasonable to

assume that off-site workers located at the nursery to the west of the Project Site and buildings along Technology Drive could be present for periods of 1 to 8 hours, the LST analysis was also performed for these worker receptors for pollutants with shorter averaging times, such as CO. The LST for CO was based on a 5-acre project site and 25-meter receptor distance. Since project-specific localized dispersion modeling was performed for NO_2 and $PM_{2.5}$, the LSTs were based on the SCAQMD ambient air quality thresholds for these criteria pollutants. Table 3.3-2 presents the LSTs applicable to the Project.

SCAQMD Health Risk Assessment (HRA) Thresholds - The SCAQMD has also developed HRA thresholds for TACs including carcinogens and noncarcinogens. These thresholds are summarized in Table 3.3-3.

Table 3.3-2: SCAQMD Localized Thresholds for SRA 19

Threshold [1]	NO_X	CO	PM_{10}	$PM_{2.5}$
Mass-Rate Look Up Tables for LSTs for a 5-Acre Project Site Construction (lbs/day)	197	1,804	74	30
Mass-Rate Look Up Tables for LSTs for a 5-Acre Project Site Operations (lbs/day)	197	1,804	18	8
Operational Ambient Air Quality Standards for Criteria Pollutants	0.18 ppm (338.4 µg/m^3) 0.03 ppm (56.4 µg/m^3)	20 ppm	2.5 µg/m^3	2.5 µg/m^3

Notes: SCAQMD = South Coast Air Quality Management District; LST = localized significance threshold; NO_X = nitrogen oxides; CO = carbon monoxide; PM_{10} = suspended particulate matter less than 10 micrometers in diameter; $PM_{2.5}$ = fine particulate matter less than 2.5 micrometers in diameter; lbs/day = pounds per day.
[1] The mass-rate LSTs developed by SCAQMD are for a 5-acre project site. As detailed above, due to the region's nonattainment status for ozone and $PM_{2.5}$ and the Project Site size, criteria pollutant modeling was performed for NO_2 (an ozone precursor) and $PM_{2.5}$. These ambient air quality standards are obtained from the SCAQMD ambient air quality thresholds for criteria pollutants based on South Coast AQMD Rule 1303, Table A-2.
Source: SCAQMD, 2008

Table 3.3-3: SCAQMD Health Risk Assessment Thresholds

Description	Threshold
Maximum Incremental Cancer Risk	10 in 1 million
Chronic & Acute Hazard Index	1.0

Notes: SCAQMD = South Coast Air Quality Management District
Source: SCAQMD, 2019

3.3.3. Discussion

3.3.3.1. Would the Project conflict with or obstruct implementation of the applicable air quality plan?

Determination: LESS THAN SIGNIFICANT IMPACT

Construction Impacts

Construction of the Project would involve the use of off-road equipment and haul trucks, and worker commute trips. Assumptions for off-road equipment emissions in air quality plans are developed based on hours of activity and equipment population reported to ARB for rule compliance. The use of construction equipment in the AQMP is estimated for the region on an annual basis, and construction-related emissions are estimated as an aggregate in the AQMP. Since Project construction is limited to short-term activities and construction activities would not involve unusual characteristics that would necessitate the use of extensive off-road equipment, the Project would not increase the assumptions for off-road equipment use in the AQMP. In addition, the Project would result in emissions that would be below the SCAQMD regional and localized thresholds during construction (as shown below in Section 3.3.3.2). The thresholds were developed to assist the region in attaining the applicable state and federal ambient air quality standards; therefore, the Project would not result in an increase in the frequency or severity of existing air quality violations and would not have the potential to cause or affect a violation of the NAAQS or CAAQS. Furthermore, construction activities would comply with SCAQMD rules and regulations, including but not limited to Rule 401 (Visible Emissions), Rule 402 (Nuisance), Rule 403 (Fugitive Dust), and Rule 1113 (Architectural Coatings). As such, the Project would also comply with the applicable SCAQMD rules and regulations, which are developed to implement AQMP control measures. Therefore, construction impacts related to, conflicting with or obstructing implementation of the applicable air quality plan would be less than significant.

Operational Impacts

Currently, the Project Site land use designation is the Great Park under the City of Irvine General Plan, adopted in June 2015. However, as described in Section 2 Project Description, the use of the site as a rail maintenance facility would be deemed consistent with the purpose and intent of the zoning district. Although the land use assumptions are not consistent with land use assumptions in the General Plan (which is why the Project would be requesting a CUP), the purpose of the Project is to provide the space and equipment to inspect, clean, and maintain train cars and locomotives on a regular and efficient basis. As described in in Section 2, a maintenance facility located along the SCRRA Orange Subdivision through Orange County, such as the Project, would be the optimal location as it would reduce operating costs by limiting non-revenue moves to the existing SCRRA storage and maintenance facilities in the cities of Los Angeles and Colton. The storage and maintenance activities that would occur operationally at the OCMF would be a shift in these operations from the existing storage and

maintenance facilities to the proposed Project Site. As such, due to the optimal location of the Project Site, the Project is also anticipated to result in reduced locomotive travel in the region and thereby result in a reduction in the emissions associated with locomotive travel in the region. It is also anticipated that total regional emissions associated with train idling would decrease at the existing maintenance facilities due to more efficient operations and logistics. Thus, the Project would not conflict with mobile source control measures included in the AQMP aimed at reducing facility-based emissions at railyards and intermodal facilities (MOB-02; SCAQMD, 2017a). In addition, as shown in Section 3.3.3.2 below, operational emissions would also be below the SCAQMD regional and localized thresholds. Therefore, the Project would not conflict with or obstruct implementation of the applicable air quality plan, and impacts would be less than significant.

3.3.3.2. Would the Project result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard?

Determination: <u>LESS THAN SIGNIFICANT WITH MITIGATION INCORPORATED</u>

Construction Impacts

As described in more detail in Appendix B, sources of construction-related criteria air pollutant emissions include construction equipment exhaust; construction-related trips by workers; delivery and hauling truck trips; fugitive dust from site preparation activities; and off-gassing from traffic coating, paving, and architectural coating activities. Construction of Phase 1 is assumed to begin in 2023 and last approximately 30 months. Construction of Phase 2 is anticipated to begin in 2025 and last approximately 23 months. Emissions generated by construction activities were modeled using emission factors from ARB's OFFROAD 2017 and Emission Factor (EMFAC) 2017 inventory models. Construction emissions from the operation of diesel-fueled off-road equipment were estimated by multiplying construction equipment usage information by the equipment-specific emissions factors, based on aggregate model years and horsepower provided in OFFROAD. Emissions from on-site and off-site on-road motor vehicles were estimated using vehicle trips, vehicle miles traveled (VMT), and EMFAC 2017 mobile source emission factors. The emission factors represent the fleet-wide average emission factors in Orange County. On-road emissions estimates also considered particulate matter from brake wear, tire wear, and re-entrained roadway dust.

Fugitive dust emissions were estimated using EPA's Compilation of Air Pollutant Factors (AP 42) and California Emissions Estimator Model (CalEEMod) methodology for activities, including material loading into haul trucks; VMT; and earthwork quantities and activities including graders, scrapers, and dozers leveling land or moving dirt. Fugitive dust emission estimates of PM_{10} and $PM_{2.5}$ include reductions associated with implementation of fugitive dust control practices per SCAQMD Rule 403 (e.g., watering disturbed surface areas at least twice per day). Additional modeling assumptions and methodology are provided in Appendix B.

Tables 3.3-4 and 3.3-5 present the maximum daily emissions associated with Project construction of Phase 1 for comparison to the SCAQMD regional and localized thresholds of significance, respectively.

Table 3.3-4: Phase 1 Regional Construction-Related Maximum Daily Emissions

Description	VOC	CO	NO_X	SO_X	PM_{10}	$PM_{2.5}$
Phase 1 Maximum Daily Emissions (lbs/day)[1]	38.06	77.07	75.20	0.25	41.47	22.82
SCAQMD Threshold (lbs/day)	75	550	100	100	150	55
Exceeds Threshold?	No	No	No	No	No	No

Notes: VOC = volatile organic compounds; NO_X = nitrogen oxides; SO_X = sulfur oxides; PM_{10} = suspended particulate matter less than 10 micrometers in diameter; $PM_{2.5}$ = fine particulate matter less than 2.5 micrometers in diameter;
CO = carbon monoxide; lbs/day = pounds per day; SCAQMD = South Coast Air Quality Management District.
[1] Phase 1 emissions are based on the overlap of subphases per the anticipated construction schedule. Maximum daily emissions for NOx and SO_X occur during the overlap of site utilities/electric, earthwork, foundations, bridge, and roadways/paving construction activities. Maximum daily emissions of VOC and CO occur during the overlap of site utilities/electric, foundations, bridge, roadways/paving, and building construction activities. Maximum daily emissions for PM_{10} and $PM_{2.5}$ occur during the overlap of clear and grub, site utilities/electric, demolition, and earthwork construction activities.

Table 3.3-5: Phase 1 Localized Construction-Related Maximum Daily Emissions

Description	NO_X	CO	PM_{10}	$PM_{2.5}$
Maximum Daily On-Site Emissions (lbs/day)[1]	63.96	69.49	38.63	21.98
SCAQMD Localized Threshold (lbs/day)	197	1,804	74	30
Exceeds Threshold?	No	No	No	No

Notes: NO_X = nitrogen oxides; CO = carbon monoxide; PM_{10} = suspended particulate matter less than 10 micrometers in diameter; $PM_{2.5}$ = fine particulate matter less than 2.5 micrometers in diameter;
lbs/day = pounds per day; SCAQMD = South Coast Air Quality Management District.
[1] Maximum daily localized emissions account for on-site activities including off-road equipment use, fugitive dust, and on-site on-road vehicle travel. It was assumed that approximately 7 percent of the total on-road vehicles would occur on-site (estimated portion of vehicle emissions occurring on-site compared to the CalEEMod average trip length).

As shown in Tables 3.3-4 and 3.3-5, Phase 1 construction activities would not exceed the SCAQMD regional and localized thresholds of significance. Tables 3.3-6 and 3.3-7 summarize the maximum daily emissions associated with Phase 2 construction for comparison to the SCAQMD regional and localized thresholds of significance, respectively.

Table 3.3-6: Phase 2 Regional Construction-Related Maximum Daily Emissions

Description	VOC	CO	NO_X	SO_X	PM_{10}	$PM_{2.5}$
Phase 2 Maximum Daily Emissions (lbs/day)[1]	80.36	57.92	45.32	0.12	14.22	8.02
SCAQMD Threshold (lbs/day)	75	550	100	100	150	55
Exceeds Threshold?	**Yes**	No	No	No	No	No

Notes: VOC = volatile organic compounds; CO = carbon monoxide; NO_X = nitrogen oxides; SO_X = sulfur oxides; PM_{10} = suspended particulate matter less than 10 micrometers in diameter; $PM_{2.5}$ = fine particulate matter less than 2.5 micrometers in diameter; lbs/day = pounds per day; SCAQMD = South Coast Air Quality Management District.
[1] Phase 2 emissions are based on the overlap of subphases per the anticipated construction schedule. Maximum daily emissions for all pollutants except PM_{10} and $PM_{2.5}$ occur during the overlap of site utilities/electric, building, trackwork-direct fixation, and major equipment construction activities. Maximum daily emissions for PM_{10} and $PM_{2.5}$ occur during the overlap of site utilities/electric and earthwork construction activities.

Table 3.3-7: Phase 2 Localized Construction-Related Maximum Daily Emissions

Description	NO_X	CO	PM_{10}	$PM_{2.5}$
Maximum Daily On-Site Emissions (lbs/day)[1]	44.91	51.99	13.32	7.76
SCAQMD Localized Threshold (lbs/day)	197	1,804	74	30
Exceeds Threshold?	No	No	No	No

Notes: NO_X = nitrogen oxides; CO = carbon monoxide; PM_{10} = suspended particulate matter less than 10 micrometers in diameter; $PM_{2.5}$ = fine particulate matter less than 2.5 micrometers in diameter; lbs/day = pounds per day; SCAQMD = South Coast Air Quality Management District.
[1] Maximum daily localized emissions account for on-site activities including off-road equipment use, fugitive dust, and on-site on-road vehicle travel. It was assumed that approximately 7percent of the total on-road vehicles would occur on-site (estimated portion of vehicle emissions occurring on-site compared to the CalEEMod average trip length).

As shown in Table 3.3-6, Phase 2 construction activities would not exceed any of the localized thresholds of significance or regional thresholds of significance for any pollutant except VOCs. Therefore, construction impacts would be potentially significant, and mitigation would be required. The exceedance of the VOC threshold is primarily related to architectural coating activities of the maintenance building. As such, implementation of Mitigation Measure AQ-1 would be required to reduce VOC emissions below the threshold of significance.

- **MM-AQ-1: Utilize low VOC paint for architectural coating activities during Phase 2 construction.** To reduce VOC emissions during construction, the Project contractor shall utilize water-based or low VOC interior and exterior paints. The VOC content of the architectural coatings shall comply with the VOC content limits in SCAQMD Rule 1113 or not exceed 100 grams per liter, whichever is lower. To ensure that low VOC paint would be used during Project construction, this requirement would be included in applicable bid documents, purchase orders, and contracts. Successful contractor(s) must demonstrate the ability to supply the compliant architectural coatings for use prior to any coating activities. A copy of each proposed architectural coating Material Safety Data Sheet and

VOC content shall be available upon request. Alternatively, the contractor may utilize tilt-up concrete buildings that do not require the use of architectural coatings.

Table 3.3-8 demonstrates the maximum daily emissions associated with construction of Phase 2 with implementation of Mitigation Measure AQ-1.

Table 3.3-8: Phase 2 Mitigated Construction-Related Maximum Daily Emissions

Description	VOC	CO	NO_X	SO_X	PM_{10}	$PM_{2.5}$
Phase 2 Maximum Daily Emissions (lbs/day)[1]	35.78	57.92	45.32	0.12	14.22	8.02
SCAQMD Threshold (lbs/day)	75	550	100	100	150	55
Exceeds Threshold?	No	No	No	No	No	No

Notes: VOC = volatile organic compounds; CO = carbon monoxide; NO_X = nitrogen oxides; SO_X = sulfur oxides; PM_{10} = suspended particulate matter less than 10 micrometers in diameter; $PM_{2.5}$ = fine particulate matter less than 2.5 micrometers in diameter; lbs/day = pounds per day; SCAQMD = South Coast Air Quality Management District.
[1] Phase 2 emissions are based on the overlap of subphases per the anticipated construction schedule. Maximum daily emissions for all pollutants occur during the overlap of site utilities/electric, building, trackwork-direct fixation, and major equipment construction activities.

As shown in Table 3.3-8, with implementation of Mitigation Measure AQ-1, emissions of VOC would no longer exceed the SCAQMD threshold of significance. As such, construction impacts would be less than significant with mitigation measures incorporated. Project construction of Phase 2 would overlap with Phase 1 operational activities. Therefore, the maximum daily emissions associated with overlapping activities of Phase 1 operations and Phase 2 construction are summarized in Tables 3.3-11 and 3.3-12 below.

Operational Impacts

As described in more detail in Appendix B, operations would generate long-term emissions of criteria air pollutants from a variety of sources. Emissions generated by operational activities were modeled for locomotive operations; heavy-duty equipment used on-site (such as cranes and forklifts); fuel tank emissions; natural gas consumption; and on-road vehicle travel for worker, delivery, and haul trips to and from the site. Operational emissions were based on anticipated equipment and vehicle fleets for the earliest possible operational year. Locomotive emissions were estimated for on-site activity, which is anticipated to include idling during service and inspection activities as well as travel through the wash bay. Emission factors for calculations were based on EPA's 2009 Emission Factors for Locomotives Technical Highlights (EPA-240-F-09-025). Fugitive emissions associated with train fueling and sanding were also estimated. Emissions from the operation of diesel-fueled off-road yard equipment were estimated using emission factors from ARB's OFFROAD 2017 emissions database.

The Project would not result in an increase in commuter rail service or additional locomotive train travel in the region. Therefore, emissions associated with in-transit locomotive

operations were assumed to remain similar to existing conditions. However, as described in more detail in Appendix B, for the purposes of localized emissions and health risk assessment, emissions associated with on-site idling and train travel within one mile of the proposed Project Site were estimated. As described in Section 2 Project Description, a maintenance facility located along the SCRRA Orange Subdivision through Orange County, such as the Project, would be the optimal location as it would reduce operating costs by limiting non-revenue moves to the existing SCRRA storage and maintenance facilities in the cities of Los Angeles and Colton. The Project would provide equipment to inspect, clean, and maintain cars and locomotives on a regular and efficient basis. The storage and maintenance activities that would occur operationally at the OCMF would be a shift in these operations from the existing storage and maintenance facilities to the proposed Project Site. As such, due to the optimal location of the proposed Project Site, the Project is also anticipated to result in reduced locomotive travel in the region and result in a reduction in the emissions associated with locomotive travel in the region. It is also anticipated that total regional emissions associated with train idling would decrease at the existing maintenance facilities due to more efficient operations and logistics.

Tables 3.3-9 and 3.3-10 present the maximum daily emissions associated with Project operations for comparison to the SCAQMD regional and localized thresholds of significance, respectively.

Table 3.3-9: Operational Maximum Daily Increase in Regional Emissions

Description	VOC (lbs/day)	CO (lbs/day)	NO_X (lbs/day)	SO_X (lbs/day)	PM_{10} (lbs/day)	$PM_{2.5}$ (lbs/day)
Yard Equipment	0.83	3.48	2.53	0.01	0.11	0.15
Staff and Truck Vehicles	0.06	2.00	1.58	0.02	2.26	0.01
Architectural Coatings	0.13	-	-	-	-	-
Natural Gas Consumption	0.04	0.32	0.39	0.002	0.03	0.03
Train Fueling	0.41	-	-	-	-	-
Sand Silos	-	-	-	-	0.04	0.06
Total Maximum Daily Increase in Regional Emissions	**1.48**	**5.80**	**4.50**	**0.03**	**2.44**	**0.25**
SCAQMD Threshold	55	550	55	100	150	55
Exceeds Threshold?	No	No	No	No	No	No

Notes: VOC = volatile organic compounds; CO = carbon monoxide; NO_X = nitrogen oxides; SO_X = sulfur oxides; PM_{10} = suspended particulate matter less than 10 micrometers in diameter; $PM_{2.5}$ = fine particulate matter less than 2.5 micrometers in diameter; lbs/day = pounds per day; SCAQMD = South Coast Air Quality Management District.

Table 3.3-10: Localized Operational Maximum Daily Emissions

Description	NO_X (lbs/day)	CO (lbs/day)	PM_{10} (lbs/day)	$PM_{2.5}$ (lbs/day)
On-Site Locomotive Operations (Maintenance and Testing)	98.30	101.85	1.98	1.92
Yard Equipment	2.53	3.48	0.11	0.15
Staff and Truck Vehicles[1]	0.11	0.14	0.16	<0.01
Natural Gas Consumption	0.39	0.32	0.03	0.03
Sand Silos	-	-	0.04	0.06
Total Maximum Daily Localized Emissions (lbs/day)	**101.34**	**105.80**	**2.32**	**2.16**
SCAQMD Localized Threshold	197	1,804	18	8
Exceeds Threshold?	No	No	No	No

Notes: NO_X = nitrogen oxides; CO = carbon monoxide; PM_{10} = suspended particulate matter less than 10 micrometers in diameter; $PM_{2.5}$ = fine particulate matter less than 2.5 micrometers in diameter;
lbs/day = pounds per day; SCAQMD = South Coast Air Quality Management District.
[1] Maximum daily localized emissions account for on-site activities including on-site locomotive operations, on-site off-road equipment use (e.g., forklifts, cranes), and on-road vehicle travel. It was assumed that approximately 7 percent of the total on-road vehicles would occur on-site (estimated portion of vehicle emissions occurring on-site compared to the CalEEMod average trip length).

As shown in Tables 3.3-9 and 3.3-10, Project operational emissions would not exceed the SCAQMD regional and localized thresholds of significance. As described previously, since construction of Phase 2 may overlap with operation of Phase 1, the overlapping emissions are summarized in Tables 3.3-11 and 3.3-12. Consistent with SCAQMD guidance, these overlapping emissions are compared to the SCAQMD thresholds of significance applicable to operations.

As shown in Table 3.3-12, with implementation of Mitigation Measure AQ-1, the maximum daily emissions associated with overlapping activities of Phase 1 operations and Phase 2 construction would also not exceed the SCAQMD threshold of significance.

Table 3.3-11: Overlapping Mitigated Construction and Operational Maximum Daily Increase in Regional Emissions

Description	VOC (lbs/day)	CO (lbs/day)	NO_X (lbs/day)	SO_X (lbs/day)	PM_{10} (lbs/day)	$PM_{2.5}$ (lbs/day)
Mitigated Phase 2 Construction Emissions	35.78	57.92	45.32	0.12	14.22	8.02
Yard Equipment	0.83	3.48	2.53	0.01	0.11	0.15
Staff and Truck Vehicles	0.06	2.00	1.58	0.02	2.26	0.01
Architectural Coatings	0.13	-	-	-	-	-
Natural Gas Consumption	0.04	0.32	0.39	0.00	0.03	0.03
Train Fueling	0.41	-	-	-	-	-
Sand Silos	-	-	-	-	0.04	0.06
Total Maximum Daily Increase in Regional Emissions (lbs/day)	**37.25**	**63.72**	**49.82**	**0.15**	**16.66**	**8.27**
SCAQMD Threshold	55	550	55	100	150	55
Exceeds Threshold?	No	No	No	No	No	No

Notes: VOC = volatile organic compounds; CO = carbon monoxide; NO_X = nitrogen oxides; SO_X = sulfur oxides; PM_{10} = suspended particulate matter less than 10 micrometers in diameter; $PM_{2.5}$ = fine particulate matter less than 2.5 micrometers in diameter; lbs/day = pounds per day.

Table 3.3-12: Overlapping Construction and Operational Localized Operational Maximum Daily Emissions

Description	NO_X	CO	PM_{10}	$PM_{2.5}$
Phase 2 Localized Construction Emissions	44.91	51.99	13.32	7.76
On-Site Locomotive Operations (Maintenance and Testing)	98.30	101.85	1.98	1.92
Yard Equipment	2.53	3.48	0.11	0.15
Staff and Truck Vehicles[1]	0.11	0.14	0.17	0.04
Natural Gas Consumption	0.39	0.32	0.03	0.03
Sand Silos	-	-	0.04	0.06
Total Maximum Daily Localized Emissions (lbs/day)	**146.25**	**157.79**	**15.64**	**9.92**
SCAQMD Localized Threshold	197	1,804	18	8
Exceeds Threshold?	No	No	No	Yes[2]

Notes: NO_X = nitrogen oxides; CO = carbon monoxide; PM_{10} = suspended particulate matter less than 10 micrometers in diameter; $PM_{2.5}$ = fine particulate matter less than 2.5 micrometers in diameter; lbs/day = pounds per day; SCAQMD = South Coast Air Quality Management District.

[1] Maximum daily localized emissions account for on-site activities including on-site locomotive operations, on-site off-road equipment use (e.g., forklifts, cranes), and on-road vehicle travel. It was assumed that approximately 7 percent of the total on-road vehicles would occur on-site (estimated portion of vehicle emissions occurring on-site compared to the CalEEMod average trip length).

[2]As described in Table 3.3-2, the mass-rate LSTs are based on a 5-acre project site and thus, exceedance of this threshold does not represent a significant impact. Project-specific dispersion modeling was performed for $PM_{2.5}$ for comparison to the SCAQMD's ambient air quality thresholds as described below and shown in Table 3.3-13.

As described above, due to the Project size, the exceedance of the mass-rate screening LST for $PM_{2.5}$, and the region's nonattainment status for ozone and $PM_{2.5}$, project-specific dispersion modelling was performed for NO_2 and $PM_{2.5}$ for comparison to the SCAQMD's ambient air quality thresholds for the localized emissions analysis. The results of the criteria pollutant modelling analysis for 1 hour and annual NO_2 and 24-hour $PM_{2.5}$ are summarized in Table 3.3-13 for both phases of operations (2025-2027 and 2028[1]). As shown in Table 3.3-13, the maximum modelled concentration at the point of maximum exposure (PMI) for both pollutants and averaging periods modelled were less than their respective SCAQMD ambient air quality thresholds. Therefore, this localized impact would also be less than significant.

Table 3.3-13: NO2 and $PM_{2.5}$ Localized Dispersion Modeling Results

Criteria Pollutant	Averaging Period	Rank	Maximum Modeled Concentration (µg/m³)[1]		SCAQMD Threshold (µg/m³)	Exceeds Threshold?
			2025-2027[2]	2028+[3]		
NO_2	1-hour	1st	103.1	102.3	338.4	No
	Annual	1st	5.7	3.8	56.4	No
$PM_{2.5}$	24-hour	8th	1.3	1.2	2.5	No

Notes: NO_2 = nitrogen dioxide; $PM_{2.5}$ = fine particulate matter less than 2.5 micrometers in diameter; µg/m³ = micrograms per cubic meter; SCAQMD = South Coast Air Quality Management District.
[1] The point of maximum exposure (unoccupied land near OCTA boundary, to the north).
[2] Period when train fleet mix includes both Tier 2 and Tier 4 locomotive engines.
[3] Period when trains are all Tier 4.

In summary, with implementation of Mitigation Measure AQ-1, the Project is not anticipated to result in a cumulatively considerable net increase of any criteria pollutant for which the Project region is in nonattainment. Furthermore, due to the optimal location of the proposed Project Site, the Project is also anticipated to result in reduced locomotive travel in the region and a reduction in the emissions associated with locomotive travel in the region. However, the emission estimates in the tables above conservatively do not account for the potential reduction in emissions. Therefore, operational impacts related to a cumulatively considerable net increase of any criteria pollutant for which the Project region is in nonattainment would be less than significant with mitigation measures incorporated.

[1] Phase 2 of construction would be completed at the end of 2027 and result in additional operational emissions sources beyond Phase 1. Furthermore, all trains serviced at the facility are assumed to be Tier 4 by 2028. Based on these changes, the dispersion analysis was conducted for the initial operational period from July 2025 through end of 2027, followed by years of operation from 2028 and later.

3.3.3.3. Would the Project expose sensitive receptors to substantial pollutant concentrations?

Determination: LESS THAN SIGNIFICANT IMPACT

Some members of the population are especially sensitive to air pollutant emissions and should be given special consideration when evaluating air quality impacts from projects. For the purposes of a CEQA analysis, the SCAQMD considers a sensitive receptor to be a receptor such as a residence, hospital, or convalescent facility where it is possible that an individual could remain for 24 hours (SCAQMD, 2008). Sensitive receptors also include facilities that house or attract children, the elderly, and people with illnesses or others who are especially sensitive to the effects of air pollutants. As described above, the nearest receptors include residences in a senior community approximately 650 feet away, workers at the nursery to the west of the Project Site and along Technology Drive, and recreational receptors at the Great Park.

Criteria Pollutants

Construction and Operational Impacts

As shown in Tables 3.3-4 through 3.3-13, construction-related and operational activities would result in emissions of criteria air pollutants, but at levels that would not exceed the SCAQMD regional or localized thresholds of significance. The regional thresholds of significance were designed to identify those projects that would result in significant levels of air pollution and to assist the region in attaining the applicable state and federal ambient air quality standards, which were established using health-based criteria to protect the public with a margin of safety from adverse health impacts due to exposure to air pollution. In addition, the LSTs represent the maximum emissions from a project that will not cause or contribute to an exceedance of the most stringent applicable federal or state ambient air quality standards and are developed based on the ambient concentrations of that pollutant for each source receptor area. As such, the criteria air pollutant emissions associated with the proposed Project would not expose sensitive receptors to substantial criteria pollutant concentrations.

Toxic Air Contaminants

Construction Impacts

The greatest potential for TAC emissions during construction would be related to diesel PM emissions associated with heavy-duty equipment operations. The Office of Environmental Health Hazard Assessment (OEHHA) developed a Guidance Manual for Preparation of Health Risk Assessments (OEHHA, 2015). According to OEHHA methodology, health effects from carcinogenic TACs are usually described in terms of individual cancer risk, which is based on a 30-year exposure duration (or residency time) to TACs as the basis for public notification and risk reduction audits and plans. An HRA of TACs was prepared for the Project and is included in Appendix B. Sources evaluated in the HRA include off-road construction equipment and heavy-duty diesel trucks along the truck route based on the 4.5-year construction duration

and off-road equipment list provided by the Project Applicant. This analysis uses EPA's AERMOD air dispersion modeling program, ARB's HARP2 model, and the latest HRA guidance from the OEHHA to estimate excess lifetime cancer risks and hazard index to the nearest sensitive receptors. Table 3.3-14 summarizes the construction-related cancer risk and chronic hazard index on the nearby receptors. Additional modeling details are provided in Appendix B.

Table 3.3-14: Summary of Construction-Related Health Risks

Construction Period	Project Construction Incremental Cancer Risk (in a million)	Chronic Hazard Index
2023	0.20	2.24E-04
2024	0.18	2.21E-04
2025	0.01	8.48E-05
2026	0.01	5.14E-05
2027	0.004	3.07E-05
Total Project Construction (4.5 years)	**0.40**	**0.001**
SCAQMD Threshold	10	1.0
Exceeds Threshold?	No	No

Note: SCAQMD = South Coast Air Quality Management District

The maximum incremental cancer risk exposure during the 4.5-year period of construction is less than 0.5 in a million. The chronic hazard index is also well below the SCAQMD threshold of 1.0. Therefore, sensitive receptors would not be exposed to substantial TAC concentrations during construction of the Project and this impact would be less than significant.

Asbestos is also a listed TAC; however, the Project Site is not in an area known to contain naturally occurring asbestos. Furthermore, demolition activities associated with Project construction are minimal and limited to an abandoned road; stormwater drains; and an underground bunker with a network of pipelines, valves, and associated vents that are currently not in use. Prior to site demolition activities, building materials must be carefully assessed for the presence of asbestos-containing materials (ACM), and removal of this material, where necessary, must comply with state and federal regulations, including SCAQMD Rule 1403. SCAQMD Rule 1403 specifies work practices with the goal of minimizing asbestos emissions during building demolition activities, including the removal and associated disturbance of ACMs. The requirements for demolition and renovation activities include asbestos surveying; notification; ACM removal procedures and time schedules; ACM handling and clean-up procedures; and storage, disposal, and landfill disposal requirements for ACMs. If ACMs are found during construction, the Project would comply with the requirements of SCAQMD Rule 1403. Therefore, exposure to asbestos during construction would be less than significant.

Operational Impacts

As discussed previously, following construction of the Project, operations would generate long-term emissions, including TACs, from a variety of sources. Diesel PM would be the dominant TAC generated at the Project Site. Sources of diesel PM at the Project Site would include locomotive usage (during fueling, servicing, inspection, brake testing, train washing, load testing, yard switching, idling, and train movement throughout the yard), on-site equipment (emergency generator, cranes, and forklifts used for maintenance activities), refueling, and on-road trucks (fuel and vendor delivery trucks). The majority of the diesel PM emissions would be generated along the tracks, maintenance building, fueling/sanding pit, and service and inspection facility, which are located at distances of approximately 1,100 feet from the nearest residential receptors. In its 2005 *Air Quality and Land Use Handbook: A Community Health Perspective*, ARB recommends a 1,000-foot buffer between sensitive receptors and major service and maintenance railyards based on a study that found that the area of highest impact is within 1,000 feet of the yard (ARB, 2005). The next highest impact was found to be between half to one mile of the maintenance railyards. As described previously, the nearest sensitive receptors are the residences in the senior housing community located approximately 650 feet (200 meters) north of the Project Site. The closest recreational fields and walking/running paths to the site are approximately 700 feet from maintenance buildings. The nearest worker receptors are located at the nursery to the west of the Project Site and buildings along Technology Drive. As such, a quantitative HRA was performed to evaluate the Project's operational TAC emissions on existing nearby off-site receptors, including nearby residences, recreational facilities, and adjacent workers located at the buildings along Technology Drive and at the nearby nursery.

The operational period would begin in July 2025, upon the completion of Phase 1 construction. Phase 2 of construction would be completed at the end of 2027 and result in additional operational emissions sources. Furthermore, all trains serviced at the facility are assumed to be Tier 4 by 2028. Based on these changes, the HRA for operations includes an initial operational period from July 2025 through end of 2027, followed by years of operation starting in 2028. The total of these two operational periods are compared against the SCAQMD threshold of 10 in a million. Additional modeling and methodology details are provided in Appendix B. The summary of excess cancer risks and chronic and acute risks are summarized in Tables 3.3-15 and 3.3-16.

Table 3.3-15: Summary of Excess Cancer Risks

Receptor	Years of Age	Maximum Modeled Excess Cancer Risk (in a million)			SCAQMD Threshold	Exceeds Threshold?
		2025-2027[1]	2028+[2]	Total		
$MEIR_{<50}$	3rd Trimester – 30 (30 years)	5.85	3.40	9.25	10	No
$MEIR_{\geq 50}$	50 - 80 (30 years)	0.24	1.45	1.68	10	No
MEIW	16 – 41 (25 years)	0.94	4.37	5.31	10	No
MEI Recreation	0 – 39 (40 years)	1.29	2.05	3.33	10	No

Notes: $MEIR_{<50}$ = maximally exposed individual resident in non-55+ age-restricted communities; $MEIR_{\geq 50}$ = maximally exposed individual resident in 55+ age-restricted communities; MEIW = maximally exposed individual worker; MEI Recreation = maximally exposed individual at recreation area; SCAQMD = South Coast Air Quality Management District.
[1] Period when train fleet mix includes both Tier 2 and Tier 4 locomotive engines.
[2] Period when trains are all Tier 4.

Table 3.3-16: Summary of Chronic and Acute Risks

Risk	Years of Age	Maximum Modeled Risk			SCAQMD Threshold	Exceeds Threshold?
		2025-2027[1]	2028+[2]	Total		
Chronic	PMI	0.05	0.01	0.06	1.0	No
Acute		0.0006	0.0004	0.001	1.0	No

Notes: PMI = point of maximum exposure (unoccupied land near OCTA boundary, to the north);
SCAQMD = South Coast Air Quality Management District.
[1] Period when train fleet mix includes both Tier 2 and Tier 4 locomotive engines.
[2] Period when trains are all Tier 4.

As shown in Tables 3.3-15 and 3.3-16, the maximum incremental cancer risk, and chronic and acute hazard index, respectively, for the maximally exposed individual resident, maximally exposed individual worker, and recreational receptor would not exceed the SCAQMD thresholds of significance. Therefore, receptors would not be exposed to substantial pollutant concentrations of TACs during operations and this impact would be less than significant.

3.3.3.4. Would the Project result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?

Determination: LESS THAN SIGNIFICANT IMPACT

The occurrence and severity of other emissions, such as those leading to odor impacts, depend on numerous factors, including the nature, frequency, and intensity of the source; wind speed and direction; and the presence of sensitive receptors. While offensive odors rarely cause any physical harm, they still can be very unpleasant, leading to considerable distress and often generating citizen complaints to local governments and regulatory agencies. Projects with the potential to frequently expose individuals to objectionable odors are deemed to have a significant impact. Typical facilities that generate odors include wastewater treatment facilities, sanitary landfills, composting facilities, petroleum refineries, chemical manufacturing plants, and food processing facilities.

Construction Impacts

Construction activities associated with the Project could result in short-term odor emissions from diesel exhaust associated with construction equipment. The Project would utilize typical construction techniques, and the odors would be typical of most construction sites and temporary in nature. Therefore, construction impacts related to other emissions (such as those leading to odors) adversely affecting a substantial number of people would be less than significant.

Operational Impacts

Project operations would not include any land uses identified by ARB as being associated with the generation of objectionable odors. However, the locomotive rail operations on the tracks that access the OCMF and locomotive idling and refueling activities may increase the potential for generation of odors from locomotive diesel fuel combustion. However, these odors would be intermittent and of short duration. Any odors resulting from diesel fuel combustion along rail alignment would be intermittent and short term and not considered a significant odor-generating source (ARB, 2005). Therefore, operational impacts related to other emissions (such as those leading to odors) adversely affecting a substantial number of people would be less than significant.

3.4. BIOLOGICAL RESOURCES

Would the project:		Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
3.4.3.1	Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or the U.S. Fish and Wildlife Service?	☐	☐	☐	☒
3.4.3.2	Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, or regulations or by the California Department of Fish and Wildlife or the U.S. Fish and Wildlife Service?	☐	☒	☐	☐
3.4.3.3	Have a substantial adverse effect on state or federally protected wetlands (including, but not limited to marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?	☐	☒	☐	☐
3.4.3.4	Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?	☐	☒	☐	☐
3.4.3.5	Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	☐	☐	☐	☒
3.4.3.6	Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?	☐	☐	☐	☒

3.4.1. Existing Conditions

The area evaluated for biological resources includes the Project Site and a 500-foot survey buffer, known as the Biological Survey Areas (BSA). A buffer around the Project Site was evaluated in order to capture

potential indirect effects to biological resources from implementation of the Project. Indirect effects could include elevated noise and dust levels and increased human activity within the BSA. A 500-foot survey buffer is appropriate for capturing potential indirect impacts from a project on biological resources. It is anticipated that indirect impacts beyond 500 feet for this Project are generally diffuse and would not significantly impact biological resources.

Vegetation

On-site habitat can be characterized as "upland mustards and other ruderal forbs" or "wild oat and annual brome grasslands" as described below and in *A Manual of California Vegetation* (Sawyer et al., 2009). These communities lack trees and shrubs and consist primarily of invasive non-native species, with little to no native vegetation. The vegetated area to the north of the existing Metrolink facilities is dominated by non-native herbaceous species, including wild mustard (*Hirschfeldia incana*), red brome (*Bromus madritensis* spp. *rubens*), black mustard (*Brassica nigra*), yellow starthistle (*Centaurea solsticialis*), and wild oats (*Avena* sp.), as well as one native herb, doveweed (*Croton setigera*). The area south of the existing Metrolink tracks is highly disturbed and consists mostly of bare ground. Native species identified on the site include ragweed (*Ambrosia psilostachya*), doveweed, jimsonweed (*Datura wrightii*), Canada horseweed (*Erigeron canadensis*), and telegraph weed (*Heterotheca grandiflora*). No trees or shrubs exist within the proposed Project Site. It appears that most of the Project Site is regularly mowed to control non-native weeds. Areas at the eastern and western extents of the Project Site, at the bends in Marine Way, appear to be mowed less frequently and contain additional non-native herbaceous plant species. Appendix C presents the plant species identified during the field survey. Bee Canyon Channel, a drainage channel occurring along the southeast perimeter of the Project Site, contains some riparian vegetation consisting of willow (*Salix* sp.) and mulefat (*Baccharis salicifolia*). No natural vegetation communities exist within the BSA. The nearest areas of natural communities occur approximately four miles to the northeast in the foothills of the Santa Ana Mountains, and approximately three miles to the southwest in the San Joaquin Hills.

Wildlife

With most vegetation being less than a foot in height and with a lack of trees or shrubs, the Project Site provides limited suitable habitat for wildlife to forage, nest, or rest, or for cover. Wildlife observed on-site was minimal during the field survey. Observed species include western fence lizard (*Sceloporus occidentalis*), mourning dove (*Zenaida macroura*), American crow (*Corvus brachyrhynchos*), and common raven (*Corvus corax*). No active or old bird nests were observed within the proposed Project Site; however, killdeer (*Charadrius vociferous*), a common ground-nester, could potentially nest on-site.

The BSA occurs within an urbanized area and does not occur within or intersect a recognized or established regional wildlife corridor. Vegetative growth within the proposed Project Site and ornamental trees and shrubs within landscaped areas within the surrounding BSA provide some opportunities for cover, resting, foraging, and nesting to localized bird populations; however, they do not function as a significant wildlife movement corridor.

Special-Status Plant and Wildlife Species

No rare or sensitive plant or wildlife species were observed during the field survey. The site does not provide habitat suitable to support sensitive plant or wildlife species, and they are not anticipated to occur on-site due to the marginal habitat value of the Project Site and within the BSA.

The California Natural Diversity Database (CNDDB) was reviewed to determine if any special-status plant or wildlife species have been recorded from the Project Site or surrounding area. Although no trees or shrubs occur within the proposed Project Site, the low and sometimes sparse vegetative growth present is potentially suitable for ground-nesting bird species such as California horned lark (*Eremphila alpestris actia*), a CDFW Watch List (WL) species. Records of burrowing owl (*Athena cunicularia*), a CDFW Species of Special Concern, are known from one to two miles east of the Project Site from 2010 (CDFW, 2020a). No burrows suitable for this species were observed, and although this species prefers open grassland habitat with low plant growth, regular vegetation maintenance on-site creates conditions generally unsuitable for this species. CNDDB records from 1999 of tricolored blackbird (*Agelaius tricolor*), listed as Endangered under the California Endangered Species Act (CESA), are known from one to two miles west and southwest of the Project Site, on the other side of I-5 from the Project. Subsequent surveys for this species in 2014 noted it was no longer present and the area had been developed (CDFW, 2020a). This species nests in marsh habitat, which is absent from the Project Site. Records of other special-status wildlife species and special-status plants occur two plus miles southwest of the Project Site, in the vicinity of Sand Canyon Reservoir; however, the natural habitats preferred by these species are absent from the Project Site and they are not expected to occur on-site.

3.4.2. Regulatory Framework

Several regulations and standards have been established by federal, state, and local agencies to protect and conserve biological resources. The proposed Project's compliance with the regulations and standards listed below were assessed.

Federal (refer to Appendix C for explanation of laws)

- Federal Endangered Species Act (FESA)
- Migratory Bird Treaty Act (MBTA)
- Bald and Golden Eagle Protection Act
- Clean Water Act (CWA)
- Magnuson-Stevens Fisher Conservation and Management Act (Magnuson-Stevens Act)

State (refer to Appendix C for explanation of laws)

- California Fish and Game Code (CFGC)
- Porter-Cologne Water Quality Control Act

Local

Orange County Central and Coastal Subregion Natural Community Conservation Plan and Habitat Conservation Plan (NCCP/HCP) - The NCCP/HCP (County of Orange, 1996) was prepared by the County of Orange in cooperation with California Department of Fish and Game (CDFG, now CDFW) and U.S. Fish and Wildlife Service (USFWS). The document was prepared in accordance with the provisions of the state Natural Community Conservation Planning Act of 1991 (NCCP Act), Sections 1600 et seq. of the CFGC and ESA. The 208,000-acre Central and Coastal Subregion is part of a five-county NCCP Study Area established by the state as part of the Southern California Coastal Sage Scrub NCCP Program. The proposed Project falls within the Central Subregion of the NCCP/HCP.

In addition, a Joint Programmatic Environmental Impact Report and Environmental Impact Statement (Joint EIR/EIS) (County of Orange, 1996b) that addresses the effects related to the NCCP/HCP was prepared in accordance with CEQA and the National Environmental Policy Act (NEPA). The County of Orange is the lead agency responsible for preparation of the NCCP/HCP and the EIR. The USFWS is the lead agency responsible for preparation of the HCP and EIS.

As presented in Section 8 of Appendix C, significant impacts to special-status and sensitive biological resources are not expected and the proposed Project is not anticipated to conflict with the NCCP/HCP.

3.4.3. Discussion

3.4.3.1. Would the Project have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the CDFW or the USFWS?

Determination: NO IMPACT

Construction and Operational Impacts

Herbaceous vegetation composed primarily of non-native mustard and grass species occurs within the proposed Project Site; no trees or shrubs occur on-site. During the field survey conducted on July 30, 2020, it was noted that no federally listed or state-listed species were identified and special-status plant species are not expected to occur in the BSA due to a lack of potentially suitable habitat. Additionally, no USFWS-designated critical habitats for federally listed species or any other sensitive, protected, or managed communities or habitats were identified during a review of the USFWS online Information for Planning and Consultation (IPaC) on the Project Site.

Indirect impacts to vegetation during Project construction could include the accumulation of fugitive dust and further colonization of non-native, invasive plant species. Other indirect impacts could include the potential for surface runoff, increased erosion, and sediment deposition beyond the footprint of disturbance as a result of the use of heavy construction equipment and general construction-related activities. However, standard construction practices related to fugitive dust and erosion control would be implemented.

Likewise, suitable habitat for special-status plants is not present in the BSA. Therefore, no direct or indirect impacts to vegetation or special-status plant species would occur.

During operations, the Project Site would be a combination of impermeable and permeable surfaces, but no portion of it would be left undisturbed. As such, the Project Site would not retain any existing vegetation, nor would it be an improved condition for sensitive species habitats to occur. Therefore, no operational impacts related to substantial adverse effects, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the CDFW or the USFWS would occur.

3.4.3.2. Would the Project have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, or regulations or by the CDFW or the USFWS?

Determination: <u>LESS THAN SIGNIFICANT WITH MITIGATION INCORPORATED</u>

Construction Impacts

No sensitive natural vegetation communities occur within the BSA; however, Bee Canyon Channel, an aquatic feature under regulatory jurisdiction of the CDFW and Regional Water Quality Control Board (RWQCB) occurs within the BSA. Jurisdiction of the U.S. Army Corps of Engineers (USACE) within the Project Site is still to be determined, pending coordination with USACE. The Project occurs within the San Diego Creek (SDC) Watershed Special Area Management Plan (SAMP) area and is located outside of any pre-defined Aquatic Resource Integrity Area. Additionally, this segment of Bee Canyon Channel is not located within the "major streams" category.

The Project proposes to construct a new bridge over Bee Canyon Channel that would require reprofiling of the wash. Construction of the bridge over Bee Canyon Channel would likely require a permit pursuant to Section 404 of the CWA. Construction of the Project would meet the terms and conditions of a Letter of Permission (LOP), and operation and maintenance would potentially meet the criteria for authorization under Regional General Permit (RGP) No. 74.

Regardless of the permitting process that is ultimately implemented in coordination with USACE, RWQCB, and CDFW, adherence to Mitigation Measure BIO-1 in Section 9 of (Appendix C), would reduce the impacts of bridge installation over Bee Canyon Channel to a level less than significant.

Operational Impacts

Impacts to biological resources during operation and maintenance of the proposed Project are not anticipated as such activities would be conducted within previously disturbed and developed surfaces containing non-native vegetation and would generally not change

biological conditions from those present prior to and after Project construction. Therefore, operational impacts related to substantial adverse effects on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, or regulations or by the CDFW or the USFWS would not occur.

Mitigation Measure BIO-2 presented below would mitigate potential impacts of the proposed bridge to Bee Canyon Channel, ensuring impacts to this jurisdictional feature remain less than significant.

- **MM-BIO-2: Compliance with USACE SAMP Mitigation Procedures.** Pursuant to SAMP requirements, if a permanent loss of regulated waters or streambed occurs because of the Project, compensatory mitigation (purchase of credit at an in-lieu fee or mitigation bank approved by the resource agencies), or applicant proposed enhancement or establishment of waters or streambed) shall be provided at a minimum ratio of 1:1. Temporary impacts shall be restored to pre-Project conditions the extent practicable.

3.4.3.3. Would the Project have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?

Determination: <u>LESS THAN SIGNIFICANT WITH MITIGATION INCORPORATED</u>

Construction Impacts

Construction of a bridge to carry rail tracks over an isolated, open portion of Bee Canyon Channel may be eligible to obtain an LOP or RGP 74 from the USACE as a “Road Crossing,” which includes construction and/or maintenance of new and existing bridges and culverts.

No wetlands, including marsh, vernal pools, coastal wetlands, etc. are within the Project Site; therefore, there would be no impacts on wetlands from construction or operation of the project. Suitable habitats for wetland-riparian species were not identified in the BSA; therefore, no impacts would occur. However, adherence to Mitigation Measure BIO-1 would reduce the impacts of bridge installation over Bee Canyon Channel to a level less than significant.

Additionally, construction of the proposed bridge over Bee Canyon Channel would require the Project Applicant to obtain a permit pursuant to Sections 404 and 401 of the CWA and to Section 1600 et seq. of CFGC. The Project Applicant shall coordinate with the USACE to obtain authorization pursuant to Section 404 of the CWA (i.e., LOP or RGP 74 per SAMP permit procedures) and the RWQCB to obtain a Water Quality Certification pursuant to Section 401 of the CWA. Additionally, if the project results in any modification of the bed or banks of Bee Canyon Channel, then the Project Applicant shall coordinate with CDFW to determine the need to obtain a Lake and Streambed Alteration Agreement (LSAA) pursuant to Section 1600 et seq. of CFGC.

Operational Impacts

Impacts to biological resources during operation and maintenance of the proposed Project are not anticipated as such activities would be conducted within previously disturbed and developed surfaces containing non-native vegetation and would generally not change biological conditions from those present prior to and after Project construction. Therefore, operational impacts would not occur related to substantial adverse effects on state or federally protected wetlands (including but not limited to marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means.

Mitigation Measure BIO-2 would mitigate potential impacts of the proposed bridge to Bee Canyon Channel, ensuring impacts to this jurisdictional feature remain less than significant.

3.4.3.4. Would the Project interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?

Determination: <u>LESS THAN SIGNIFICANT WITH MITIGATION INCORPORATED</u>

Construction Impacts

<u>Wildlife</u>

The BSA occurs within an urbanized area and does not occur within or intersect a recognized/established regional wildlife corridor or a native wildlife nursery site. Although no trees or shrubs occur within the proposed Project Site, the low and sometimes sparse vegetative growth present is potentially suitable for ground-nesting bird species such as California horned lark and killdeer (*Charadrius vociferus*). Additionally, trees in ornamental landscapes within the surrounding BSA at the athletic fields to the northeast and in commercial development to the southwest provide potentially suitable nesting opportunities for localized bird populations, which are protected under the MBTA and by CFGC. However, the BSA does not provide functions as a significant wildlife movement corridor and by implementing avoidance and minimization measures outlined in Mitigation Measure BIO-1, direct impacts to any birds protected under the MBTA and by CFGC that may occur in the BSA would be less than significant.

Indirect impacts to nesting birds within the BSA could occur during construction as a result of noise, dust, increased human presence, and vibrations resulting from construction activities. Such disturbances could result in increased nestling mortality due to nest abandonment or decreased feeding frequency and would be considered significant. However, implementing and adhering to avoidance and minimization measures outlined in Mitigation Measure BIO-1 would reduce potential indirect impacts to nesting birds protected under the MBTA and by CFGC to a level that is less than significant.

Bee Canyon Channel occurs along the southern limit of the proposed Project. This feature conveys ephemeral flows of stormwater, is concrete-lined, and underground along much of its length in the vicinity of the proposed Project and does not provide a movement corridor for wildlife, including passage for fish.

Special-Status Wildlife Species

No federal- or state-listed wildlife species have been identified in the BSA, and potentially suitable habitat for such species is absent from the BSA. However, as presented in Section 5.2 of Appendix C, two CDFW WL bird species, Cooper's hawk (*Accipiter cooperii*) and California horned lark, have some potential to occur within the BSA. As a result, direct and indirect impacts to special-status wildlife could occur. However, by implementing and adhering to avoidance and minimization measures outlined in Mitigation Measure BIO-1, potential impacts to nesting individuals of these special-status birds, or any other special-status bird species, would be reduced to a level that is less than significant.

Operational Impacts

Impacts to common wildlife, special-status wildlife species, and wildlife movement are not anticipated during operation and maintenance of the proposed Project. Therefore, operational impacts would not occur related to the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites.

With the potential for ground-nesting birds protected under the MBTA and CFGC to occur within the Project Site and other bird species to occur in the surrounding BSA, implementation of Mitigation Measure BIO-1 presented below would mitigate potential impacts to nesting birds should construction overlap the bird breeding season (February 15 through September 1).

- **MM-BIO-1: Designate Project Biological Monitor(s).** Ground-disturbing activities during construction shall occur outside of the nesting bird season (generally February 15 through September 1). If avoiding the nesting season is not practicable, the following additional measures shall be employed:

    - A pre-construction nesting survey shall be conducted by a qualified biologist within 3 days prior to the start of construction activities to determine whether active nests are present within or directly adjacent to the construction zone. All nests found shall be recorded.

    - If construction activities must occur within 300 feet of an active nest of any passerine bird or within 500 feet of an active nest of any raptor, with the exception of an emergency, a qualified biologist shall monitor the nest on a weekly basis, and the

activity shall be postponed until the biologist determines that the nest is no longer active.

- If the recommended nest avoidance zone is not feasible, the qualified biologist shall determine whether an exception is possible and obtain concurrence from the resource agencies before construction work can resume within the avoidance buffer zone. All work shall cease within the avoidance buffer zone until either agency concurrence is obtained or the biologist determines that the adults and young are no longer reliant on the nest site.

3.4.3.5. Would the Project conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?

Determination: <u>NO IMPACT</u>

Construction and Operational Impacts

There is no wildlife or plant species within the Project Site that would be protected by local policies or ordinances. In addition, no trees are present within the Project Site. Thus, no tree preservation policy or ordinance would apply to this Project. Therefore, no construction or operational impacts that would conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance, would occur.

3.4.3.6. Would the Project conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?

Determination: <u>NO IMPACT</u>

Construction and Operational Impacts

Although the Project Site falls within the boundary of the Orange County Central/Coastal NCCP/HCP, OCTA is not a participating landowner. As a result, the Project is not eligible for coverage under the NCCP/HCP for impacts to federally and/or state-listed species. However, because no federally and/or state-listed species are expected to be impacted, no sensitive communities occur on-site, and avoidance and minimization measures will be implemented to reduce impacts to nesting birds protected under the MBTA and CFGC, the Project does not conflict with the NCCP/HCP and will not require payment of a Mitigation Fee per the NCCP/HCP for such impacts.

Significant impacts to special-status and sensitive biological resources are not expected to occur and the Project is not anticipated to conflict with the NCCP/HCP. Therefore, no construction or operational impacts that would conflict with the provisions of an adopted HCP; NCCP; or other approved local, regional, or state habitat conservation plan would occur.

3.5. CULTURAL RESOURCES

Would the project:		Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
3.5.3.1	Cause a substantial adverse change in the significance of a historical resource pursuant to § 15064.5?	☐	☒	☐	☐
3.5.3.2	Cause a substantial adverse change in the significance of an archaeological resource pursuant to § 15064.5?	☐	☒	☐	☐
3.5.3.3	Disturb any human remains, including those interred outside of formal cemeteries?	☐	☒	☐	☐

3.5.1. Existing Conditions

Prehistoric Overview

Refer to Appendix D (Cultural Resources Technical Memorandum).

Project Site Development History

MCAS El Toro was decommissioned in 1999. The roadways to the northwest and south of the Project Site were further developed in the 1990s. The I-5 bridge crossing the Atchison, Topeka and Santa Fe Railway (AT&SF) (now the SCRRA Orange Subdivision) was constructed in 1992, the SR-133 bridge crossing Marine Way was constructed in 1997, and the SR-133 bridge over the former AT&SF (by this point BNSF) was constructed in 1998 (NBI 2020). In 2001, Measure W was passed, which authorized the former air station's use as a park and multi-use development, now known as the Great Park area.

Based on review of historical topographic maps and aerial photographs, the Project Site itself has undergone some development in the past 100 years. The earliest topographic map from 1901 shows the railroad alignment, but no buildings are depicted. A 1938 aerial photograph shows the area as agricultural fields bound to the southwest by the SCRRA Orange Subdivision alignment (NETR, 2020). From 1942 to 1950, a rail siding was added bisecting the Project Site. In 1952, the water transfer vault located at the northwestern end of the Project Site was present. The current footprint of the perimeter road was present by 1963, and trees were planted alongside the perimeter road by 1994 (NETR, 2020). Additional fencing and water transfer equipment structures were constructed at the northwestern end of the Project Site during the mid-2000s. The SCRRA Orange Subdivision alignment, southwest of the Project Site boundaries, has been altered over time for modern use, with modifications accommodating technological developments and commercial demands (e.g., larger trains, second track, automated switches), and other ongoing maintenance.

Archival Research

On April 30, 2020, AECOM requested a California Historical Resources Information System records search from the South Central Coastal Information Center (SCCIC) housed at California State University, Fullerton. The research focused on the identification of previously recorded cultural resources within the Project Site and a half-mile radius. The SCCIC responded via email on August 19, 2020.

The records search revealed that 37 cultural resources investigations were previously conducted within a half-mile radius of the Project Site (refer to Appendix D). Four of these investigations overlap the Project Site in whole or in part. The entirety of the Project Site has been subject to previous archaeological study.

The records search further revealed that 14 resources have been recorded within half-mile of the Project Site. Of these 14 resources, two are located within the Project Site, and are discussed in further detail below (refer to Appendix D).

Resource P-30-100372

This resource is an isolated Venus clam shell. The shell was observed next to a gopher hole with no other shell or artifacts in the vicinity. A shovel test pit was excavated next to the shell to a depth of 30 centimetres with negative results. Because of the distance from the coast, it was assumed that the shell was transported to this location by human activity. However, it is impossible to determine when or how the shell was transported, or whether the shell's transportation to this location was intentional or accidental. By their nature, isolated resources are in general not eligible for inclusion in the California Register of Historic Resources (CRHR).

Resource P-30-176663

This resource is an approximately 14.7-mile-long segment of the SCRRA Orange Subdivision railroad tracks (originally part of the AT&SF Railway and subsequently BNSF Railway) within Orange and Los Angeles Counties. While originally constructed between 1885 and 1888, the railroad has been continuously used, resulting in replacement of all or most of its historic fabric. Because of its lack of integrity, this resource has been repeatedly recommended ineligible for listing in the National Register of Historic Places (NRHP). The eligibility of this segment has not been formally determined via State Historic Preservation Officer (SHPO) consensus.

Field Survey

A reconnaissance-level archaeological and built environment survey was conducted on July 30, 2020. Evidence of superficial disturbances included abundant gopher holes and remains of an irrigation system in the form of 3/4-inch polyvinyl chloride (PVC) pipes and sprinkler heads. The ground also appeared recently disced or plowed.

Subsurface Investigations (Extended Phase I)

An Extended Phase I (XPI) cultural resources identification was completed in 2021 by HDR (HDR, 2021). The XPI was conducted because the Project area was determined to have a moderate sensitivity to encounter buried cultural resources. The purpose of the XPI was to determine the presence or absence of buried historic or prehistoric cultural resources and to further assess the overall archaeological sensitivity in portions of the OCMF project area where deep Project-related excavations are proposed. XPI investigations consisted of 40 subsurface shovel test probe excavations to confirm the presence or absence of buried cultural materials. All tests were negative for the presence of prehistoric cultural material. No historic properties, historic resources, or unique archaeological resources were identified during the XPI. Based on the results of the XPI, it is not anticipated that the Project will impact buried cultural resources.

Archaeological Resources

No archaeological resources were observed within the Project Site. The previously recorded isolated clam shell (P-30-100372) was not relocated during the survey.

Built Environment Resources

P-30-176663 SCRRA Orange Subdivision Segment

The portion of the SCRRA Orange Subdivision (formerly AT&SF) Railway south of the Project Site is a double track that runs northwest to southeast. This segment has been altered over time for modern use, with modifications accommodating technological developments and commercial demands (e.g., larger trains, second track, automated switches), and other ongoing maintenance. The original elements of the rail line have been repaired and replaced. This portion of the SCRRA Orange Subdivision Railway has been previously evaluated and recommended not eligible for inclusion in the CRHR.

Water Transfer Vault

Approximately 350 feet northeast of the SR-133 bridge over the SCRRA Orange Subdivision Railway is a rectangular water transfer vault constructed circa 1950 and abandoned in 2006. The resource is a concrete domestic water intake structure originally used for MCAS El Toro. The vault located on the western periphery of the former MCAS El Toro property does not have any distinct associations with the United States Marine Corps' mission operations during the 1950s and is a minor and vernacular water infrastructure element. Entrance to the structure is by way of stairs covered by a metal grate. The vault measures approximately 46 feet long and 27 feet wide; the interior is approximately 10 feet tall. The vault's footprint appears unchanged since construction; however, a low concrete interior partition appears to have been removed in order to install new piping. Additional fencing and water transfer equipment structures were constructed adjacent to the vault during the mid-2000s.

CRHR Evaluation

The Water Transfer Vault located in the Project Site does not appear to meet the criteria for listing in the CRHR, nor does it appear to be a historical resource for purposes of CEQA, either as an individual resource or as a contributor to a larger resource. The structure does not meet any of the significance criteria necessary for eligibility for listing in the CRHR and does not retain its historic integrity.

3.5.2. Regulatory Framework

State

California Environmental Quality Act - A cultural resource is considered a "historical resource" under CEQA if the resource meets the criteria for listing in the CRHR (Public Resources Code [PRC] Section 5024.1, Title 14 California Code of Regulation [CCR], Section 4852). The CRHR was designed to be used by state and local agencies, private groups, and citizens to identify existing historical resources within the state and to indicate which of those resources should be protected, to the extent prudent and feasible, from substantial adverse change. The criteria for the CRHR (PRC Section 5024.1, Title 14 CCR, Section 4852) focus on resources of statewide, rather than national, significance.

Potential historical resources eligible for listing in the CRHR may include buildings, sites, structures, objects and historic districts. A resource less than 50 years of age may be eligible if it can be demonstrated that sufficient time has passed to understand its historic importance. While the criteria for the CRHR is less rigorous than the NRHP with regard to the issue of integrity, there is the expectation that properties reflect their appearance during their period of significance (Title 14 CCR, Section 4852).

Archaeological resources identified as "unique archaeological resources" are similarly protected by Division 13, Chapter 2.6, of the PRC. An archaeological resource that is considered nonunique need be given no additional consideration other than its existence being recorded, unless it is determined to be a tribal cultural resource.

Public Resources Code Section 5097.5 - PRC Section 5097.5 states that no person shall knowingly and willfully excavate upon, or remove, destroy, injure, or deface any historic or prehistoric ruins, burial grounds, archaeological or vertebrate paleontological site, including fossilized footprints, inscriptions made by human agency, or any other archaeological, paleontological, or historical feature, situated on public lands, except with the express permission of the public agency having jurisdiction over such lands. Violation of this section is a misdemeanor. "Public lands" refers to land owned by, or under the jurisdiction of, the state, or any city, county, district, authority, or public corporation, or any agency thereof.

Local

City of Irvine General Plan - The City of Irvine General Plan includes Element E on Cultural Resources. It recognizes the importance of historical, archaeological and paleontological resources in the City and establishes a process for their early identification, consideration, and where appropriate, preservation. It

requires assessment of potential resources on projects and utilizes planning policies, ordinances, approval conditions and mitigation measures to protect the resources.

Cultural resources are the physical remains of the City's historic and prehistoric heritage (City of Irvine, 2015). Historical resources include sites established after 1542 A.D., the date when European contact with California began, which may be significant to history, architecture, or culture. Archaeological resources include any location containing evidence of human activities which took place prior to 1750 A.D. Historical sites established prior to 1750 A.D. are also archaeological sites. Paleontological resources include any location containing a trace of plants or animals from past ages.

3.5.3. Discussion

3.5.3.1. Would the Project cause a substantial adverse change in the significance of a historical resource pursuant to Section 15064.5?

Determination: <u>LESS THAN SIGNIFICANT WITH MITIGATION INCORPORATED</u>

Construction Impacts

Section 15064.5(b) indicates that the significance of an historical resource is materially impaired when a project:

(A) Demolishes or materially alters in an adverse manner those physical characteristics of an historical resource that convey its historical significance and that justify its inclusion in, or eligibility for, inclusion in the California Register of Historical Resources; or

(B) Demolishes or materially alters in an adverse manner those physical characteristics that account for its inclusion in a local register of historical resources pursuant to section 5020.1(k) of the Public Resources Code or its identification in an historical resources survey meeting the requirements of section 5024.1(g) of the Public Resources Code, unless the public agency reviewing the effects of the project establishes by a preponderance of evidence that the resource is not historically or culturally significant; or

(C) Demolishes or materially alters in an adverse manner those physical characteristics of a historical resource that convey its historical significance and that justify its eligibility for inclusion in the California Register of Historical Resources as determined by a lead agency for purposes of CEQA.

Two resources that exceed 45 years of age were identified as a result of the archival research and field survey. One is a previously recorded segment of the SCRRA Orange Subdivision Railway (P-30-176663). The other is a water transfer vault constructed during the 1950s. However, neither resource appears eligible for inclusion in the CRHR, and therefore neither resource constitutes a historical architectural resource for the purposes of CEQA. Furthermore, neither resource is considered a unique archaeological resource. However, there still is the potential to uncover unknown historical resources (which include archaeological

resources) during construction. With the implementation of Mitigation Measures CUL-1 and CUL-2, impacts to archaeological resources during construction would be less than significant.

- **MM-CUL-1: Cultural Resources Awareness Training.** Prior to construction, OCTA shall retain a qualified archaeologist who meets the Secretary of the Interior's Guidelines for Archaeology (36 CFR Part 61). The qualified archaeologist shall prepare a Cultural and Tribal Cultural Resources Awareness Training as part of the Project Worker Environmental Awareness Program (WEAP). The training will instruct workers as to the laws protecting cultural and tribal cultural resources and also give examples of the kinds of resources that can be reasonably expected to be found in the Area of Potential Effect (APE). An environmental compliance contact responsible for enforcing mitigation measures and who is to be notified in the event of a find will be identified in the training. Training will be delivered to all staff involved in ground-disturbing activities prior to their working on the project.

- **MM-CUL-2: Preparation of a Cultural Resources Monitoring and Discovery Plan.** Prior to construction, a project-specific cultural resources monitoring and discovery plan (CRMDP) will be developed by a qualified archaeologist who meets the Secretary of the Interior's Guidelines for Archaeology (36 CFR Part 61). The monitoring plan should identify what construction activities that occur in native soils would require archaeological and tribal monitoring, describe monitoring procedures, and outline the protocol to be followed in the event of a find. Criteria will be defined and triggers identified as to when further consultation is required for the treatment of finds. Plans of treatment of typical finds will be detailed, as will a plan of treatment for any human remains that are inadvertently encountered. If a potentially significant discovery is made and cannot feasibly be avoided, then additional work, potentially including data recovery excavations, may be required. Key staff will be identified, and the process of notification and consultation will be specified within the CRMDP. A curation plan will also be outlined within the CRMDP. All work should be conducted under the direction of a qualified archaeological Principal Investigator who meets the Secretary of the Interior's standards for archaeology. Consulting tribes under AB52 for the Project shall have the opportunity to review and comment on the draft CRMDP.

Operational Impacts

Operation of the OCMF is not anticipated to result in the disturbance of any native soils. Therefore, no operational impacts related to historical resources would occur.

3.5.3.2. Would the Project cause a substantial adverse change in the significance of an archaeological resource pursuant to Section 15064.5?

Section 15064.5(c) indicates that CEQA applies to effects on an archaeological site if that site is determined by the lead agency to be an historical resource.

PRC, Section 21083.2(g) defines a unique archaeological resource as an artifact, object, or site about which it can be clearly demonstrated that, without merely adding to the current body of knowledge, there is a high probability that it:

- Contains information needed to answer important scientific research questions and that there is a demonstrable public interest in that information;
- Has a special and particular quality such as being the oldest of its type or the best available example of its type; or
- Is directly associated with a scientifically recognized important prehistoric or historic event or person.

Section 15064.5(c) further indicates that if an archaeological resource is neither a unique archaeological nor an historical resource, the effects of the project on those resources shall not be considered a significant effect on the environment. It shall be sufficient that both the resource and the effect on it are noted in the Initial Study or EIR, if one is prepared to address impacts on other resources, but they need not be considered further in the CEQA process.

Determination: LESS THAN SIGNIFCANT WITH MITIGATION INCORPORATED

Construction Impacts

In the course of the archival research, one previously-recorded Venus shell fragment was identified within the Project Site (P-30-100372). The resource was not relocated during the survey. Isolated resources, such as the shell fragment, are by their nature neither historical resources nor unique archaeological resources. They are therefore generally not eligible for inclusion in the CRHR and, therefore, are not considered cultural resources for the purposes of CEQA.

While some of the Project's three-dimensional area of direct impact has been previously disturbed by past farming or by the construction and use of MCAS El Toro, unknown archaeological resources may be encountered during ground-disturbing activities associated with the Project. With the implementation of Mitigation Measures CUL-1 and CUL-2, impacts to archaeological resources during construction would be less than significant.

Operational Impacts

Operation of the OCMF is not anticipated to result in the disturbance of any native soils. Therefore, no operational impacts related to archaeological resources would occur.

3.5.3.3. Would the Project disturb human remains, including those interred outside of formal cemeteries?

Determination: LESS THAN SIGNIFICANT WITH MITIGATION INCORPORATED

Construction Impacts

As outlined in Appendix G (Paleontological Resources Technical Memorandum), no known burial sites are located within the Project Site and some of the area of direct impact has been previously disturbed. No evidence of human remains was observed during the site survey. As such, human remains are unlikely to be encountered during construction. If human remains are discovered, work in the immediate vicinity of the discovery will be suspended and the Orange County Coroner contacted. If the remains are determined to be archaeological, Mitigation Measure CUL-2 will be implemented in order to evaluate the archaeological site and recommend appropriate treatment in accordance with PRC Section 21083.2(i). If the remains are deemed Native American in origin, the Coroner would contact the Native American Heritage Commission and identify a Most Likely Descendant pursuant to PRC Section 5097.98 and CCR Section 15064.5. Work may be resumed at OCTA's discretion but will only commence after consultation and treatment have been concluded. Work may continue on other parts of the proposed Project Site while consultation and treatment are conducted. Therefore, compliance with Mitigation Measure CUL-2 and existing regulations would ensure construction impacts related to human remains would be less than significant.

Operational Impacts

Operation of the OCMF is not anticipated to result in the disturbance of any native soils. Therefore, no operational impacts related to human remains would occur.

3.6. ENERGY

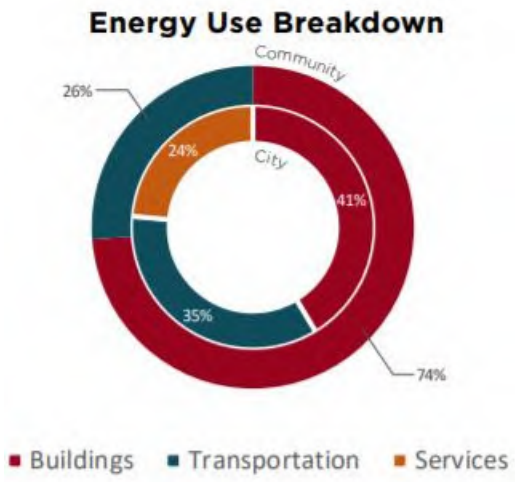
Would the project:		Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
3.6.3.1	Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation?	☐	☐	☒	☐
3.6.3.2	Conflict with or obstruct a state or local plan for renewable energy or energy efficiency?	☐	☐	☒	☐

3.6.1. Existing Conditions

The Project Site is located in the City of Irvine, where the primary supplier of natural gas is Southern California Gas Company (SCG) and the primary supplier of electricity is Southern California Edison Company (SCE) (City of Irvine, 2015).

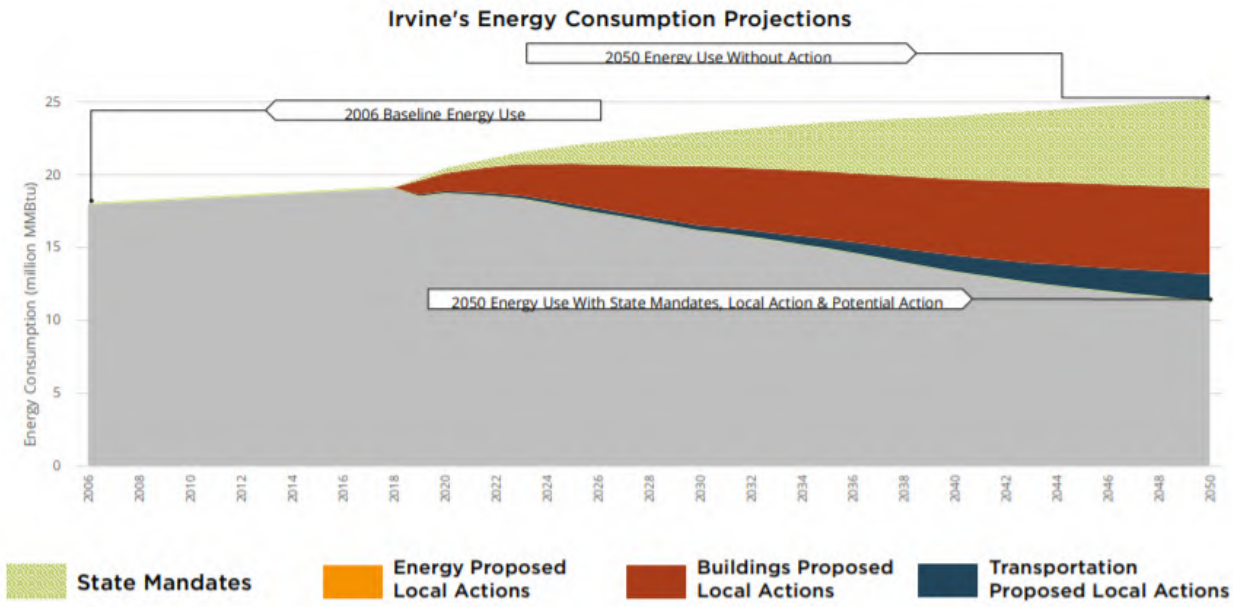
The City of Irvine developed a Strategic Energy Plan to outline actions the City can take to reduce energy consumption in municipal operations and identify effective measures the Irvine community can implement to become energy efficient and responsibly manage energy resources. The objectives of the Energy Plan included analyzing the City's baseline energy use to project future energy needs, evaluating priorities to meet those needs, and identifying funding opportunities to implement the strategies in the Energy Plan (City of Irvine, 2020). As described in more detail in the Irvine Strategic Energy Plan, Figure 3.6-1 presents the energy consumption based on a 2018 inventory. Communities account for the largest percentage of energy consumption of 74 percent, compared to the City which is responsible for 41 percent of total energy consumption. Additionally, facilities are responsible for 41 percent of energy use, followed by 35 percent for transportation, and 24 percent for services (primarily streetlights and traffic controls). Figure 3.6-2 summarizes the City's energy consumption trend.

Figure 3.6-1: City of Irvine Energy Consumption Breakdown



Source: City of Irvine, 2020

Figure 3.6-2: City of Irvine Energy Consumption Trend Summary



Source: City of Irvine, 2020

3.6.2. Regulatory Framework

The regulatory background of energy plans, policies, regulations, and laws is presented below. Generally, these plans, policies, regulations, and laws do not directly apply to the Project, but are presented to provide context to the regulatory setting.

State

Senate Bills 1078 and 107, Executive Orders S-14-08 and S-21-09, and Senate Bills 350 and 100 - Senate Bill (SB) 1078 (Chapter 516, Statutes of 2002) required retail sellers of electricity, including investor-owned utilities and community choice aggregators, to provide at least 20 percent of their supply from renewable sources by 2017. SB 107 (Chapter 464, Statutes of 2006) changed the target date to 2010.

Executive Order S-14-08 expanded the state's Renewables Portfolio Standard to 33 percent renewable power by 2020. Executive Order S-21-09 directs ARB, under its AB 32 authority, to enact regulations to help the state meet its Renewables Portfolio Standard goal of 33 percent renewable energy by 2020.

The 33-percent-by-2020 goal and requirements were codified in April 2011 with SB X1-2. This new Renewables Portfolio Standard applies to all electricity retailers in the state, including publicly owned utilities, investor-owned utilities, electricity service providers, and community choice aggregators. SB 350 (2015) increased the renewable-source requirement to 50 percent by 2030. This was followed by SB 100 in 2018, which further increased the Renewables Portfolio Standard to 60 percent by 2030 and added the requirement that all state's electricity come from carbon-free resources by 2045.

California Green Building Standards Code - In January 2010, the State of California adopted the California Green Building Standards Code, which establishes mandatory green building standards for all buildings in California. The code covers five categories: planning and design, energy efficiency, water efficiency and conservation, material conservation and resource efficiency, and indoor environmental quality. These standards include a set of minimum requirements and more rigorous voluntary measures for new construction projects to achieve specific green building performance levels. This code went into effect as part of local jurisdictions' building codes on January 1, 2011. The 2019 California Building Standards Code (CCR Title 24) was published July 1, 2019, with an effective date of January 1, 2020.

Local

City of Irvine General Plan, Energy Element - The City of Irvine's General Plan was last updated in June 2015 and includes an Energy Element. The Energy Element includes the following measure for energy conservation (City of Irvine, 2015).

Objective 1-1 Energy Conservation: Maximize energy efficiency through land use and transportation planning.

Policy (a): Consider the following or comparable design features, to the extent feasible, in developments at time of concept plan, subdivision, or development review:

- Encourage energy-efficient landscaping (water conserving plants, indigenous vegetation, and use of on-site water runoff) consistent with the City's Sustainability and Landscaping Ordinance

Policy (b): Encourage and promote incorporation of energy conservation measures. The measures should be developed in conjunction with the applicant and may include:

- Active solar water and/or space heating
- Passive design features for heating and cooling
- Use of energy efficient devices

Policy (e): Facilitate the participation of industries in the following conservation programs where cost effective:

- Cogeneration (process heat/steam/electricity)
- Reclaiming waste products (biomass, solid waste, wastewater)
- Carpooling
- Mass Transportation

Policy (f): Require developers of major commercial or industrial facilities who develop a transportation management plan to address such measures as:

- Flex time and/or shifting work schedules to avoid peak traffic
- Employee carpools and vanpools
- Preferential and free parking for carpoolers and vanpoolers
- Ridesharing programs
- Shuttle services from regional transportation (e.g., rail/bus) stations to final destination
- Subsidies for transit passes
- Locker room facilities for employees (e.g., for bicyclists)

Policy (g): Promote use of alternative modes of transportation by the following programs:

1. Encourage use of regional public transportation (e.g., rail service).
2. Encourage use of the bus system by working with OCTA.
3. Encourage use of public transit and ridesharing by promoting and participating in public information programs aimed at schools, sports clubs and other institutions and organizations.

3.6.3. Discussion

3.6.3.1. Would the Project result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation?

Determination: LESS THAN SIGNIFICANT IMPACT

Construction Impacts

Implementation of the Project would increase energy consumption for the duration of construction in the form of electricity, natural gas, and fossil fuels (e.g., gasoline, diesel fuel). Transportation energy use during construction would come from the transport and use of construction equipment (off-road), delivery and haul trucks (on-road), and construction employee passenger vehicles (on-road). Construction-related transportation energy use depends on the type and number of trips, VMT, fuel efficiency of vehicles, and travel mode. The majority of construction equipment during excavation, site work, building construction, and paving would be gas or diesel powered. The use of fuel by on-road and off-road vehicles would be temporary and would fluctuate according to the phase of construction. Construction fuel use for the Project would cease upon completion of Project construction.

Table 3.6-1 presents the total fuel consumption anticipated for proposed construction activities for Phase 1 and Phase 2 of the Project. The information in these tables is based on the emissions calculations, as presented in Section 3.8 Greenhouse Gas Emissions, for proposed construction activities and application of the U.S. Energy Information Administration's carbon dioxide (CO_2) emissions coefficients (EIA, 2016) to estimate fuel consumption for construction activities.

Table 3.6-2 presents the annual energy consumption as a result of the fuel used during construction of the Project. Inputs used to calculate energy consumption are provided in Appendix B.

Table 3.6-1: Project Construction-Related Fuel Consumption, Total and Amortized over 30 Years

Phase/Description	Source	MT CO_2e[a]	Fuel Type	Factor (MT CO_2/Gallon)[b]	Gallons
Phase 1	Off-Road Equipment	757	Diesel	0.0102	74,129
	Worker Trips	456	Gasoline	0.0088	51,933
	Haul Truck Trips	487	Diesel	0.0102	47,693
Phase 2	Off-Road Equipment	207	Diesel	0.0102	20,320
	Worker Trips	251	Gasoline	0.0088	28,598
	Haul Truck Trips	22	Diesel	0.0102	2,196
Total Gallons			Diesel		144,339
			Gasoline		80,531
Amortized Demands (over 30 years) [1]			Diesel		4,811
			Gasoline		2,684

Notes: MT CO_2e = metric tons carbon dioxide equivalent; MT CO_2e/gallon = metric tons carbon dioxide equivalent per gallon
[1] Assumed amortization period is 30 years, based on the typically assumed project lifetime. Air districts in California (e.g., Sacramento Metropolitan Air Quality Management District 2021, South Coast Air Quality Management District 2008, San Luis Obispo County Air Pollution Control District 2012) recommend amortizing greenhouse gas emissions from construction activities over a project's operational lifetime.
Sources: [a] Modeled by AECOM in 2021, [b] EIA, 2016

Table 3.6-2: Project Construction-Related Energy Requirements

Fuel	Amortized Energy Requirement	Unit	Annual Energy Consumption (MMBtu)
Diesel	4,811	gallons per year	664
Gasoline	2,684	gallons per year	336
		Total	**1,000**

Notes: MMBtu = million British thermal units

As shown in Table 3.6-2, the annual energy consumption associated with construction of the Project (including transportation fuel use by off-road equipment, worker vehicle trips, and material delivery trips) would be approximately 1,000 million British thermal units (MMBtu), respectively. Based on the anticipated phasing of the Project, temporary nature of construction, and project type, the Project would not include unusual characteristics that would necessitate the use of construction equipment that is less energy efficient than at comparable construction sites.

In addition, contractors are required, in accordance with the ARB Airborne Toxic Control Measure for Diesel-Fueled Commercial Motor Vehicle Idling, to minimize idling time of construction equipment by shutting equipment off when not in use or reducing the time of idling to 5 minutes. These required practices limit wasteful and unnecessary energy

consumption. Furthermore, as described in more detail below, construction of the Project would allow for more efficient operations and logistics for locomotive travel and maintenance in the region, thereby encouraging fuel and energy efficiency. Therefore, construction impacts related to potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources would be less than significant.

Operational Impacts

Operation of the Project would include energy consumptions associated with fuel use from locomotive operations; heavy-duty equipment used on-site (such as cranes and forklifts); and on-road vehicle travel for worker, delivery, and haul trips to and from the site. Additionally, the OCMF would also result in natural gas and electricity consumption and energy consumption associated with water consumption.

As described in more detail in Appendix B, the OCMF energy demand (electricity and natural gas) was based upon CalEEMod default data. The energy consumption associated with the supply, treatment, and disposal of water was estimated based on the anticipated water needs per train wash and added to the estimated waster demand for the buildings based on CalEEMod default data. Table 3.6-3 presents the annual energy consumption as a result of operation of the Project.

Table 3.6-3: Annual Operational Requirements

Description/Source	Energy Requirement	Unit	Annual Energy Consumption (MMBtu)
Locomotive Operations	725,225	gallons of diesel/year	99,632
On-Site Equipment	11,004	gallons of diesel/year	1,512
On-Road Vehicles (Diesel-Fueled)	18,689	gallons of diesel/year	3,976
On-Road Vehicles (Gasoline-Fueled)	11,708	gallons of gasoline/year	
Building Energy (Electricity)	1,535,961	kWh/year	5,250
Building Energy (Natural Gas)	8,981	kBtu/year	
Water Consumption	112,137	gallons/year	383
		Total	**110,753**

Notes: MMBtu = million British thermal units; kWh = kilowatt-hours; kBtu = thousand British thermal units

As shown in Table 3.6-3, the annual energy consumption associated with operation of the Project would be approximately 110,753 MMBtu. However, it should be noted that this estimate provides a conservative value as it does not account for the reduction in locomotive fuel consumption and energy associated with the reduced locomotive travel in the region due to the optimal location of the proposed Project Site. In addition, it is also anticipated that total regional fuel consumption associated with train idling would decrease at the existing

maintenance facilities due to more efficient operations and logistics. Since the purpose of the Project is to provide the space and equipment to inspect, clean, and maintain cars and locomotives on a regular and efficient basis, operation of the Project would not result in a potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources. Therefore, operational impacts related to potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources would be less than significant.

3.6.3.2. Would the Project conflict with or obstruct a state or local plan for renewable energy or energy efficiency?

Determination: <u>LESS THAN SIGNIFICANT IMPACT</u>

Construction and Operational Impacts

The Project would not use land that would otherwise be slated for renewable energy production and does not otherwise conflict with any state or local renewable energy plans. Therefore, Project construction would not obstruct any state or local plans for renewable energy and would conform with state and local plans for energy efficiency. As described above, the purpose of the Project is to provide the space and equipment to inspect, clean, and maintain cars and locomotives on a regular and efficient basis. Thus, implementation of the Project would promote and allow for fuel (and energy) efficient operations within the SCRRA transportation network.

In addition, consistent with the City of Irvine Strategic Energy Plan, the Project would be built to meet Title 24 – Building Energy Efficiency Standards (Part 6), including California Green Building Standards (CALGreen) Code (Part 11). Title 24 Standards require sustainable construction practices and building design in the categories of planning and design, including energy efficiency. Therefore, the Project's operation would not obstruct any state or local plans for renewable energy or energy efficiency. Therefore, construction and operational impacts related to conflicting with or obstructing a state or local plan for renewable energy or energy efficiency would be less than significant.

3.7. GEOLOGY AND SOILS

Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving:				
3.7.3.1 Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.	☐	☐	☐	☒
3.7.3.2 Strong seismic ground shaking?	☐	☐	☒	☐
3.7.3.3 Seismic-related ground failure, including liquefaction?	☐	☐	☒	☐
3.7.3.4 Landslides?	☐	☐	☐	☒
3.7.3.5 Result in substantial soil erosion or the loss of topsoil?	☐	☐	☒	☐
3.7.3.6 Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?	☐	☐	☐	☒
3.7.3.7 Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property?	☐	☐	☒	☐
3.7.3.8 Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water?	☐	☐	☒	☐
3.7.3.9 Directly or indirectly destroy a unique paleontological resource or site or unique geological feature?	☐	☒	☐	☐

3.7.1. Existing Conditions

Geology and Soils

The Project Site is located within the San Juan Capistrano Quadrangle and is in a seismically active region. However, it is not located in an Alquist-Priolo fault zone and no known faults intersect with the Project Site (DYA, 2021). According to the State of California Department of Conservation Fault Activity Map, the nearest known fault is the San Joaquin Hills Blind Thrust located in subsurface approximately 6 miles southwest of the Project Site (Figure 3.7-1). The Newport-Inglewood Fault (approximately 9.5 miles southwest from the Project Site) and the Elsinore Fault (approximately 15 miles northeast of the Project Site) are the closest active faults to the Project Site with surface expression. No earthquake faults are identified on the Project Site.

Based on the State of California Seismic Hazard Zones, the Project Site is not mapped within the areas subject to liquefaction or earthquake-induced landslides (Figures 3.7-2 and 3.7-3). The Project Site is underlain by denser soils with a deeper groundwater table, defined as SRA-2 Denser Soils/Deeper Ground water on the City of Irvine Seismic Response Areas, which would also make the site less susceptible to liquefaction and subsidence.

The Project Site is within the Peninsular Ranges geomorphic province. The Peninsular Ranges geomorphic province extends approximately 900 miles southward from the Los Angeles Basin to the tip of the Baja California Peninsula and is characterized by elongate, northwest-trending mountain ranges separated by sediment-floored valleys (California Geological Survey, 2002). The most dominant structural features of the province are the northwest-trending fault zones, most of which die out, merge with, or are terminated by steep reverse faults at the southern margin of the Transverse Ranges geomorphic province.

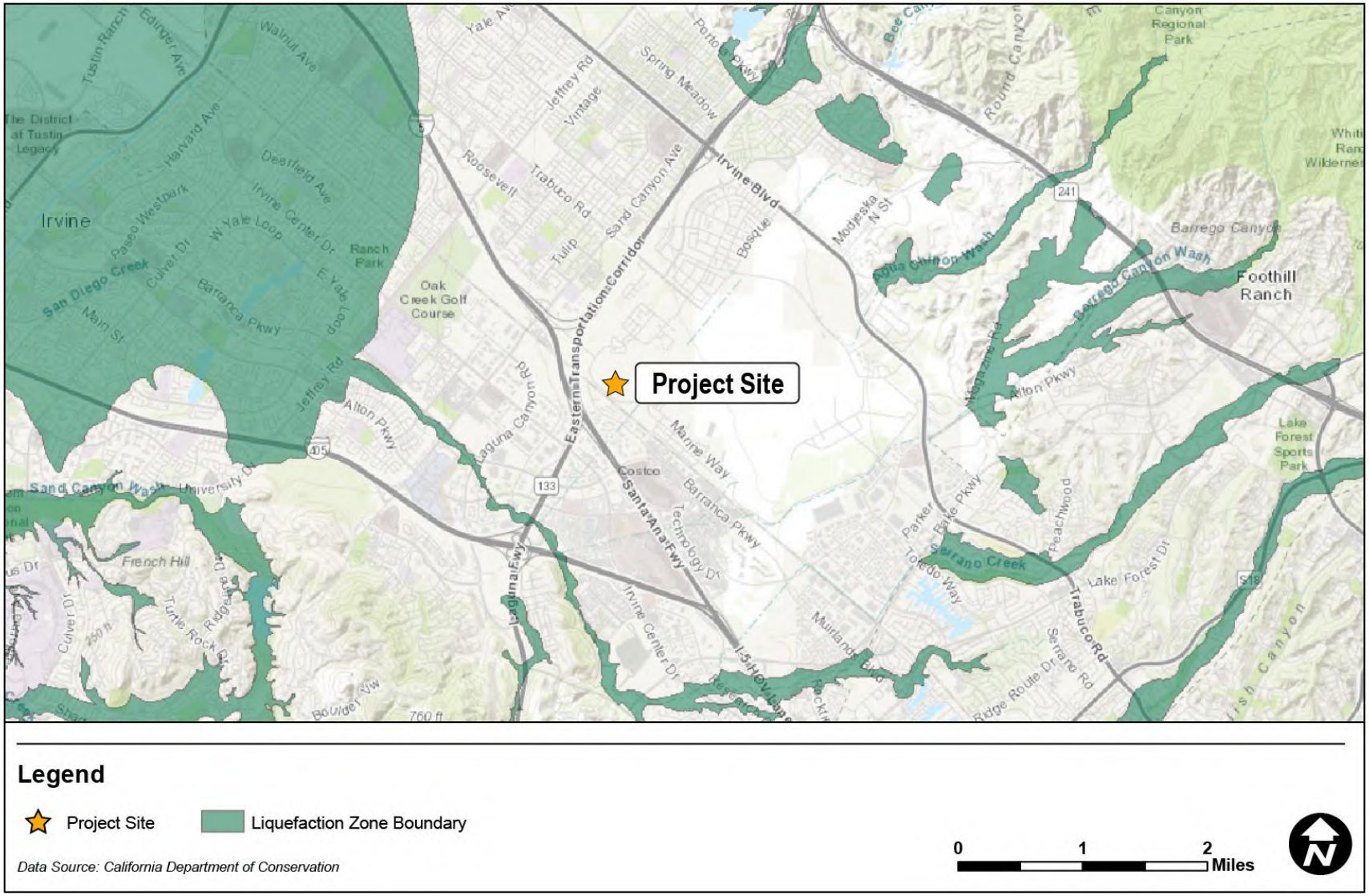
The Project Site is predominantly situated in an area with a Soil Component referred to as “Sorrento.” The soil surface texture consists of loam from surface to approximately 11 inches below ground surface (bgs), silty clay loam from approximately 11 inches to 61 inches bgs, and stratified loamy fine sand to silt loam from approximately 61 inches to 72 inches bgs (Kleinfelder, 2014).

A Geotechnical Sampling and Analysis Plan was prepared by Diaz, Yourman & Associates in 2020 prior to field exploration. The field exploration for the Project Site was conducted in December 2020 and January 2021. The subsurface soils encountered in the upper 24 feet consisted of predominately medium-stiff to hard sandy lean clays and sandy fat clays with varying amounts of loose to medium-dense clayey sands. Varying amounts of trace gravels were also present within the upper layer soils. The clays within this range were generally of medium to high plasticity with measured field pocket penetrometer (PP) values from 2.5 to greater than 4.5 tons per square feet (tsf). From a depth of approximately 24 to 39 feet bgs, the subsurface soils consisted of predominately medium stiff to hard sandy fat clays and sandy lean clays with varying amounts of loose to medium-dense clayey sands and silty sands. The fine-grained undisturbed samples in this range had measured PP values from 1.5 to greater than 4.5 tsf. From a

Figure 3.7-1: Fault Zones

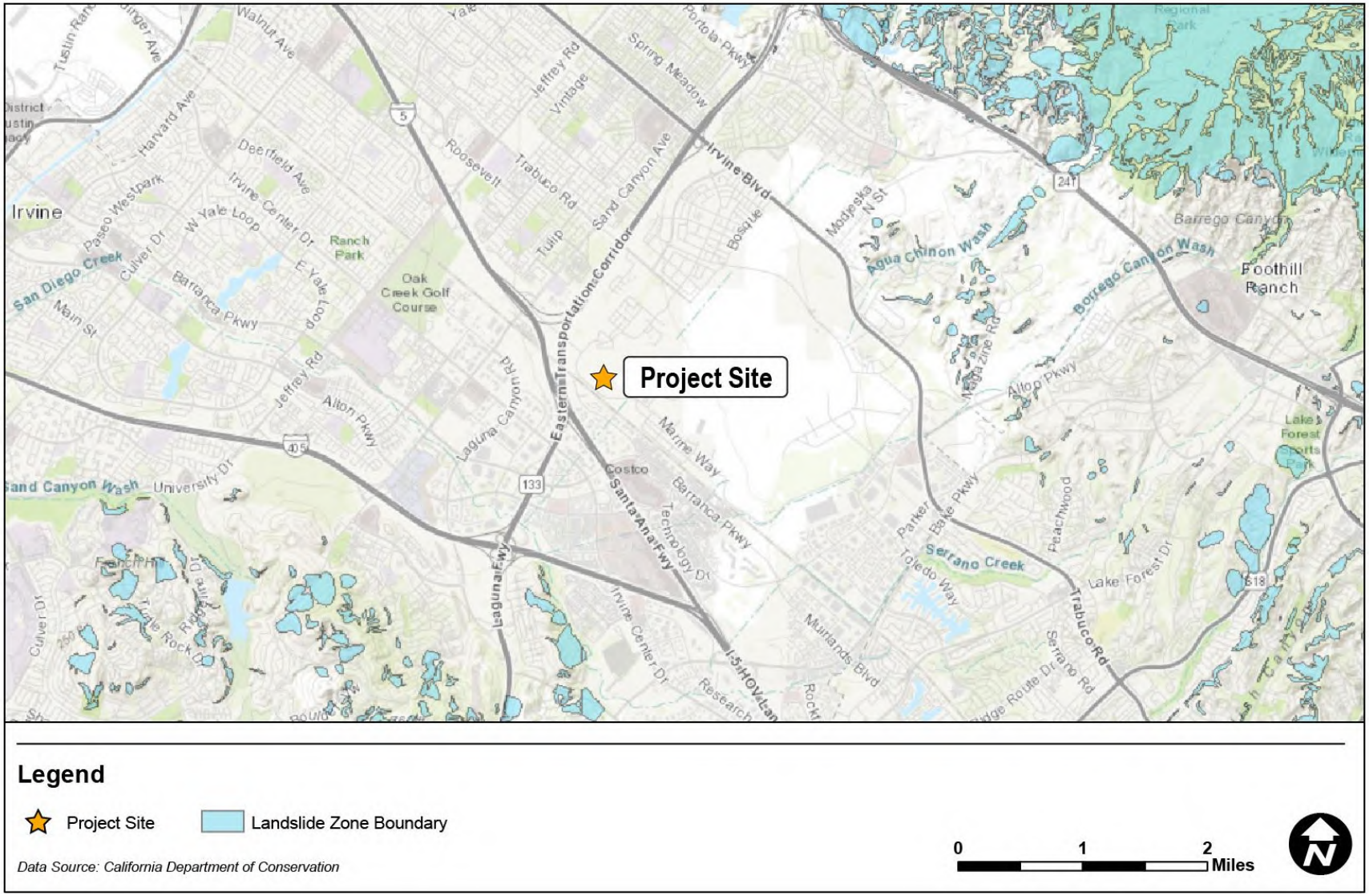
Source: AECOM, 2020

Figure 3.7-2: Liquefaction Zones



Source: AECOM, 2020

Figure 3.7-3: Landslide Zones



Source: AECOM, 2020

depth of approximately 39 to 60 feet bgs, the subsurface soils predominately consisted of hard sandy lean clays and sandy fat clays of medium to high plasticity with varying amounts of loose to very dense sands (DYA, 2020).

Paleontological Resources

Geologic maps indicate that the entire Project Site is covered with surficial deposits of younger Quaternary alluvium – Quaternary young alluvial fan (Qyf) deposits (Morton and Miller, 2006; Figure 3.7-4). These deposits, which date to the Holocene, are typically too young to contain significant fossils. However, in this vicinity, older Quaternary alluvium typically underlies younger Quaternary alluvium at varying depths. Older Quaternary alluvium, which dates to the Pleistocene, has yielded significant fossils.

A paleontological records search identified the closest Natural History Museum vertebrate fossil locality from older Quaternary deposits is LACM 7867, approximately a half-mile northeast of the Project Site, which produced fossil specimens of pocket gopher, *Thomomys*, at a depth of 25 feet below the surface. The next closest vertebrate fossil from older Quaternary deposits is LACM 7713, approximately 1.5 miles southwest of the Project Site on the western side of SR-133 at the southern end of the interchange with Interstate 405 (I-405), which produced a fossil specimen of ground sloth, *Mylodontidae*, from unstated but shallow depth.

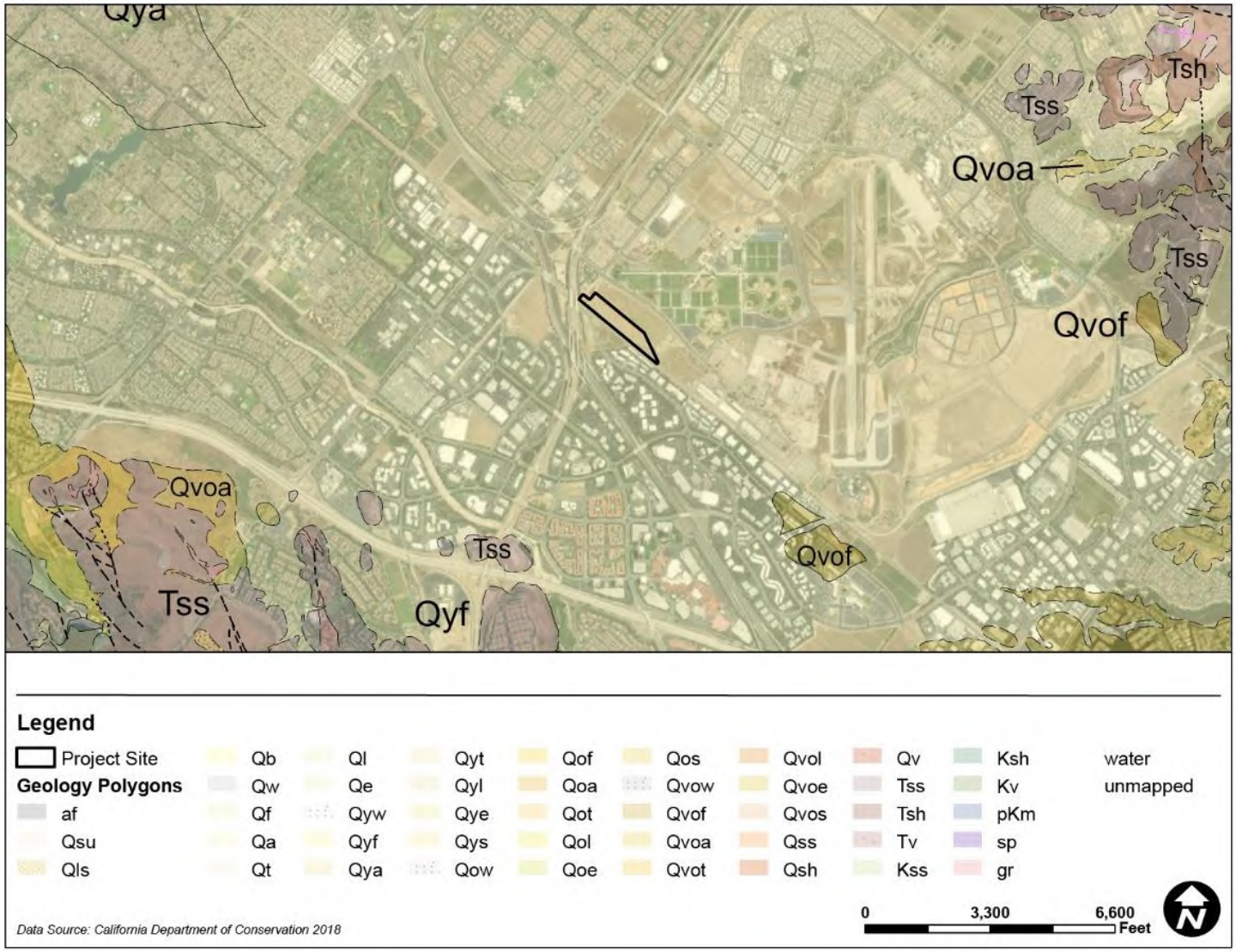
3.7.2. Regulatory Framework

State

The principal state guidance relating to geologic hazards is contained in the Alquist-Priolo Act (PRC 2621 et seq.) and the Seismic Hazards Mapping Act of 1990 (PRC 2690-2699.6). The Alquist-Priolo Act prohibits the location of most types of structures for human occupancy across active traces of faults in earthquake fault zones, shown on maps prepared by the state geologist, and regulates construction in the corridors along active faults (earthquake fault zones). Earthquake fault zones are regulatory zones around active faults designated by the state. The zones vary in width but average about one-quarter mile wide.

The Seismic Hazards Mapping Act of 1990 focuses on hazards related to strong ground shaking, liquefaction, and seismically induced landslides. Under its provisions, the state is charged with identifying and mapping areas at risk of strong ground shaking, liquefaction, landslides, and other corollary hazards. The maps are to be used by cities and counties in preparing their general plans and adopting land use policies to reduce and mitigate potential hazards to public health and safety.

Figure 3.7-4: Quaternary Surficial Deposits Map



Source: California Department of Conservation, 2018

Pursuant to the Surface Mining and Reclamation Act (PRC 2710 et seq.), the State Mining and Geology Board identifies, in adopted regulations, areas of regional significance known to contain mineral deposits judged to be important in meeting the future needs of the area (PRC 2426 and 2790; Title 14 PRC 3350, et seq.). The State Mining and Geology Board also adopts state policy for the reclamation of mined lands and certifies local ordinances for the approval of reclamation plans as being consistent with state policies (PRC 2755-2764, 2774 et seq.).

Public Resources Code Section 5097.5

PRC Section 5097.5 states that no person shall knowingly and willfully excavate upon, or remove, destroy, injure, or deface any historic or prehistoric ruins, burial grounds, archaeological or vertebrate paleontological site, including fossilized footprints, inscriptions made by human agency, or any other archaeological, paleontological, or historical feature, situated on public lands, except with the express permission of the public agency having jurisdiction over such lands. Violation of this section is a misdemeanor. “Public lands” refers to land owned by, or under the jurisdiction of, the state, or any city, county, district, authority, or public corporation, or any agency thereof.

3.7.3. Discussion

3.7.3.1. Would the Project, directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault?

Determination: <u>NO IMPACT</u>

Construction and Operational Impacts

The nearest known fault is the San Joaquin Hills Blind Thrust located in subsurface approximately 6 miles southwest of the Project Site (see Figure 3.7-1). The Newport-Inglewood Fault (located approximately 9.5 miles southwest from the Project Site) and the Elsinore Fault (located approximately 15 miles northeast of the Project Site) are the closest active faults to the Project Site with surface expression. However, no earthquake faults are identified on the Project Site. Construction and operation of the Project is not expected to expose people or structures to adverse effects caused by the rupture of a known fault. Therefore, no construction and operational impacts related to potential substantial adverse effects, including the risk of loss, injury, or death with rupture of a known earthquake fault, would occur.

3.7.3.2. Would the Project directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving strong seismic ground shaking?

Determination: <u>LESS THAN SIGNIFICANT IMPACT</u>

Construction and Operational Impacts

The Project Site is within the San Juan Capistrano Quadrangle and is considered in a seismically active region. Although the Project Site is not near any active faults, it is possible that the region could be affected by future seismic activity. However, the magnitude of the incident would not likely be severe. Depending on the strength of ground shaking, it is possible that structures in the area could be damaged during such an event. All new structures proposed for the Project Site would be required to comply with construction standards and seismic design criteria contained in the most updated California Building Code.

Although the potential for seismic ground shaking to occur at the Project Site is unavoidable, the risk of excessive permanent damage is minor because facilities would comply with building standards for seismic safety as required by the California Building Code and the Orange County Department of Public Works. Therefore, construction and operational impacts related to exposing people or structures to strong seismic ground shaking would be less than significant.

3.7.3.3. Would the Project directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving seismic-related ground failure, including liquefaction?

Determination: <u>LESS THAN SIGNIFICANT IMPACT</u>

Construction and Operational Impacts

Since the Project Site is in an active seismic region, there is some potential for seismic-related ground failure. However, soil types in Orange County are not conducive to liquefaction because they are too dense in texture and are underlain by a deeper groundwater table (see Figure 3.7-2). The probability of soil liquefaction in the area is considered a low to moderate hazard because of the substantial distance from active fault zones and the intensity of ground shaking expected (see Section 3.7.3.1, above).

Prior to final design, a site-specific geotechnical study would be prepared, as required by the California Building Code (Title 24 of the CCR). The geotechnical study would be used to determine the appropriate design features and construction measures necessary to minimize potential adverse effects associated with seismic-related ground failure, including liquefaction, lurching, or lateral spreading. In addition, new structures would be constructed to meet all Title 24 seismic safety regulations. Therefore, construction and operational impacts related to seismic-related ground failure would be less than significant.

3.7.3.4. Would the Project directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving landslides?

Determination: NO IMPACT

Construction and Operational Impacts

The Project Site is not mapped within the areas subject to earthquake-induced landslides as shown in Figure 3.7-3. Minimal landslides have occurred within Orange County due to recent wildfires, which make the soils susceptible to landslides. However, the Project Site is in a flat area so there is no risk of landslides in such terrain. Therefore, no construction and operational impacts related to landslides would occur.

3.7.3.5. Would the Project result in substantial soil erosion or the loss of topsoil?

Determination: LESS THAN SIGNIFICANT IMPACT

Construction Impacts

As mentioned above, the Project Site is predominantly situated in an area with a soil component referred to as "Sorrento." The soil surface texture consists of loam from the surface to approximately 11 inches bgs, silty clay loam from approximately 11 inches to 61 inches bgs, and stratified loamy fine sand to silt loam from approximately 61 inches to 72 inches bgs.

The Project Site lies atop soil units with poor topsoil quality, which are susceptible to water or wind erosion. On-site soils are considered non-corrosive to structural elements. Construction and operation of the Project could erode and cause indirect impacts on water quality and loss of high value soil, which collectively would result in a substantial indirect effect.

By implementing standard construction practices and BMPs, Project construction would have limited impacts from erosion. Therefore, construction impacts related to substantial soil erosion or the loss of topsoil would be less than significant.

Operational Impacts

During operations, most of the Project Site would be paved, contain buildings, or ballast. Small landscaped areas would be planted to avoid any potential soil erosion or loss of topsoil. Therefore, operational impacts related to substantial soil erosion or the loss of topsoil would be less than significant.

3.7.3.6. Would the Project be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the Project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?

Determination: NO IMPACT

Construction and Operational Impacts

Refer to the discussion under Section 3.7.3.3, above, regarding lateral spreading and liquefaction and under Section 3.7.3.4 regarding landslides. Therefore, no construction or operational impacts related to being located on a geologic unit or soil that is unstable, or that would become unstable as a result of the Project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse would occur.

3.7.3.7. Would the Project be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property?

Determination: LESS THAN SIGNIFICANT IMPACT

Predominately clayey soils in the upper 10 feet have a moisture content ranging from 6 to 54 percent, and sandy soils in the upper 10 feet have a moisture content ranging from 3 to 13 percent. The optimum moisture content corresponding to the maximum dry density from the bulk bag samples collected in the upper 5 feet of soil range from approximately 9 to 14 percent; therefore, in general, drying of the clayey soils and adding moisture to the sandy soils should be anticipated during construction.

Most of the soils in the upper 5 feet of the soil profile within the Project Site were generally found to have very low to high shrink-swell (expansive) potential. The earth loads associated with at-grade segments of the trackwork may not be sufficient to overcome swell potential. This impact is considered to have substantial intensity because this impact could result in loss of life or substantial property damage if not adequately addressed during design and construction.

Construction and Operational Impacts

Construction of the Project on soils with low to high shrink-swell potential could result in damage to the building facilities during operation of the Project. The potential for shrink-swell also represents a risk to the track system and track ROW for long-term operations for Metrolink lines by differential track movement. This type of impact is more critical at locations with at-grade segments. The earth loads associated with at-grade segments of the rail lines may not be sufficient to overcome swell potential. Soils with swell potential would likely be present along the track alignments and building facilities.

Because of the shrink-swell potential risk, the Project could be subject to unstable soil conditions such as settlement or expansion during construction and operation. Sandy portions

of the subsurface materials (fat and dense clayey) could be subject to compression, causing settlement. When weak soils are reengineered specifically for stability prior to use, these potential effects can be reduced or eliminated. To meet the City's design standards for grading and to comply with the California Building Code (Title 24 of the CCR), a site-specific evaluation of soil conditions would be required by the city. This evaluation would identify recommendations for ground preparation and earthwork specific to the Project Site and would become an integral part of the Project design.

An acceptable degree of soil stability could be achieved for expansive or compressible soils through routine soil treatment programs (replacement, grouting, compaction, drainage control, etc.). In addition, properly designing foundations and footings and diverting runoff away from buildings would help to prevent the structural damage caused by shrinking and swelling. In addition, properly designing buildings and roads can offset the limited ability of the soil to support a load. Compliance with building regulations and site-specific recommendations to address the on-site soil conditions would reduce the severity of construction and operation impacts. Therefore, construction and operational impacts related to the Project being located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property would be less than significant.

3.7.3.8. Would the Project have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater?

Determination: <u>LESS THAN SIGNIFICANT IMPACT</u>

Construction and Operational Impacts

The Project would include the construction of new wastewater drainage pipes that would tie into existing utilities located on Marine Way, as it is located in an urbanized setting. As discussed in Section 3.10 (Hydrology), an underground cistern would be included as part of the Project to capture and treat storm and wastewater. As described in Section 3.7.3.3 above, the Project would include a site-specific evaluation of soil conditions to comply with the California Building Code (Title 24 of the CCR). This evaluation would identify recommendations for ground preparation and earthwork specific to the Project Site, including evaluation of soil conditions. With the implementation of BMPs, as well as compliance with building regulations and site-specific recommendations to address on-site soil conditions, the severity of construction and operational impacts on soils incapable of supporting the use of septic tanks would reduce significantly. Therefore, construction and operational impacts related to soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems would be less than significant.

3.7.3.9. Would the Project directly or indirectly destroy a unique paleontological resource or site or unique geological feature?

Determination: LESS THAN SIGNIFICANT WITH MITIGATION INCORPORATED

Construction Impacts

The sensitivity of the Project to encounter significant fossil remains appears low. Geologic maps indicate that the surficial deposits at the Project Site consist of younger Quaternary alluvium as shown in Figure 3.7-4. These Holocene deposits are too young to typically contain significant fossils. The shallow excavations required for the Project are unlikely to encounter older deposits. Moreover, soils at the relatively shallow depths required for the Project's excavations can reasonably be assumed to have been disturbed in the recent past, by chemical and mechanical weathering, grading, and utilities excavations, and by activities related to the SCRRA Orange Subdivision and MCAS El Toro.

Nevertheless, it is possible that the proposed Project will encounter older Qyf deposits or old alluvial fan (Qof) deposits during deeper excavations. Unknown fossil resources may exist within these deposits, which have yielded significant fossils in the near vicinity of the Project. The sensitivity for the Project to encounter significant fossils increases with depth. The following mitigation measures are recommended to reduce any impacts to unknown paleontological resources encountered during excavations to a less than significant level.

- **MM-GEO-01: Worker Environmental Awareness Program.** Prior to construction, OCTA shall retain a qualified paleontologist who meets the requirements to be included in Orange County's list of qualified paleontologists. The qualified paleontologist shall prepare a Worker Environmental Awareness Program (WEAP). The WEAP will describe the types of resources that may be encountered during construction, the laws protecting those resources, and the procedures to follow when finds are encountered. The WEAP will be presented either in person or in video form to all construction employees involved in ground-disturbing activities before they begin work at the Project Site.

- **MM-GEO-02: Response to Unanticipated Paleontological Finds.** If buried paleontological resources are uncovered during construction, all work shall be halted in the vicinity of the discovery until a qualified paleontologist can visit the site of discovery and assess the significance of the resource and, if necessary, recommend treatment.

Implementation of Mitigation Measures MM-GEO-1 and MM-GEO-2 would reduce construction impacts related to paleontological resources to less than significant.

Operational Impacts

Operations of the OCMF and associated buildings would not require excavation activities. Therefore, no operational impacts related to paleontological resources would occur.

3.8. GREENHOUSE GAS EMISSIONS

Would the project:		Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
3.8.3.1	Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?	☐	☐	☒	☐
3.8.3.2	Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?	☐	☐	☒	☐

3.8.1. Existing Conditions

Certain gases in the earth's atmosphere, classified as greenhouse gases (GHGs), play a critical role in determining the earth's surface temperature. A portion of the solar radiation that enters the earth's atmosphere is absorbed by the earth's surface, and a smaller portion of this radiation is reflected towards space. This infrared radiation (i.e., thermal heat) is absorbed by GHGs within the earth's atmosphere. As a result, infrared radiation released from the earth that otherwise would have escaped back into space is instead "trapped," resulting in a warming of the atmosphere. This phenomenon, known as the "greenhouse effect," is responsible for maintaining a habitable climate on the earth.

GHGs are present in the atmosphere naturally, are released by natural and anthropogenic sources, and are formed from secondary reactions taking place in the atmosphere. Natural sources of GHGs include the respiration of humans, animals, and plants; decomposition of organic matter; and evaporation from the oceans. Anthropogenic sources include the combustion of fossil fuels, waste treatment, and agricultural processes. The following GHGs are widely accepted as the principal contributors to human-induced global climate change:

- Carbon dioxide (CO_2)
- Methane (CH_4)
- Nitrous oxide (N_2O)
- Hydrofluorocarbons (HFCs)
- Perfluorocarbons (PFCs)
- Sulfur hexafluoride (SF_6)

Global warming potential (GWP) is a concept developed to compare the ability of each GHG to trap heat in the atmosphere relative to CO_2. The GWP of a GHG is based on several factors, including the relative effectiveness of a gas to absorb infrared radiation and length of time (i.e., lifetime) that the gas remains in the atmosphere ("atmospheric lifetime"). The reference gas for GWP is CO_2; therefore, CO_2 has a GWP of 1. The other main GHGs attributed to human activity include CH_4, which has a GWP of 25, and N_2O, which has a GWP of 298 (EPA, 2017). For example, 1 ton of CH_4 has the same contribution to the greenhouse effect as approximately 25 tons of CO_2. GHGs with lower emissions rates than CO_2 may still contribute to climate change because they are more effective at absorbing outgoing infrared radiation

than CO_2 (i.e., high GWP). The concept of CO_2-equivalents (CO_2e) is used to account for the different GWP potentials of GHGs to absorb infrared radiation.

The largest source of GHG emissions from human activities in the United States is from burning fossil fuels for electricity, heat, and transportation. In 2018, the United States generated 6,676 million metric tons (MMT) CO_2e (EPA, 2020). The transportation sector was the single largest source of GHG emissions in 2018, accounting for 29 percent of total GHG emissions. The transportation sector was followed by the electric power and industry sectors, which account for 27 and 22 percent of the total GHG emissions, respectively (EPA, 2020).

ARB performs an annual GHG inventory for emissions and sinks of the six major GHGs. California produced 425 MMT CO_2e in 2018 (ARB, 2020). Combustion of fossil fuel in the transportation category was the single largest source of California's GHG emissions in 2018, accounting for 40 percent of total GHG emissions in the state. The transportation category was followed by the industrial and electric power (including in-state and out-of-state sources) categories, which account for 21 and 15 percent of the state's total GHG emissions, respectively (ARB, 2020).

3.8.2. Regulatory Framework

State

Senate Bill 97 (SB 97) - California SB 97 mandates that the Governor's Office of Planning and Research (OPR) amend the state's CEQA Guidelines to address impacts from GHGs, and these amendments must be adopted by the California Natural Resources Agency (CNRA). The CNRA adopted CEQA amendments to the CEQA Guidelines on December 30, 2009.

Executive Order S-3-05 - Executive Order S-3-05, signed in June 2005, proclaimed that California is vulnerable to the impacts of climate change. Executive Order S-3-05 declared that increased temperatures could reduce the Sierra Nevada's snowpack, further exacerbate California's air quality problems, and potentially cause a rise in sea levels. To combat those concerns, the executive order established total GHG emissions targets. Specifically, emissions were to be reduced to 2000 levels by 2010, to 1990 levels by 2020, and to 80 percent below the 1990 levels by 2050.

Assembly Bill 32 - In 2006, California passed the California Global Warming Solutions Act of 2006 (AB 32; California Health and Safety Code Division 25.5, Sections 38500, et seq.). AB 32 further details and puts into law the mid-term GHG reduction target established in Executive Order S-3-05: reduce GHG emissions to 1990 levels by 2020. AB 32 also identifies ARB as the state agency responsible for the design and implementation of emissions limits, regulations, and other measures to meet the target. AB 32 also established several programs to achieve GHG emission reductions, including the Low Carbon Fuel Standard and the Cap-and-Trade program.

Senate Bill 32 - In 2016, the California State Legislature adopted SB 32 and its companion bill AB 197, and both were signed by Governor Brown (California Legislative Information). SB 32 establishes a new climate pollution reduction target of 40 percent below 1990 levels by 2030.

ARB Climate Change Scoping Plans - In December 2008, ARB adopted its *Climate Change Scoping Plan. A Framework for Change* (Scoping Plan), which contains the main strategies California will implement to achieve the GHG reductions required by AB 32 (ARB, 2008). The Scoping Plan also includes ARB-recommended GHG reductions for each emissions sector of California's GHG inventory. ARB further acknowledges that decisions about how land is used will have large impacts on the GHG emissions that will result from the transportation, housing, industry, forestry, water, agriculture, electricity, and natural gas emissions sectors.

ARB is required to update the Scoping Plan at least once every five years to evaluate progress and develop future inventories that may guide this process. ARB approved First Update to the Climate Change Scoping Plan: Building on the Framework in June 2014 (ARB, 2014). The Scoping Plan update includes a status of the 2008 Scoping Plan measures and other federal, state, and local efforts to reduce GHG emissions in California, and potential actions to further reduce GHG emissions by 2020.

In November 2017, ARB released the 2017 Climate Change Scoping Plan, which establishes a framework of action for California to reduce statewide emissions by 40 percent by 2030, compared to 1990 levels (ARB, 2017). The 2017 Scoping Plan builds upon the framework established by the 2008 Scoping Plan and the 2014 Scoping Plan Update, while also identifying new, technologically feasible and cost-effective strategies to ensure that California meets its GHG reduction targets.

SCAG 2020-2045 Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS) - On September 23, 2020, SCAG adopted Connect SoCal, the 2020-2045 Regional Transportation Plan/Sustainable Communities Strategy. As a plan with the goal of accelerating the region's progress towards transportation and GHG reduction targets, programs within the RTP/SCS focus on shifting travel to active transportation modes, expanding the transit network, and efficient movement of goods (SCAG, 2020).

GHG Threshold of Significance - The geographic scope of consideration for GHG emissions is on a global scale as such emissions contribute, on a cumulative basis, to global climate change. Given the nature of environmental consequences from GHGs and global climate change, CEQA requires that lead agencies evaluate the cumulative impacts of GHGs, even relatively small additions, on a global basis. By their nature, GHG evaluations under CEQA are a cumulative study. (See *Center for Biological Diversity v. California Department of Fish and Wildlife* [2015] 62 Cal.4th 204.)

The CEQA Guidelines encourage but do not require lead agencies to adopt thresholds of significance (CEQA Guidelines, Section 15064.7). When developing these thresholds, and consistent with the December 2018 CEQA and Climate Change Advisory published by the California Office of Planning and Research (OPR, 2018), the Guidelines allow lead agencies to develop their own significance threshold and/or to consider thresholds of significance adopted or recommended by other public agencies, or recommended by experts, provided that the thresholds are supported by substantial evidence. Individual lead agencies may also undertake a case-by-case approach for the use of significance thresholds for projects consistent with available guidance and current CEQA practice (OPR, 2018).

As the City of Irvine has not established screening thresholds for GHG emissions, the analysis reviewed the applicable significance thresholds developed by the SCAQMD. The SCAQMD has adopted a significance threshold of 10,000 MT of CO_2e per year for industrial (stationary source) projects (SCAQMD, 2008). The Project type is closest to an industrial project (i.e., doesn't include residential or commercial land uses). The 10,000 MT CO_2e threshold was developed in 2008 and was intended to ensure at least 90 percent of new GHG emissions would be reviewed and assessed for mitigation, thereby contributing to GHG emissions reduction goals of AB 32. However, the Project would begin construction in 2023; thus, construction-related GHG emissions should also be analyzed in the SB 32 statewide framework (which established a 2030 GHG emissions reduction target of 40 percent below 1990 levels). However, the SCAQMD has not adopted a threshold of significance consistent with SB 32 goals. To provide this additional information to put the Project-generated GHG emissions in the appropriate statewide context, this analysis presumes that a 40 percent reduction in the SCAQMD's existing threshold (resulting in 6,000 MT CO_2e) is necessary to achieve California's 2030 GHG reduction goal (which is a 40 percent reduction below 1990 GHG emissions levels).

It is not the intent of this CEQA document to cause the adoption of these thresholds as mass emissions limits for this or other projects, but rather to provide this additional information to put the Project-generated GHG emissions in the appropriate statewide context.

3.8.3. Discussion

3.8.3.1. Would the Project generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?

Determination: <u>LESS THAN SIGNIFCANT IMPACT</u>

Construction Impacts

Heavy-duty off-road equipment, materials transport, and worker commutes during construction of the Project would result in exhaust-related GHG emissions. Construction-related GHG emissions were estimated using the methodology discussed earlier under Section 3.3 Air Quality, and described in more detail in Appendix B. As shown in Table 3.8-1, total construction-related GHG emissions would be approximately 2,181 MT CO_2e. The SCAQMD recommends that construction emissions associated with a project be amortized over the life of the project (typically assumed 30 years). Therefore, this analysis includes a quantification of the total modeled construction-related GHG emissions. Those emissions are then amortized and evaluated over the life of the project (assumed 30 years). As such, the amortized GHG emissions would be approximately 73 MT CO_2e per year. Therefore, construction impacts related to the Project generating GHG gas emissions, either directly or indirectly, that may have a significant impact on the environment would be less than significant.

Operational Impacts

As described above in Section 3.3 Air Quality, GHG emissions associated with operation of the Project would include emissions from locomotive operations; heavy-duty equipment used on-site (such as cranes and forklifts); fuel tank emissions; natural gas consumption; and on-road vehicle travel for worker, delivery, and haul trips to and from the site. Indirect emissions were also modeled for indirect sources associated with electricity use, water demand, and waste generation. The Project would not result in an increase in commuter rail service or additional locomotive train travel in the region. Therefore, emissions associated with in-transit locomotive operations were assumed to remain similar to existing conditions. GHG emissions associated with implementation of the Project are summarized in Table 3.8-1. As described in more detail in Appendix B, on-site idling of trains for storage and maintenance purposes would not result in a regional increase in emissions, as these activities (and related emissions) currently occur at the existing storage and maintenance facilities and would simply shift these emissions sources to the proposed Project Site. Thus, these emissions are not included in Table 3.8-1. In addition, the emissions below do not account for the potential reduction in GHG emissions associated with more efficient locomotive travel and logistics. Therefore, the emissions presented below are conservative.

Table 3.8-3.8-1: Annual GHG Emissions

Source	GHG Emissions (MT CO_2e/year)
Total Construction	2,181
Amortized Construction[1]	73
Yard Equipment	98
Staff and Truck Vehicles	0.13
Natural Gas Consumption	85
Electricity Consumption	329
Water and Wastewater Consumption	24
Solid Waste Generation	279
Operations Subtotal	815
Total (Construction and Operations)	**888**
SCAQMD Threshold	10,000
SCAQMD Threshold (Adjusted for SB 32)	6,000
Exceeds Threshold?	**No**

Notes: GHG = greenhouse gas; MT CO_2e = metric tons carbon dioxide equivalent; SCAQMD = South Coast Air Quality Management District

[1] Assumed amortization period is 30 years, based on the typically assumed project lifetime (SCAQMD, 2008), which recommends amortizing GHG emissions from construction activities over a project's operational lifetime.

As shown in Table 3.8-1, GHG emissions would not exceed the SCAQMD's adopted significance threshold of 10,000 MT CO_2e per year nor the adjusted SB 32 threshold of 6,000 MT CO_2e per year. Therefore, this impact would be less than cumulatively considerable. As such, operational impacts related to the Project generating GHG emissions, either directly or indirectly, that may have a significant impact on the environment would be less than significant.

3.8.3.2. Would the Project conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?

Determination: <u>LESS THAN SIGNIFICANT IMPACT</u>

Construction and Operational Impacts

As discussed above, in response to AB 32 and SB 32, ARB has approved a series of Climate Change Scoping Plans. While the Climate Change Scoping Plans do include measures that would indirectly address GHG emissions associated with construction and operational activities, including the phasing in of cleaner technology for diesel engine fleets (including construction equipment) and the Low Carbon Fuel Standard, successful implementation of these measures predominantly depends on the development of laws and policies at the state level. As such, none of these statewide plans or policies constitutes a regulation to adopt or implement a regional or local plan for reduction or mitigation of GHG emissions. Thus, it is assumed that any requirements or policies formulated under the mandate of AB 32 and SB 32 that would be applicable to the Project, either directly or indirectly, would be implemented consistent with statewide policies and laws.

The 2017 Climate Change Scoping Plan also identifies GHG reduction strategies and actions in six key sectors: low carbon energy, industry, transportation sustainability, natural and working lands, waste management, and water (ARB, 2017). Within the transportation sustainability sector, ARB calls for improving freight and goods movement efficiency and sustainability, including transportation system improvements relating to efficient land use. The 2017 Climate Change Scoping Plan acknowledges that the network of transportation technology and infrastructure, in turn, shapes and is shaped by development and land use patterns that can either support or detract from a more sustainable, low carbon, multi-modal transportation future. Strategies to reduce GHG emissions from the transportation sector, therefore, must actively address not only infrastructure and technology, but also coordinated strategies to achieve development, conservation, and land use patterns that align with the state's GHG and other policy goals. In addition, the SCAG 2020-2045 RTP/SCS, Connect SoCal, includes goals and strategies to improve and maintain the operational regional transportation system efficiency. The purpose of the Project is to provide the space and equipment to inspect, clean, and maintain cars and locomotives on a regular and efficient basis. As described in Section 2 Project Description, a maintenance facility located along the SCRRA Orange Subdivision through Orange County, such as the Project, would be the optimal location as it would reduce

operating costs by limiting non-revenue moves to the existing SCRRA storage and maintenance facilities in the cities of Los Angeles and Colton. As such, due to the optimal location of the proposed Project Site, the Project is also anticipated to result in reduced locomotive travel in the region and a reduction in the emissions associated with locomotive travel in the region. It is also anticipated that total regional emissions associated with train idling would decrease at the existing maintenance facilities due to more efficient operations and logistics.

Furthermore, as an effort to meet the goals of AB 32 to reduce statewide GHG emissions, the California Building Standards Code established CALGreen. CALGreen encourages sustainable construction practices and building design in the categories of planning and design, including energy efficiency. The Project would be built to meet CALGreen. Thus, the Project would not conflict with goals and strategies of the 2017 Climate Change Scoping Plan; the SCAG 2020-2045 RTP/SCS; or any other applicable plan, policy, or regulation for the purpose of reducing GHG emissions. Therefore, construction and operational impacts related to the Project conflicting with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of GHGs would be less than significant.

3.9. HAZARDS AND HAZARDOUS MATERIALS

Would the project:		Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
3.9.3.1	Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	☐	☐	☒	☐
3.9.3.2	Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?	☐	☐	☒	☐
3.9.3.3	Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	☐	☐	☐	☒
3.9.3.4	Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?	☐	☒	☐	☐
3.9.3.5	For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard or excessive noise for people residing or working in the project area?	☐	☐	☐	☒
3.9.3.6	Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	☐	☐	☐	☒
3.9.3.7	Expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires?	☐	☐	☐	☒

3.9.1. Existing Conditions

The Project Site is within a portion of the former MCAS El Toro, which was decommissioned in 1999. Hazardous materials, including chemicals and jet fuels, were stored and used on various portions of the former air station, including the OCMF site. These chemicals resulted in contamination of the soils, for

which the DON was required to perform environmental remediation. From records provided by the DON, two groundwater monitoring wells were installed within the Project Site after the closure of MCAS El Toro. One of the wells is in the middle of the proposed storage yard (between storage tracks), so it may need to be relocated. The other well is near the south entrance of the site and appears out of conflict with any major proposed improvements. The Project Site would be developed to provide for periodic access to the wells by the DON. Previous analysis related to hazardous materials has been prepared to address contamination on the Project Site. Figure 3.9-1 shows the known hazardous materials sites in the vicinity of the Project Site. A Phase I Site Assessment completed in 2014 did not find any recognized environmental condition (REC) sites (Kleinfelder, 2014). An updated Phase I Environmental Site Assessment has been completed and was used to inform this analysis (see Appendix E).

3.9.2. Regulatory Framework

Federal

Hazardous Materials Resources - EPA is the lead federal agency responsible for enforcing federal regulations regarding hazardous materials. The primary legislation governing hazardous materials includes the Resource Conservation and Recovery Act (RCRA); the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA); the Superfund Amendments and Reauthorization Act (SARA); and the Toxic Substances Control Act (TSCA).

Comprehensive Environmental Response, Compensation, and Liability Act - CERCLA, also known as Superfund, created a tax on the chemical and petroleum industries to provide for response and cleanup of hazardous substances that may endanger public health or the environment. CERCLA established requirements for abandoned hazardous waste sites and provided for liability of persons responsible for releases of hazardous waste at these sites.

Superfund Amendments and Reauthorization Act - SARA amended CERCLA to increase state involvement and required Superfund actions to consider state environmental laws and regulations. SARA also established a regulatory program for underground storage tanks and the Emergency Planning and Community Right-to-Know Act (EPCRA).

State

In case of any chemical release of hazardous materials, the Project will comply with the Hazardous Materials Release Notification, including the following:

- Health and Safety Codes Sections 25270.7, 25270.8, and 25507
- Vehicle Code Section 23112.5
- Public Utilities Code Section 7673 (PUC General Orders #22-B, 161)
- Government Code Sections 51018, 8670.25.5 (a)
- Water Codes Sections 13271, 13272
- Labor Code Section 6409.1(b)10

Figure 3.9-1: Known Hazardous Material Sites

Source: AECOM, 2020

If more than a specified amount ("reporting quantity") of hazardous materials or extremely hazardous materials are to be handled at the Project Site, the Project shall develop and submit a Hazardous Materials Business Plan (HMBP) as mandated both by the federal government (Code of Federal Regulations [CFR]) and the State of California (Health and Safety Code) to the Orange County Health Care Agency (OCHCA).

Local

The Project would comply with the Irvine Municipal Code, especially Division 9 (Emergency Services) and Division 17 (Hazardous Materials) of Title 4 (Public Safety), as well as the Irvine Zoning Ordinance, Chapter 2-13 (Hazardous Waste Facility Procedure).

The Project would comply with the Hazardous Materials Disclosure Program and the Accidental Release Prevention Program. The Unified Program is implemented at the local government level by OCHCA. The Hazardous Materials Division of OCHCA is designated by the State Secretary for Environmental Protection as the Certified Unified Program Agency (CUPA) for Orange County. Inspections and business plans are managed by the Orange County Fire Authority (OCFA) on behalf of OCHCA.

AB 1130 authorized CUPAs to administer and implement programs related to the Aboveground Petroleum Storage Act (APSA) for any business with a total aboveground storage capacity of 1,320 gallons of petroleum products in tanks or containers larger than 55 gallons. APSA defines "petroleum" as crude oil, or any fraction thereof, which is liquid at a temperature of 60 degrees Fahrenheit and an absolute pressure of 14.7 pounds per square inch. Tank facilities regulated under APSA are also regulated by the EPA Region 9 Oil Program Clean Water Act Compliance Office. Since the Project will consider building underground storage tanks or aboveground tanks for petroleum products/fuels, the plan will need to comply with the CCR for underground and aboveground tanks, respectively, with oversight by OCHCA. APSA would require the following of the Project if storage of petroleum tanks meets or exceeds the 1,320-gallon aboveground petroleum products/fuels storage threshold:

- Complete and submit to OCHCA an initial Aboveground Petroleum Storage Tank Facility Statement Form.
- Prepare and implement a Spill Prevention Control and Countermeasures (SPCC) Plan in accordance with 40 CFR 112.
- Conduct periodic inspections of ASTs to ensure compliance with the 40 CFR 112.
- Allow OCHCA to conduct periodic inspections.
- Immediately notify the California Emergency Management Agency (EMA) and OCHCA upon discovery of a spill or release of 42 gallons or more of petroleum.

Facilities regulated under APSA or the Federal SPCC Rule must prepare and implement an SPCC. Regulated facilities fall into three categories:

- Facility with aboveground storage capacity more than 10,000 gallons, for which a full plan must be prepared that has been certified by a Professional Engineer and approved by the facility or corporation management.
- Facility with aboveground storage capacity more than 1,320 gallons and less than 10,000 gallons, and with no history of release, can prepare and self-certify an abbreviated plan. These businesses are known as "Qualified Facilities." There are, in turn, two types of Qualified Facilities, Tier I and Tier II Qualified Facilities:
    - Tier I Qualified Facility has a capacity between 1,320 and 10,000 gallons with no single container greater than 5,000 gallons and has no single discharge to navigable waters or adjacent shorelines exceeding 1,000 gallons and no two discharges, each exceeding 42 gallons within any 12-month period in the past 3 years.
    - Tier II Qualified Facility has a capacity between 1,320 and 10,000 gallons with a single container greater than 5,000 gallons and has no single discharge to navigable waters or adjacent shorelines exceeding 1,000 gallons and no two discharges, each exceeding 42 gallons within any 12-month period in the past 3 years.

The Project will need to notify the appropriate state and local agencies (e.g., OCHCA, California Department of Toxic Substances Control [DTSC], or the RWQCB) since soil and groundwater contamination is present due to the MCAS site. Notification to these state and local regulatory oversight agencies will simultaneously satisfy coverage under the applicable federal agencies under Superfund. If requested as follow-up by the state and/or local regulatory oversight agency(ies), then an environmental site assessment or a risk assessment (e.g., human health risk assessment) shall be prepared to ensure that future site activities and/or uses pose no risks to human health and/or the environment.

In accordance with the State Water Resources Control Board's (SWRCB's) requirements for construction sites greater than 1 acre, a stormwater pollution prevention plan (SWPPP) must be prepared and implemented during construction for coverage under the NPDES Construction General Permit. Similarly, construction sites subject to the Construction General Permit are required to implement a SWPPP in the City of Irvine. While the SARWQCB issues the Construction General Permit, the Water Quality Ordinance (No. 10-06) gives the City adequate legal authority as may be necessary to carry out the requirements of the NPDES Permit and accomplish the requirements of the CWA.

3.9.3. Discussion

3.9.3.1. Would the Project create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?

Determination: LESS THAN SIGNIFCANT IMPACT

Construction and Operational Impacts

Construction and operation of the Project Site would require the routine handling and storage of petroleum products and hazardous materials. Wastes, including used oils and hazardous wastes generated from the Project Site, would be properly managed, transported and disposed per regulatory standards specified under the CCR Title 22 Division 4.5. Criteria for identifying characteristics of hazardous waste are also designated in CCR Title 22 Division 4.5. Construction and operational impacts that would create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials would be less than significant.

3.9.3.2. Would the Project create a significant hazard to the public or environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?

Determination: LESS THAN SIGNIFICANT IMPACT

Construction Impacts

The primary incidents involving the routine handling and use of petroleum products and hazardous materials that could occur during construction of the Project include minor drips, leaks, or spills. Impacts from such incidents would be avoided by thoroughly cleaning up minor drips, leaks, or spills as soon as they occur, in compliance with all applicable regulations for proper handling of these materials. As discussed in Section 3.10 Hydrology and Water Quality, a site SWPPP would be developed and implemented as a compliance mechanism with the NPDES General Construction Permit to ensure quick response to minor drips, leaks, or spills. Therefore, construction impacts that would create a significant hazard to the public or environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment would be less than significant.

Operational Impacts

Operations of the Project include the routine handling and use of petroleum products and hazardous materials that could leak or spill if equipment such as tanks is damaged from a seismic event, fire, or other unforeseen incident. The Project would construct a Material Storage Building that would store hazardous materials and batteries. To minimize potential impacts, the design of the Project provides containment and/or diversionary structures or equipment to prevent illicit discharge of an oil or hazardous materials spill. The OCMF would

develop and implement an HMBP as required by the regulatory framework set forth by the CFR, the State of California Health and Safety Code, and OCHCA. The HMBP would be developed and approved before reportable quantities of hazardous materials/wastes or tanks/oil-filled equipment are handled or stored on-site. The HMBP includes an Emergency Response Plan element.

If the Project has aboveground petroleum products/fuel tanks larger than 55 gallons with the storage capacity of 1,320 gallons or more, the SPCC Plan would be required to comply with the regulatory framework set forth by the Aboveground Storage Tank Act. Tank facilities regulated under APSA are also regulated by the EPA Region 9 Oil Program Clean Water Act Compliance Office. The Project would be required to prepare and implement an SPCC Plan in accordance with 40 CFR 112. In addition, SCRRA would be required to immediately notify the California EMA and OCHCA upon discovery of a spill or release of 42 gallons or more of petroleum. These programs and plans would be developed to be consistent with other Metrolink maintenance facilities. Therefore, operational impacts that would create a significant hazard to the public or environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment would be less than significant.

3.9.3.3. Would the Project emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?

Determination: <u>NO IMPACT</u>

Construction Operational Impacts

There are no existing schools or educational institutions within one-quarter mile of the Project Site. Cypress Elementary School and California State University, Fullerton's Irvine Center are the closest educational intuitions to the Project Site. Each is approximately one mile from the Project Site. Therefore, no construction or operational impacts related to emitting hazardous emissions or handling hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school would occur.

3.9.3.4. Would the Project create a significant hazard to the public or environment as a result of being located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5?

Determination: <u>LESS THAN SIGNIFICANT WITH MITIGATION INCORPORATED</u>

Construction and Operational Impacts

The Project Site is located within a portion of the MCAS El Toro Superfund site, situated within a portion of Operating Unit (OU) 2A - Installation Restoration Program (IRP) Site 24 - water transfer facility. According to the Phase I Environmental Site Assessment (ESA), one groundwater monitoring well (18BGMW101A) and one groundwater extraction well (24EX11) in connection with IRP Site 24 are located within the Project Site boundaries. According to

additional information provided in site documents available in the online California DTSC's Envirostor database and on the EPA's Superfund Site El Toro MCAS webpage, buried water transfer conveyance lines associated with these wells are also within the Project Site boundaries. An Institutional Control (IC) is in effect in connection with IRP Site 24, which includes the following land use restrictions and/or requirements:

- Activities prohibited that disturb the remediation and monitoring systems without approval;
- Annual inspection and/or report;
- No drilling for drinking water, oil, or gas without approval;
- Notify damages to remedy and monitoring systems no later than 10 days upon discovery;
- Notify no later than 30 days after change of property owner; and
- Only extraction of groundwater for site remediation and/or construction dewatering permitted.

Before and after the Project's construction, proper notifications to the required parties shall be made in accordance with the IRP Site 24 IC in order to maintain compliance with the site management requirements/IC in connection with the ongoing military clean-up site operations. Therefore, construction and operational impacts related to the creation of a significant hazard to the public or environment as a result of being on a site that is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 would be less than significant with mitigation incorporated.

- **MM-HAZ-1: Notifications to federal, state, and local agencies.** The Project applicant shall notify the appropriate agencies (e.g., OCHCA, DTSC, EPA, or the Regional Water Quality Board) regarding soil, soil gas and/or groundwater contamination in connection with the ongoing military clean-up site associated with the former El Toro MACS Superfund site.

- **MM-HAZ-2: Groundwater monitoring requirements.** Where the Project Site construction and operational activities coincide with the current groundwater monitoring systems (e.g., wells, water transfer conveyance lines) the requirements of the IC in connection with IRP Site 24 for the ongoing military clean-up site associated with the former El Toro MCAS Superfund site shall be adhered to in order to protect human health and the environment from potential hazardous materials exposures.

- **MM-HAZ-3: Soil assessment for hazardous materials.** Prior to construction activities at the Project, if required by the state or local regulatory oversight agencies, then further assessment including soil, soil vapor and/or groundwater investigations shall be conducted to reveal the presence, if any, of potential hazardous materials at the Project Site that were identified as a result of the Phase I ESA, and would assist in determining

further mitigations required to address human health and/or the environment impacts due to potential hazardous materials exposures.

The implementation of Mitigation Measures HAZ-1 through HAZ-3 would reduce impacts related to the Project's location within the MCAS El Toro Superfund site to less than significant.

3.9.3.5. Would the Project create a safety hazard or excessive noise for people residing or working in the project area as a result of being located within an airport land use plan or within two miles of a public or public use airport?

Determination: <u>NO IMPACT</u>

Construction and Operational Impacts

The Project Site is not within 2 miles of a public airport or public use airport. The closest airport to the Project Site is John Wayne Airport in Santa Ana adjacent to the City of Irvine boundary, approximately 7 miles to the west. The Project Site is located outside of the John Wayne Airport Clear Zones according to the City of Irvine General Plan's Safety Element. Also, no private airstrip exists in the vicinity of the Project. Therefore, no construction or operational impacts related to the Project's creation of a safety hazard or excessive noise for people residing or working in the Project Site as a result of being located within an airport land use plan or within 2 miles of a public or public use airport would occur.

3.9.3.6. Would the Project impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?

Determination: <u>NO IMPACT</u>

Construction Impacts

In places where the components of the Project span a road or require a lane closure, construction activities would be coordinated with the City of Irvine to prevent closure of any emergency access route. While flaggers may direct and hold oncoming traffic during construction, emergency vehicles would be provided access even in the event of temporary road closures. Emergency access would not be directly impacted by construction of the Project because all streets would remain open to emergency vehicles at all times during construction. Therefore, no construction impacts related to implementation of or physical interference with an adopted emergency response plan or emergency evacuation plan would occur.

Operational Impacts

As discussed in Section Impact 3.20.3.1, the Project does not include any characteristics such as permanent road closure or long-term blocking of road access that would physically impair or otherwise conflict with the City's Emergency Preparedness Program. The Project

configuration would comply with required emergency response plan or emergency evacuation plan elements in accordance with Project design and permitting requirements. Emergency access roadways would be designed to meet OCFA fire prevention guidelines (Guideline B-09) and City Ordinance provisions Sec. 5-9-519 Emergency access. The OCMF would comply with the 2019 California Fire Code Part 9, Title 24 CCR. The City of Irvine Standard Condition 4.9 shall require an inspection by the Police Department and OCFA prior to the Project opening, to ensure compliance with the Emergency Access Plan requirements. Therefore, no operational impacts related to implementation of or physical interference with an adopted emergency response plan or emergency evacuation plan would occur.

3.9.3.7. Would the Project expose people or structures, either directly or indirectly, to a significant risk of loss, injury, or death involving wildland fires?

Determination: <u>NO IMPACT</u>

Construction and Operational Impacts

The Project Site is not within or in proximity to an area designated as “High Fire Severity Rating & Open Space with Fire Potential” according to the City of Irvine General Plan’s Safety Element. The Project Site is in an urbanized area and would be grubbed of vegetation and graded, further minimizing the potential for wildland fires. Therefore, no construction or operational impacts related to the Project exposing people or structures, either directly or indirectly, to a significant risk of loss, injury, or death involving wildland fires would occur.

3.10. HYDROLOGY AND WATER QUALITY

Would the project:		Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
3.10.3.1	Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality?	☐	☐	☒	☐
3.10.3.2	Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?	☐	☐	☒	☐
	Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would:				
3.10.3.3	Result in substantial erosion or siltation on- of off-site;	☐	☐	☒	☐
3.10.3.4	Substantially increase the rate or amount of surface runoff in a manner which would result in flooding on-or offsite;	☐	☐	☒	☐
3.10.3.5	Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff; or	☐	☐	☒	☐
3.10.3.6	Impede or redirected flood flows?	☐	☐	☒	☐
3.10.3.7	In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?	☐	☐	☐	☒
3.10.3.8	Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?	☐	☐	☒	☐

3.10.1. Existing Conditions

The Project Site lies within the San Diego Creek Watershed and its water quality is managed by the SARWQCB. The San Diego Watershed covers approximately 122 square miles within Orange County comprising the cities of Irvine, Tustin, Santa Ana, Costa Mesa, and some portions of Laguna Hills and Lake Forest (Figure 3.10-1).

Existing topography consists of an existing upward grade of approximately 1.3 percent from the footprint's northwest limit at Ridge Valley to the footprint's southeast limit at the open storm drain culvert, Bee Canyon Channel (Metrolink, 2019). Existing drainage channels exist and are owned and maintained by the Irvine Ranch Water District (IRWD) and the OCFCD. The Bee Canyon Channel runs perpendicular to the site on its southern boundary while the Marshburn Channel is located approximately 1,400 feet to the north.

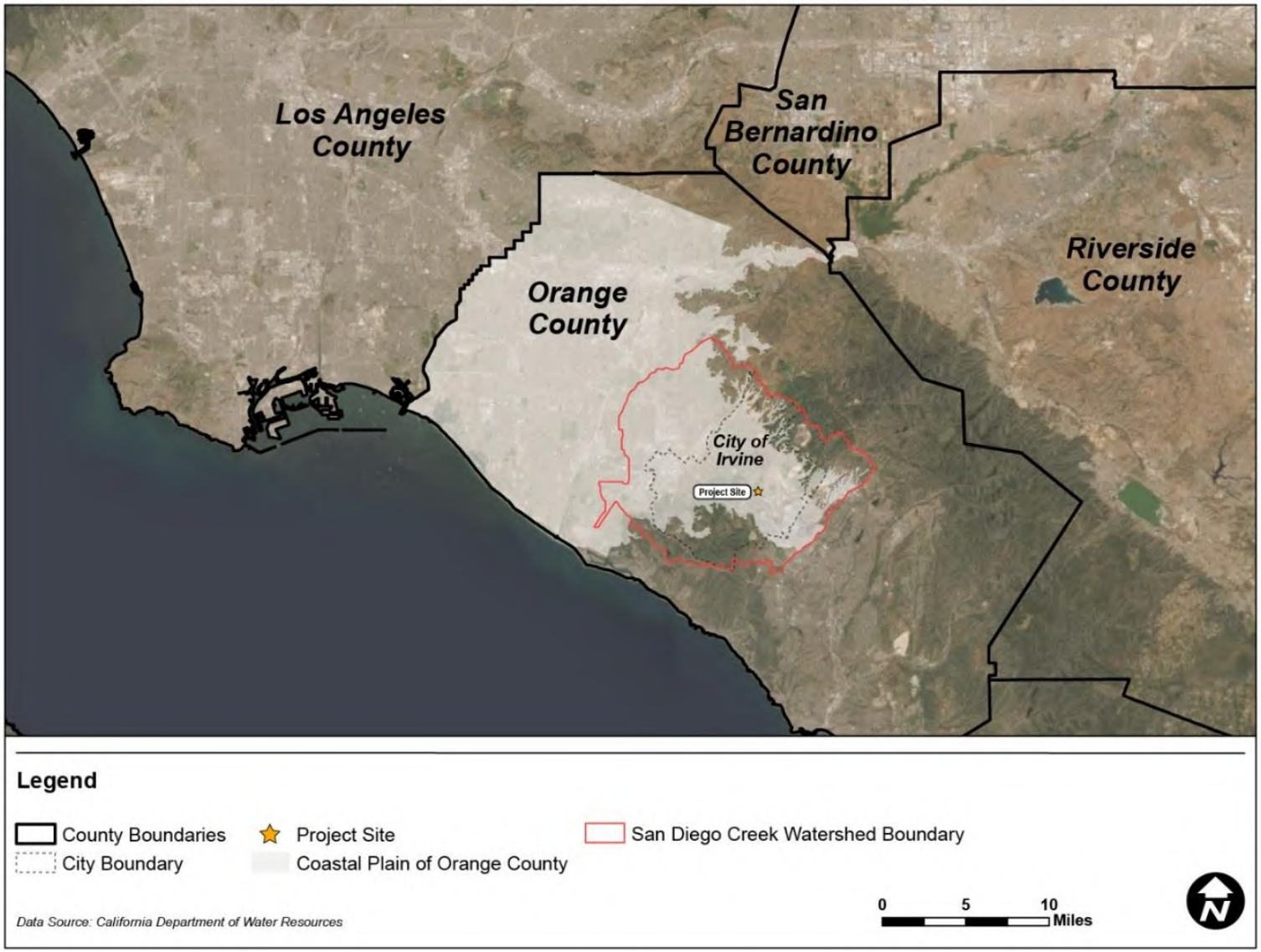
Formerly owned by the DON, the Project Site is currently located within the RWQCB's El Toro Marine Base Groundwater Plume Protection Boundary (Figure 3.10-2). The DON is currently remediating the contamination and has two existing groundwater monitoring wells on the Project Site.

The Project Site is within the Coastal Plain of the Orange County Groundwater Basin (also referred to as Basin 8-1). The basin's area spans approximately 350 square miles and is bordered by Los Angeles County to the north, the Santa Ana Mountains to the northeast, and the Pacific Ocean (refer to Figure 3-10-1). The Sustainable Groundwater Management Act (SGMA) is a landmark law that empowers local agencies to sustainably manage their groundwater and authorizes SWRCB intervention if local agencies are unable to do so. The Department of Water Resources (DWR) has identified the Coastal Plain of Orange County Groundwater Basin as a medium-priority basin due to its heavy reliance on groundwater as a source of water supply. The Orange County Water District (OCWD), IRWD, and the City of La Habra jointly prepared the Basin 8-1 Alternative and generated a water budget to ensure the sustainable recharge of the groundwater aquifer.

The segment of the existing Bee Canyon Channel adjacent to the existing SCRRA Orange Subdivision bridge consists of a double 11-foot-wide by eight-foot-high reinforced concrete box (RCB) at the upstream segment and changes to an open u-channel under the existing SCRRA Orange Subdivision bridge and at the downstream section. The concrete u-channel ranges between 21.67 to 24.30 feet in width and 6.5 to 14 feet in height. Just after the channel changes from the closed double RCB to open u-channel, a 60-inch reinforced concrete pipe (RCP) outlets into the channel from a tributary area on the south side. This segment of the existing Bee Canyon Channel was last modified and constructed in 2015 and is owned and maintained by the OCFCD.

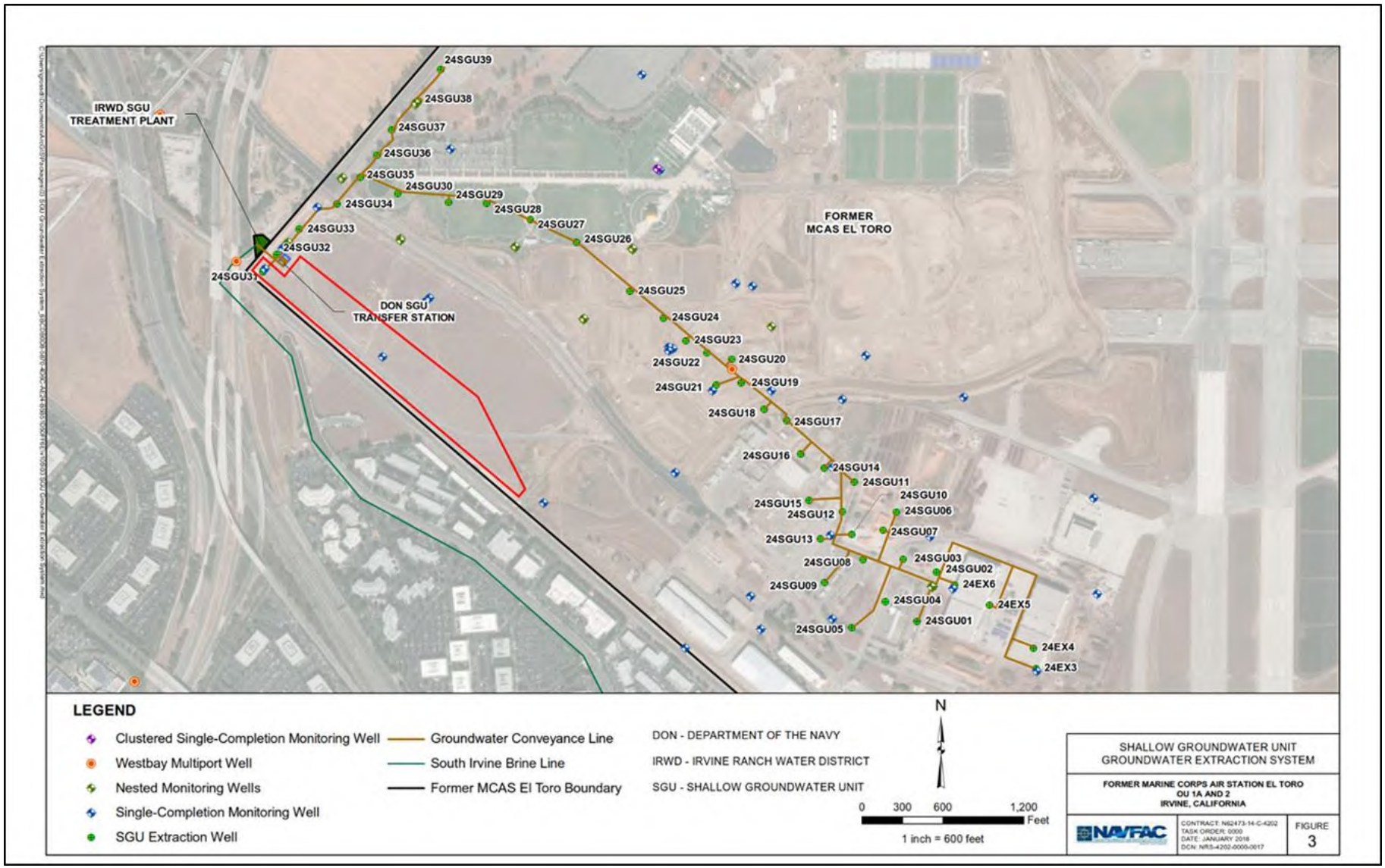
The existing channel was designed for a 100-year storm and takes in approximately 1,607.9 cubic feet per second (cfs) at the upstream section and 1,781 cfs at the downstream section after the 60-inch RCP is introduced.

Figure 3.10-1: Coastal Plain of Orange County Basin (Basin 8-1) and San Diego Creek Watershed



Source: DWR (2015), USGS (2020)

Figure 3.10-2: Department of Navy Groundwater Monitoring Well Locations



Source: Metrolink (2019)

A hydraulic analysis for the channel was provided in the as-builts (O.C.F.C.D. Facility No. F17 – 2014) and gave a flow depth ranging from 6.5 feet at the upstream section and 2.6 feet at the downstream section as shown in the as-builts. Using a minimum freeboard requirement of three feet above the flow depth, the required structural soffit clearance between the channel flow line and the top of the freeboard ranges from 9.5 feet at the upstream section and 5.6 feet at the downstream section.

Based on the information provided, it was found that the existing freeboard elevation encroaches over the top of the existing u-channel for approximately 30 feet at the upstream portion of the channel. To accommodate this, a grouted rock slope protection was added on the side slopes between the SCRRA Orange Subdivision bridge and the closed double RCB.

The Project Site does not lie within any flooding hazard zones. Federal Emergency Management Agency (FEMA) has designated the location of the Project Site as Zone X, which is defined as an area of minimal flooding (see Figure 3.10-3). The FEMA designated Zone A area adjacent to the Project Site is within the existing SCRRA ROW. The closest tsunami zone is approximately 10 miles from the Project at Upper Newport State Marine Conservation Area. In the event of seismic activity, the Salton Sea is the closest large body of water that could be subjected to a seiche; it lies across the Santa Ana Mountains approximately 21 miles from the Project Site. Santiago Dam is approximately eight miles from the Project Site; its flood zone does not affect the Project Site.

3.10.2. Regulatory Framework

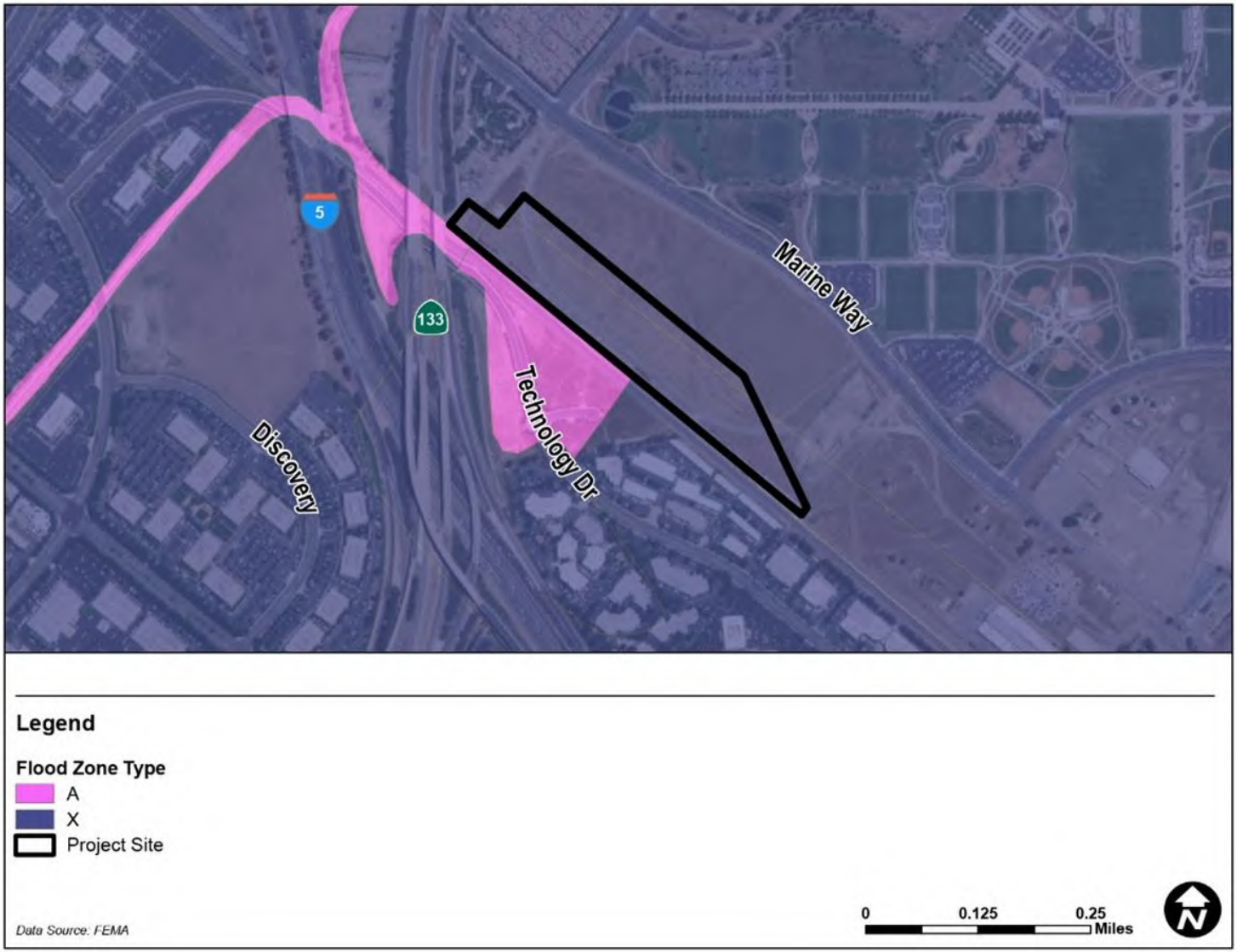
State

Clean Water Act Section 401 - The SWRCB has jurisdiction over all Waters of the State. Under CWA Section 401, the SWRCB must issue a 401 Water Quality Certification to ensure compliance with state water quality standards for any activity resulting in a discharge to a water body.

CWA Section 402 - Through delegated jurisdiction under the federal CWA, the SWRCB regulates point source discharges to Waters of the U.S. under the NPDES. Regulated discharges also include diffuse sources of discharge caused by general construction activities covering an area greater than 1 acre, and stormwater discharges in municipal separate storm sewer systems (MS4s) in which runoff is carried through a developed conveyance system to specific discharge locations. The SWRCB issues both a construction general permit for protection of water quality from stormwater discharges during construction activities, and an industrial general permit for protection of water quality from stormwater discharges during industrial activities.

Sustainable Groundwater Management Act - The SGMA is a landmark law that empowers local agencies to sustainably manage their groundwater and authorizes SWRCB intervention if local agencies are unable to do so. The SGMA requires governments and water agencies of high and medium priority basins to halt overdraft and bring groundwater basins into balanced levels of pumping and recharge. Basins should reach sustainability within 20 years of implementing their sustainability plans.

Figure 3.10-3: FEMA Designated Floodplains



Source: FEMA (2018)

California Fish and Game Code Section 1602 - CDFW has jurisdiction over ephemeral, intermittent, and perennial waterways, including natural lakes and manmade reservoirs. CDFW's jurisdiction can also extend over the habitats adjacent to waterways. Under Section 1602, CDFW must be notified of any activity that substantially diverts or obstructs a waterway; changes or uses material from the bed, channel, or bank of a waterway; or deposits or disposes of debris, waste, or other material containing ground pavement where it may pass into any waterway. Notification of CDFW (through a Lake or Streambed Alteration Agreement) would be required prior to the start of construction.

Porter-Cologne Water Quality Control Act - The act authorizes the SWRCB to adopt, review, and revise policies for all waters of the state (including both surface and groundwater); regulates discharges to surface and groundwater; and directs the RWQCBs to develop regional basin plans. The Act divides the state of California into nine RWQCB areas. Each RWQCB implements and enforces provisions of the CWA, subject to policy guidance and review by the SWRCB. The Project Site is located in the Los Angeles Regional Water Quality Control Board (LARWQCB) Region 4, the Los Angeles Region.

Local

Irvine City Council Ordinance No. 10-6 - The purpose of the ordinance is to continue the City of Irvine's participation in the improvement of water quality and to ensure adequate legal authority exists for the City to enforce federal and state requirements for the control of pollutants from stormwater and urban runoff. The ordinance conforms to the policies and goals in the General Plan adopted by the City for protecting the regional watershed.

3.10.3. Discussion

3.10.3.1. Would the Project violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or groundwater quality?

Determination: LESS THAN SIGNIFCANT IMPACT

Construction Impacts

The SWRCB and RWCBs, the County of Orange, and the City of Irvine have set forth existing water quality regulations with which the Project would be required to comply. Since grading activities would disturb over 1 acre of soil, the Project would be required to obtain an NPDES General Construction Permit through the SWRCB' Permit for Discharges of Storm Water Associated with Construction Activity (Construction General Permit Order 2009-0009-DWQ). Approvals would be granted by the SARWQCB. The City of Irvine and the County of Orange utilize the Drainage Area Management Plan (DAMP) as their primary policy and implementation document for compliance with the NPDES Municipal Stormwater Permits for Orange County, which was adopted by the SARWQCB in 2003. The Water Quality Ordinance (No. 10-06) gives the City of Irvine adequate legal authority as may be necessary to carry out the requirements of the NPDES Permit and accomplish the requirements of the CWA.

To ensure that water quality is protected, the NPDES General Construction Permit would require that the Project develop and implement a SWPPP as the primary compliance mechanism. The SWPPP's objectives are to identify the sources of sediment and pollutants that affect the quality of stormwater discharges and to ensure the implementation of BMPs to reduce or eliminate sediment and other pollutants in stormwater discharges. The SWPPP would include BMPs that address source control, BMPs that address pollutant control, and BMPs that address treatment control. BMPs specified in the DAMP developed by the County of Orange; OCFCD; and incorporated Cities, including Irvine; are shown in Table 3-10-1. The Project would incorporate these BMPs to maintain water quality during its construction phase.

Table 3-10-1: Sediment Control BMPs

Category	BMP	BMP Name
Sediment Control BMPs	SE-1	Silt Fence
	SE-2	Sediment Basin
	SE-3	Sediment Trap
	SE-4	Check Dam
	SE-5	Fiber Rolls
	SE-6	Gravel Bag Berm
	SE-7	Street Sweeping and Vacuuming
	SE-8	Sandbag Barrier
	SE-9	Straw Bale Barrier
	SE-10	Storm Drain Inlet Protection
	SE-11	Active Treatment Systems
	SE-12	Temporary Silt Dike
	SE-13	Compost Socks and Berms
	SE-14	Biofilter Bags

BMP = Best Management Practice
Source: Orange County Public Works (2003)

The Project Site is located on the former MCAS El Toro where two regional groundwater contamination plumes of VOC exist. Both plumes are within the OCWD Management Area and are under active remediation by the DON. As discussed in Section 3.9 Hazards and Hazardous Materials, the Project would need to notify the appropriate state and local agencies (e.g., OCHCA, DTSC, or the SARWQCB) since soil and groundwater contamination is present due to the MCAS site. Notification to these state and local regulatory oversight agencies will simultaneously satisfy coverage under the applicable federal agencies under Superfund. If requested as follow-up by the state and/or local regulatory oversight agency(ies), then an environmental site assessment or a risk assessment shall be prepared to ensure that future site activities and/or uses pose no risks to human health and/or the environment.

While a groundwater contamination plume of VOC exists underneath the Project Site, discharging of groundwater associated with Project construction is not anticipated. Historical

data for the Project Site shows the groundwater depth below 30 feet and, as a result, the Project would not encounter groundwater. Adherence to federal, state, regional, County of Orange, and the City of Irvine regulations would make impacts related to the violation of any water quality standards or waste discharge requirements or that would otherwise substantially degrade surface or groundwater quality less than significant.

Operational Impacts

A Project WQMP must be submitted for new development and significant redevelopment projects in the City of Irvine to comply with the NPDES permit and the City's Low Implementation Plan standards. Project WQMPs shall be approved by the City of Irvine's Building and Safety Division prior to the issuance of building or safety permits. Monitoring of the Project WQMP and the integration of BMPs into the design would result in less than significant impacts related to the violation of any water quality standards or waste discharge requirements or otherwise substantially degrade surface or groundwater quality.

Since the Project would create over 10,000 square feet of impervious surfaces, the City of Irvine considers it a priority project under the Irvine Municipal Code 6-8-301 and mandates that a Project WQMP be prepared and executed. The SARWQCB and the City of Irvine would approve and adopt the Project WQMP that shall align with water quality standards set forth by the SWRCB. Of the 21.30 acres within the Project Site, the Project would convert 19.50 acres of undeveloped land into paved surface, train storage tracks, service platforms, and maintenance buildings. Of the 19.50 acres, 17.47 acres (761,000 square feet) would be impervious surfaces.

BMPs would minimize pollutants in stormwater discharge. Maintenance and servicing of trains would create pollutants of concern, including heavy metals, oil and grease, toxic organic compounds, and trash and debris in stormwater runoff. The Project drainage would consist of an underground cistern to capture and treat the 24-hour storm to eliminate the possibility of downstream modification. The cistern would have a capacity of 132,500 cubic feet and would capture the additional runoff created by the Project. Cartridge media filters would be used to filter pollutants prior to discharging stormwater.

Monitoring of the WQMP and implementation of the underground cistern into the Project design would result in less than significant operational impacts related to the violation of any water quality standards or waste discharge requirements or otherwise substantially degrade surface or groundwater quality.

3.10.3.2. Would the Project substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?

Determination: LESS THAN SIGNIFCANT IMPACT

Construction Impacts

The Project is located within the Coastal Plain of Orange County (Basin 8-1) shown in Figure 3-10-1. The Pacific Ocean and Tertiary semi-permeable marine deposits define the basin's boundaries. San Diego Creek drains a portion of the southern region of Orange County.

The SGMA requires that all high and medium priority basins designated by DWR be sustainably managed. DWR designated Basin 8-1 as a medium-priority basin, primarily due to heavy reliance on the basin's groundwater as a source of water supply. The Project is within the South East Management Area, which contains portions of IRWD, El Toro Water District, and the City of Orange. The South East Management Area was formed in 2016 in collaboration with OCWD, an agency responsible for managing groundwater in Basin 8-1 within OCWD's boundaries. There is relatively little existing, or potential, groundwater development within the South East Management Area. The OCWD Management Area includes approximately 76 percent of the land area within Basin 8-1 where 98 percent of groundwater production occurs. This area includes the portion of Basin 8-1 that is within OCWD's service area. When pumping does occur, it is less than 200 acre-feet per year (afy), which is much less than the over 14,000 afy of recharge to the area. Water levels and storage levels are steady (Orange County Water District, City of La Habra, and Irvine Water District, 2017).

During the construction phase, the Project Site would remain similarly pervious as it currently exists. Construction would introduce some temporary impervious surfaces from equipment and materials stored on-site but would have minimal impact in the percolation of natural precipitation and overall recharge of the aquifer. Historical data for the Project Site anticipates a groundwater depth below 30 feet in some locations and, as a result, it is not expected to be encountered during construction activities. As a result, construction impacts related to substantially decreasing groundwater supplies or interfering substantially with groundwater recharge such that the Project may impede sustainable groundwater management of the basin would be less than significant.

Operational Impacts

As discussed in Section 3.10.3.1, operations would convert 19.50 acres of undeveloped land into paved surface, train storage tracks, service platforms, and maintenance buildings. Of the 19.50 acres, 17.47 acres would be impervious. In comparison to the 14,000 afy or recharge area, the impervious area introduced by the Project would account for 0.125 percent of the recharge area. Bee Canyon Channel's existing configuration is lined with concrete and is therefore impervious. As such, operational impacts related to substantially decreasing

groundwater supplies or interfering substantially with groundwater recharge such that the Project may impede sustainable groundwater management of the basin would be less than significant.

3.10.3.3. Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would: result in substantial erosion or siltation on- or off-site.

Determination: <u>LESS THAN SIGNIFCANT IMPACT</u>

Construction Impacts

Grading activities associated with the construction of the Project would result in the loss of existing vegetation and shrubs that act as an erosion barrier to the existing conditions of the Project Site. The County of Orange's 2003 DAMP requires industrial/commercial construction operations that result in a disturbance of 1 acre or more of total land area to be required to develop and implement BMPs to control erosion and siltation at construction sites. Grading ordinances and codes, the Green Book, and Public Works construction specifications contain requirements for construction practices for erosion control. The Project WQMP complies with the County's DAMP and would implement non-structural and structural BMPs for landscape management during construction activities. The DAMP enforces that sediments from areas disturbed by construction shall be retained on-site using an effective combination of erosion and sediment controls to the maximum extent practicable. Stockpiles of soil shall be properly contained to minimize sediment transport from the site to streets, drainage facilities, or adjacent properties via runoff, vehicle tracking, or wind. BMPs detailing erosion control by the City of Irvine and the 2003 DAMP can be found in the California Stormwater Quality Association (2003), Stormwater Best Management Practice Handbook, Construction, 2002 Edition, and are shown in Table 3-10-2.

The reprofiling of the existing Bee Canyon Channel would lower the channel by 2.5 feet. However, the gradient and shape of the Bee Canyon Channel would not be modified. Functionally, Bee Canyon Channel would be similar to existing conditions. During construction, any potential for erosion would be regulated by state and local jurisdictions.

Adherence to the County of Orange's 2003 DAMP and the City's WQMP would make construction impacts related to the alteration of existing drainage pattern of the site or area, including the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner that would result in substantial erosion or siltation on- or off-site less than significant.

Operational Impacts

The existing topography of the site provides a drainage pattern that slopes from east to west. Runoff is collected at the surface via open earth channels and concrete drainage inlets and is then routed to the southwest end of the site through two 24-inch corrugated steel pipes.

Runoff leaves the site through an open concrete channel and empties downstream into Marshburn Channel, owned by the OCFCD. The site design will have a grading with a similar direction of flow as that of the existing topography. Water will continue to flow east to west across the Project Site and be routed to a series of underground cisterns. The water will then be treated through a cartridge media filter system, before reaching the existing channel. The cisterns would be located in the northern corner of the Project Site, underneath the proposed parking lot, and would provide enough storage to contain the Design Capture Volume. The Project would introduce 17.47 acres (OCTA, 2021) that would be impervious surfaces. However, with the implementation of the underground cisterns, runoff volumes and stormwater flow rates would be reduced to prevent erosion and siltation of the Project Site.

Table 3-10-2: Erosion Control BMPs

Category	BMP	BMP Name
Erosion Control BMPs	EC-1	Scheduling
	EC-2	Preservation of Existing Vegetation
	EC-3	Hydraulic Mulch
	EC-4	Hydroseeding
	EC-5	Soil Binders
	EC-6	Straw Mulch
	EC-7	Geotextiles and Mats
	EC-8	Wood Mulching
	EC-9	Earth Dikes and Drainage Swales
	EC-10	Velocity Dissipation Devices
	EC-11	Slope Drains
	EC-12	Streambank Stabilization
	EC-13	Reserved
	EC-14	Compost Blanket
	EC-15	Soil Preparation/Roughening
	EC-16	Non-Vegetative Stabilization

BMP = Best Management Practice
Source: Orange County Public Works (2003)

The current configuration of Bee Canyon Channel's invert is lined with a concrete bottom. The proposed design features related to the operation of the Project would match the existing impervious conditions.

Therefore, operational impacts related to the alteration of the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner that would result in substantial erosion or siltation on- or off-site, would be less than significant.

3.10.3.4. Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site?

Determination: <u>LESS THAN SIGNIFCANT IMPACT</u>

Construction Impacts

The use of BMPs during grading activities as required by the State of California would be implemented in accordance with state, regional, county and city regulations as noted in Impact 3.10.3.1, to preempt surface runoff and flooding on-site.

The reprofiling of the existing Bee Canyon Channel would lower the channel by 2.5 feet. However, the gradient and shape of Bee Canyon Channel would not be modified. Functionally, Bee Canyon Channel would be similar to existing conditions. During construction, there would be temporary impervious surfaces. However, this would be temporary any potential for runoff would be regulated by state and local jurisdictions.

Adherence to the City WQMP and the County DAMP would enforce the use of a Project-specific SWPPP plan and render construction impacts related to substantially altering the existing drainage pattern of the site or area, which would result in substantial increase of the rate or amount of surface runoff in a matter that would result in flooding on- or off-site, to be less than significant.

Operational Impacts

As discussed in Section 3.10.3.3, the existing topography of the Project Site would be similar to the final drainage configuration. While 17.47 acres of impervious surfaces would be introduced by the Project, stormwater would be routed to a series of underground cisterns that would provide enough storage to contain the Design Capture Volume and thereby prevent flooding on- or off-site. The existing Bee Canyon Channel within the Project Site is composed of an RCB that transitions into a concrete u-channel. The Project would design Bee Canyon Channel to be consistent with existing hydraulics and the reconfigured channel would match its existing impervious concrete conditions. Therefore, operational impacts associated with the Project substantially altering the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner that would result in flooding on- or off-site, would be less than significant.

3.10.3.5. Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?

Determination: <u>LESS THAN SIGNIFICANT IMPACT</u>

Construction Impacts

The use of BMPs during grading activities as required by the State of California would be implemented in accordance to state, regional, county, and city regulations as noted in Impact 3.10.3.1, to preempt surface runoff and flooding on-site. Adherence to the City WQMP and the County DAMP would enforce the use of a Project-specific SWPPP plan and would render construction impacts related to altering the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner that would create or contribute runoff water that would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff, to be less than significant.

Operational Impacts

Maintenance and servicing of trains related to the Project's operations would create pollutants of concern including heavy metals, oil and grease, toxic organic compounds, trash, and debris. As discussed in Section 3.10.3.1, the existing topography of the site provides a drainage pattern that slopes from east to west. Although the Project would introduce 17.47 acres of impervious surfaces to the Project Site, the final grading configuration would have a similar direction of flow as that of the existing topography. Stormwater would continue to flow east to west across the Project Site and be routed to a series of underground cisterns. The water would then be treated through a cartridge media filter system, before reaching the existing channel. The cisterns would be located in the northern corner of the Project Site underneath the proposed parking lot, and would provide enough storage to contain the Design Capture Volume, which would include the additional stormwater as a result of the increase in impervious surfaces. Pollutants as a result of the stormwater runoff would collect in the basin of the underground cistern instead of discharging into the stormwater drainage systems. Bee Canyon Channel would maintain a concrete lining and match existing impervious conditions. With the implementation of the underground cisterns, operational impacts that would substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner that would create or contribute runoff water that would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff, would be less than significant.

3.10.3.6. Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would impede or redirect flood flows?

Determination: LESS THAN SIGNIFICANT IMPACT

Construction Impacts

Construction activities related to the Project are determined to fall in FEMA Zone-X (Figure 3.10-2). Zone-X is an area of minimal flood hazard and therefore has no impact in impeding or redirecting flood flows. Therefore, no construction impacts would occur that would impede or redirect flood flows.

Operational Impacts

As discussed above, operational activities related to the Project are determined to fall in FEMA Zone-X. Zone-X is an area of minimal flood hazard and therefore has no impact in impeding or redirecting flood flows. The existing Bee Canyon Channel is designed for a 100-year storm. The Project would design Bee Canyon Channel to be consistent with existing hydraulics and would not alter flood flow so that it is redirected or impeded. Therefore, no operational impacts would occur that would impede or redirect flood flows.

3.10.3.7. In flood hazard, tsunami, or seiche zones, would the Project risk release of pollutants due to project inundation?

Determination: NO IMPACT

Construction and Operational Impacts

The Project Site does not lie in a flooding hazard zone, tsunami zone, or seiche zone. Therefore, no construction or operational impacts related to the release of pollutants due to project inundation would occur.

3.10.3.8. Would the Project conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?

Determination: LESS THAN SIGNIFICANT IMPACT

Construction and Operational Impacts

The construction and operation of the Project would not conflict with or obstruct implementation of water quality control plans or sustainable groundwater management plans set forth by state and regional authorities. The Project falls within the authority of the SARWQCB that adheres to state water quality standards for any activity resulting in a discharge to a water body. At a minimum, local water management plans comply with these thresholds to meet water quality standards through the County of Orange DAMP and the City of Irvine's Water Quality Ordinance (No 10-06). It is anticipated that construction and

operations of the Project would not encounter groundwater or disrupt monitoring wells that may otherwise affect the Superfund remediation efforts performed by the DON to satisfy EPA requirements.

The OCWD, City of La Habra, and the IRWD filed Basin 8-1 Alternative Overview in January 2017 under the SGMA of 2014. The Sustainability Goal for the South East Management Area is to continue monitoring sustainable conditions to ensure that no significant and unreasonable results occur in the future. The Project's construction and operations would have a less than significant impact on the recharge of Basin 8-1 discussed in Impact 3.10.3.2. As a result, no construction or operational impacts related to conflicting with or obstruction of implementation of water quality control plans or sustainable groundwater management plans set forth by state and regional authorities would occur.

3.11. LAND USE AND PLANNING

Would the project:		Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
3.11.3.1	Physically divide an established community?	☐	☐	☐	☒
3.11.3.2	Cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect?	☐	☐	☐	☒

3.11.1. Existing Conditions

The Project Site is owned by OCTA and is located about 1.5 miles north of the existing Irvine Metrolink Station. The Project Site is bound by the existing SCRRA Orange Subdivision railroad corridor to the west. To the east, it is bound by County-owned land. Figure 3.11-1 presents the existing land use types in the vicinity of the Project Site, which is currently vacant. There is a senior residential community north of Marine Way along Ridge Valley approximately 650 feet from the Project Site. Most of the existing land uses to the south and southwest of the Project Site are industrial with one exception of the vacant land located southwest of I-5.

Land Use Designation

The Project Site is currently undeveloped and is designated by the City of Irvine General Plan as Planning Area 51 and the Great Park Land Use type. Planning Area 51 encompasses 1,233,000 square feet of institutional land uses, specifically on public facilities. The 1,233,000 square feet consists of the following: 122,500 square feet for OCTA facilities; 300,000 square feet for Orange County facilities; 263,000 square feet for warehousing for homeless providers; 468,000 square feet for institutional uses; 26,000 square feet for a sports park; and 53,500 square feet for a remote airport terminal (City of Irvine, 2015a).

To develop at the maximum intensities in Planning Area 51, the property owners of this planning area entered into a development agreement with the City on July 12, 2005, which requires the dedication of land and the development or funding of infrastructure improvements in excess of the City's standard requirements, and the long-term maintenance of public facilities (City of Irvine, 2015a). The detailed standard requirements can be referenced in the City of Irvine Zoning Ordinance Chapter 3.37, Section 3-37-11.-1.9 Great Park.

The City of Irvine is currently updating its General Plan to serve as the City's policy blueprint for the future. It will update community goals and public policy direction to ensure Irvine's high quality of life is preserved and enhanced as the city matures.

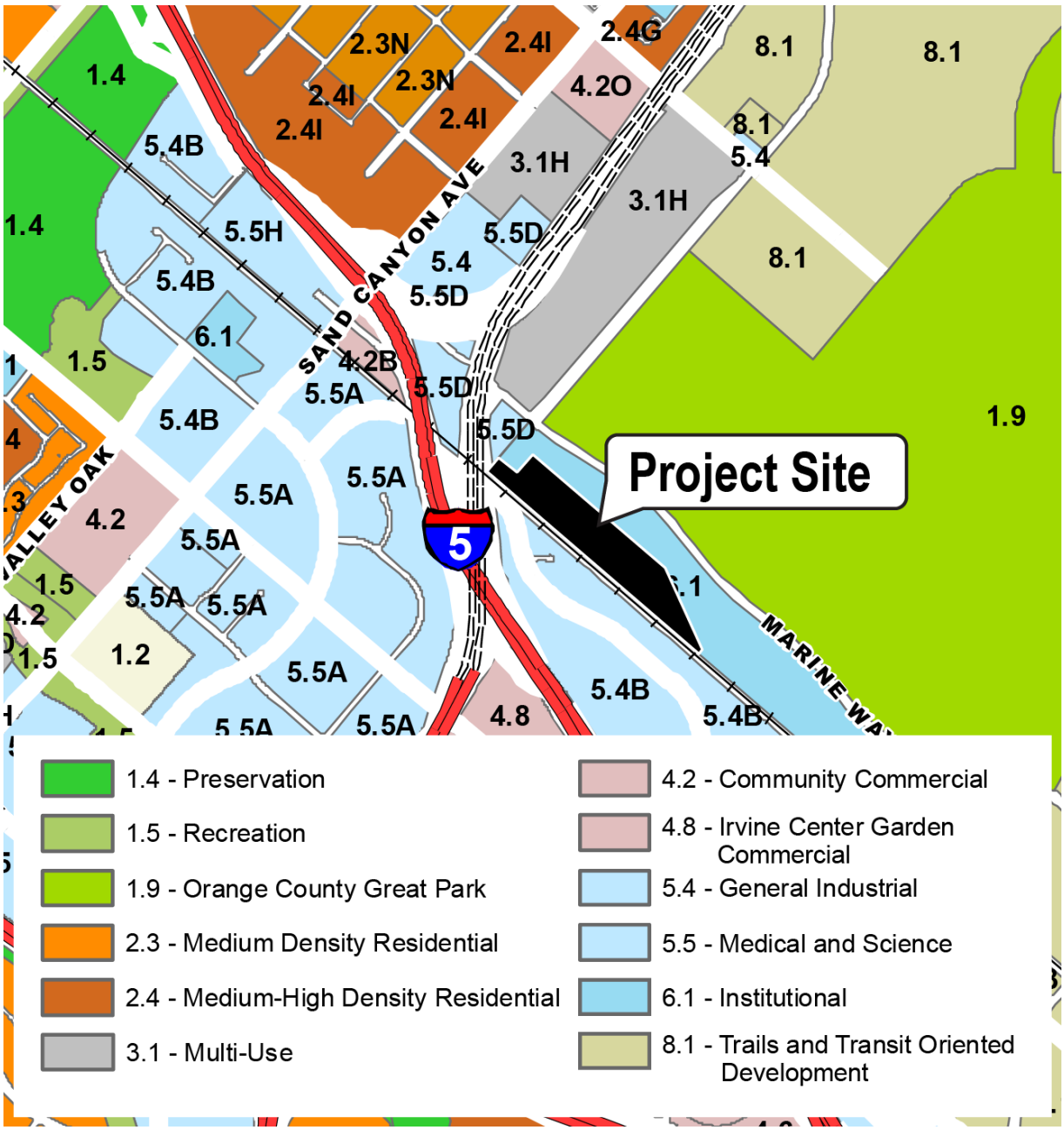
Figure 3.11-1: Existing Land Use Map

Source: City of Irvine, 2015a

Zoning

The existing zoning of the Project Site is "6.1 Institutional" as indicated in Figure 3.11-2. This category applies to land for public and quasi-public facilities such as churches, schools, or utilities. Table 3.11-1 summarizes the permitted uses and uses that require a CUP for institutional zoning areas.

Figure 3.11-2: City of Irvine Land Use Map (Project Site)



Source: City of Irvine, 2015b

Table 3.11-1: Institutional Usage

Permitted Uses	Conditional Uses
Accessory use	Dairy, commercial - Prohibited in Planning Areas 30 or 51
Agriculture	Kennel - Prohibited in Planning Area 30
Apiary - Prohibited in Planning Area 30	Manufactured structure (over 2 years)
Caretaker's quarters	Stable, public - Prohibited in Planning Area 30
Greenhouse	Transit
Manufactured structure permit (up to 2 years)	Passenger Vehicles
Packing plant for agricultural products - Prohibited in Planning Area 30	
Stable, private	
Wireless communication facility	

Source: City of Irvine, Irvine Strategic Energy Plan, 2020

3.11.2. Regulatory Framework

City of Irvine General Plan, Land Use Element, Objective A-4: Balanced Land Uses - Manage growth to ensure balanced residential and nonresidential development throughout the City.

- Policy (f): Attract land uses that generate revenue to the City, while maintaining a balance of other community needs such as housing, open space, and public facilities.

City of Irvine Zoning Ordinance Chapter 3.37, section 3-37-37. - 6.1 Institutional development standards.

3.11.3. Discussion

3.11.3.1. Would the Project physically divide an established community?

Determination: <u>NO IMPACT</u>

Construction and Operational Impacts

The closest established community is approximately 800 feet north of the Project Site on the north quadrant of Marine Way and Ridge Valley. The Project Site is not located within this established community and, consequently, would not cause it to be divided. No construction or operational impacts related to physically dividing an established community would occur.

3.11.3.2. Would the Project cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect?

Determination: NO IMPACT

Construction and Operational Impacts

The City of Irvine does not have specific plans for the Project Site. The Project Site is currently undeveloped and is designated by the City of Irvine General Plan as Planning Area 51 and Great Park Land Use type. The zoning designation for the Project Site is "6.1 Institutional" as indicated in Figure 3.11-2.

Institutional zoning designates land for public and quasi-public facilities such as churches, schools or utilities. The Project can be categorized as one of the conditional uses under 6.1 Institutional zoning—government facility; therefore, it is consistent with local zoning requirements. The Project proposes to apply for a CUP that is allowed (Transit) as shown in Table 3.11-1.

In addition, the Project would be consistent with the City's General Plan, Land Use Element, Objective A-4: Balanced Land Uses, Policy (g). Encouraging large infrastructure improvements planned or built in the Project Site that have reduced land available for development. Building the Project could potentially help maintain the intensity ceilings of the current development in the General Plan as it would reduce about 21 acres of land available for development based on the Project Site.

Based on the information described above, no construction or operational impacts related to the Project causing a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect would occur.

3.12. MINERAL RESOURCES

Would the project:		Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
3.12.3.1	Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?	☐	☐	☐	☒
3.12.3.2	Result in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?	☐	☐	☐	☒

3.12.1. Existing Conditions

In this section, the mineral resources at the Project Site are identified and their regional significance are evaluated pursuant to the two-phase classification-designation process, defined by The Surface Mining and Reclamation Act of 1975 (SMARA).

Mineral Resources Classification

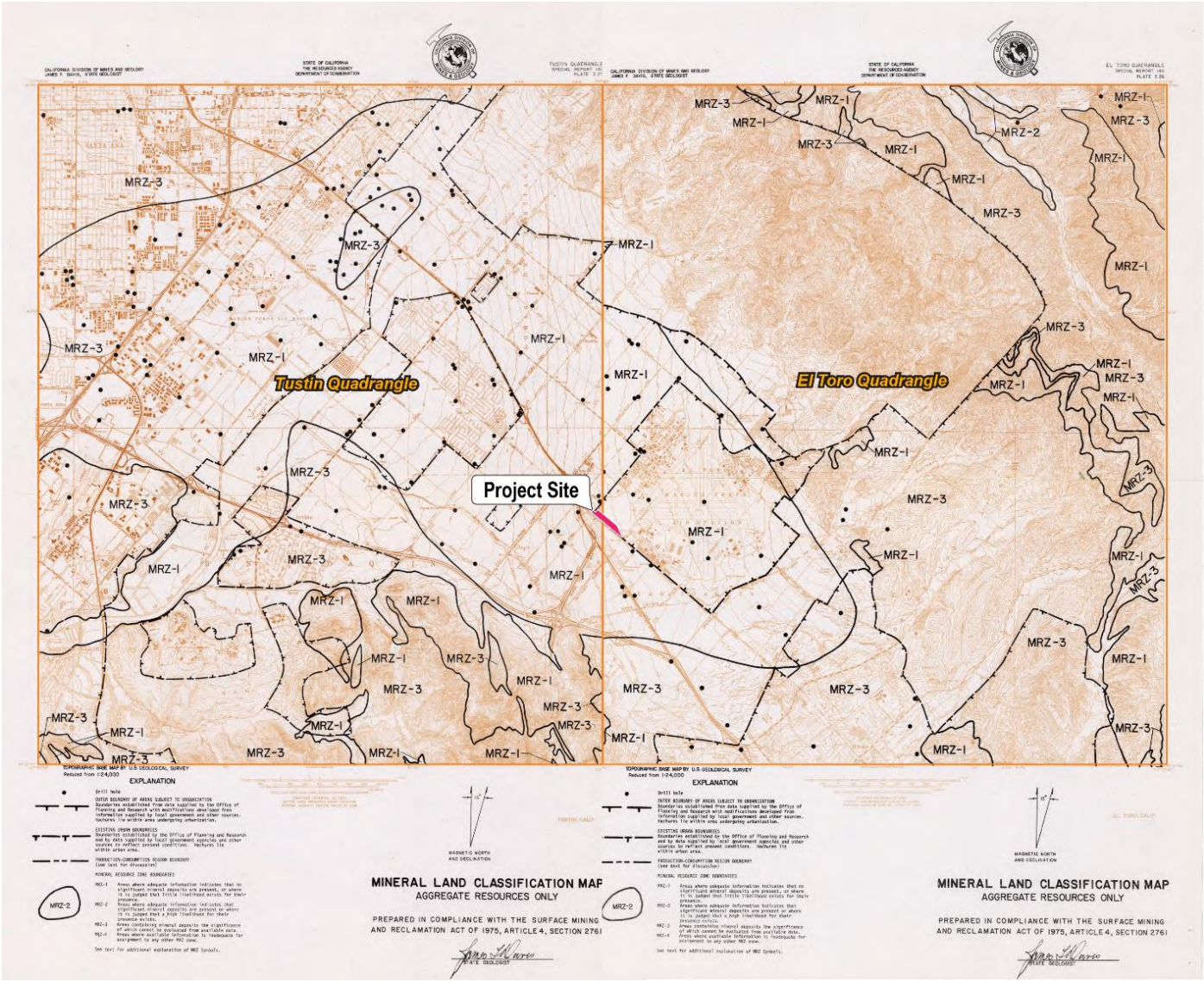
The *Mineral Land Classification Special Report 143 Part III - Classification of Sand and Gravel Resource Areas, Orange County-Temescal Valley Production-Consumption (P-C) Region* specifies the mineral classifications at the Project Site. As shown in Figure 3.12-1, the Project Site spans two of the U.S. Geological Survey defined 7.5-minute quadrangles: Tustin Quadrangle and El Toro Quadrangle. The existence of mineral resources within the Project Site are classified as MRZ-1. MRZ-1 areas are defined as areas where adequate geologic information indicates that no significant mineral deposits are present, or where it is judged that little likelihood exists for their presence (DOC, 2000). As a result, the Project Site is not in any designated regionally significant construction aggregate resource areas.

3.12.2. Regulatory Framework

State

The Surface Mining and Reclamation Act of 1975 - SMARA mandated the State Geologist to produce Mineral Land Classification (MLC) studies to help identify and protect mineral resources in areas within the state subject to urban expansion or other irreversible land uses which would preclude mineral extraction. SMARA also allowed the State Mining and Geology Board (SMGB), after receiving MLC studies from the State Geologist, to designate lands containing mineral deposits of regional or statewide significance. This two-phase process is called classification-designation process. The MLC studies evaluate the mineral resources and present this information in the form of Mineral Resource Zones (MRZs).

Figure 3.12-1: The Mineral Land Classification in Tustin and El Toro Quadrangles



Source: California Department of Conservation, 2000

3.12.3. Discussion

3.12.3.1. Would the Project result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?

Determination: <u>NO IMPACT</u>

Construction and Operational Impacts

In 1984, the SMGB designated MRZ-1 mineral resources within the Tustin Quadrangle and El Toro Quadrangle, which span the Project Site. As mentioned above, significant mineral deposits are not present within the Project Site or surrounding areas. As such, the Project is not on or in the vicinity of valuable regional or state mineral resources. Therefore, no construction or operational impacts related to loss of availability of a known mineral resource that would be of value to the region and the residents of the state would occur.

3.12.3.2. Would the Project result in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?

Determination: <u>NO IMPACT</u>

Construction and Operational Impacts

Since the Project Site is not on or within the vicinity of valuable mineral resources, the Project would not result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan. Therefore, no construction or operational impacts related to the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan would occur.

3.13. NOISE

Would the project:		Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
3.13.3.1	Generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	☐	☐	☒	☐
3.13.3.2	Generation of excessive groundborne vibration or groundborne noise levels?	☐	☒	☐	☐
3.13.3.3	For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?	☐	☐	☐	☒

3.13.1. Existing Conditions

Noise measurements were conducted at the Project Site and selected nearby noise sensitive locations on July 30 and 31, 2020. The measurements were conducted with ANSI Type 1 sound level meters within their manufacturer's recommended 1-year calibration period. Measurements were conducted and documented in keeping with standard environmental noise measurement procedures. Weather conditions during the measurement period were generally typical for this location during this time of year.

Noise measurements were conducted at five locations in the vicinity of the Project Site, including one Long-Term (LT) measurement location for an entire 24-hour period, and four Short-Term (ST) locations with durations of approximately 20 to 30 minutes each. The noise measurement locations are shown in Figure 3.13-1 below.

The noise measurement locations were selected to represent the following acoustical environments:

LT-1. This location at the Project's northern fence line is intended to represent the typical hour-to-hour variation of noise levels in the general Project Site over the course of an entire day. Contributing sound sources here included traffic noise from I-5 and SR-133 and local roads, and occasional rail activity on the nearby SCRRA Orange Subdivision tracks, as well as minor contributions from other miscellaneous local sound sources.

Figure 3.13-1: Noise Measurement Locations

Source: AECOM, 2020

ST-1. This location represents the residential development to the north of the Marine Way and Ridge Valley intersection. The contributing sound sources here included traffic on SR-133 and local roadways, with lesser contributions from traffic on I-5, rail activity, and other local noise sources.

ST-2. This location represents a passive use area within the park (quiet area near the reflecting pond) and with direct exposure to the Project Site. Contributing sound sources here were similar to LT-1.

ST-3. This location represents an active sports area within the park (soccer field) with direct exposure to the Project Site. Noise sources here were similar to those observed at ST-2.

ST-4. This location represents an informal exterior use area in a commercial area south of the SCRRA Orange Subdivision tracks (a bench in a grassy area in the parking area presumably used as a short-term break area for employees).

Figure 3.13-2 provides the LT noise measurement data displaying the equivalent average (L_{eq}), maximum (L_{max}) and minimum (L_{min}) for each 10-minute measurement interval over the entire 24-hour measurement period (between 10:00 am on 7/30/2020 and 10:00 am on 7/31/2020). The L_{eq} level values range mostly between 45 A-weighted decibels (dBA) (during the early morning hours) and 60 dBA (during peak morning and afternoon hours). Individual spikes in the L_{eq} and L_{max} data are mostly caused by train pass-by events (the LT location was situated about 450 feet from the SCRAA Orange Subdivision tracks).

Figure 3.13-2: Long-Term Noise Measurement Data

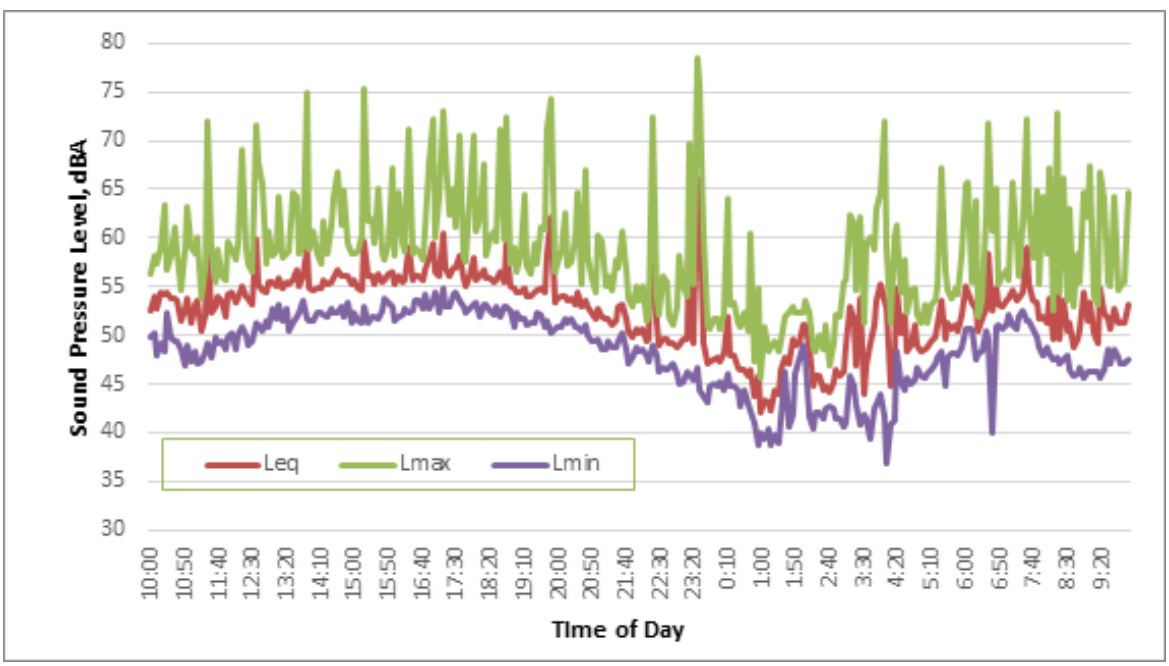


Table 3.13-1 provides a summary of the ST measurement locations. Each location was measured twice (L_{eq}-ST value) and the long-term metrics (L_{eq}-day, day-night average sound level [Ldn], and Community Noise Equivalent Level [CNEL]) were calculated by using a relative comparison to the 24-hour data collected at the central LT measurement location.

Table 3.13-1: Short-term Noise Measurement Summary

Measurement Time and Duration				Duration	Measured or Calculated Sound Level, dBA			
ID	Date	Start	**End**		**L_{eq}-ST**	**L_{eq}-Day**	**Ldn**	**CNEL**
ST-1	7/30/20	10:58	11:30	0:32	65.7	67.8	72.1	72.5
	7/31/20	10:00	10:24	0:24	66.9			
ST-2	7/30/20	12:46	13:12	0:26	54.7	54.5	58.7	59.1
	7/31/20	9:45	10:04	0:19	53.2			
ST-3	7/30/20	13:25	13:52	0:27	63.3	59.9	64.1	64.5
	7/31/20	9:05	9:24	0:19	57.5			
ST-4	7/30/20	14:10	14:40	0:30	51.5	51.8	56.1	56.4
	7/31/20	8:30	8:50	0:20	49.7			

dBA = A-weighted decibels; ST = Short-Term; L_{eq} = equivalent sound level; L_{dn} = day-night average sound level;
CNEL = Community Noise Equivalent Level
Source: AECOM, 2020

Noise measurement site photos and field data sheets and sound level meter equipment calibration certificates are maintained on file and are available for inspection upon request.

3.13.2. Regulatory Framework

Federal

Federal Transit Administration - As a transit project, the primary source used for the prediction and assessment impacts associated with noise and vibration for the Project would come from the Federal Transit Administration (FTA) Noise and Vibration Impact Assessment Manual (2018), which provides prediction methodology and impact assessment guidance for both construction and operational phases of the Project as outlined below.

Construction Noise and Vibration

FTA recommended construction noise impact criteria are presented in Table 3.13-2, as a function of land use.

Table 3.13-2: Construction Noise Impact Criteria

Land Use	$L_{eq\text{-}equip.(8hr)}$, dBA		$L_{eq\text{-}equip.(30\ day)}$, dBA
	Day	Night	30-day Average
Residential	80	70	75
Commercial	85	85	80*
Industrial	90	90	85*

dBA = A-weighted decibels
Note: *Uses a 24-hour $L_{eq(24hr)}$ instead of $L_{dn\text{-}equip(30day)}$
Source: FTA, 2018 (Table 7-3)

For construction vibration, FTA guidance provides impact criteria for two different impact types, potential building damage and potential human annoyance, both categorized by building type or land use, which are presented in Table 3.13-3 and Table 3.13-4, respectively.

Table 3.13-3: Construction Vibration Damage Criteria

Building/Structural Category	PPV, in/sec	Approximate L_v*
I. Reinforced-concrete, steel or timber (no plaster)	0.5	102
II. Engineered concrete and masonry (no plaster)	0.3	98
III. Non-engineered timber and masonry buildings	0.2	94
IV. Buildings extremely susceptible to vibration damage	0.12	90

PPV = peak particle velocity; in/sec = inches per second
*RMS = root mean square velocity in decibels, VdB re 1 micro-in/sec
Source: FTA, 2018 (Table 7-5)

Table 3.13-4: Indoor Ground-Borne Vibration (GBV) and Ground-Borne Noise (GBN) Impact Criteria for General Vibration Assessment

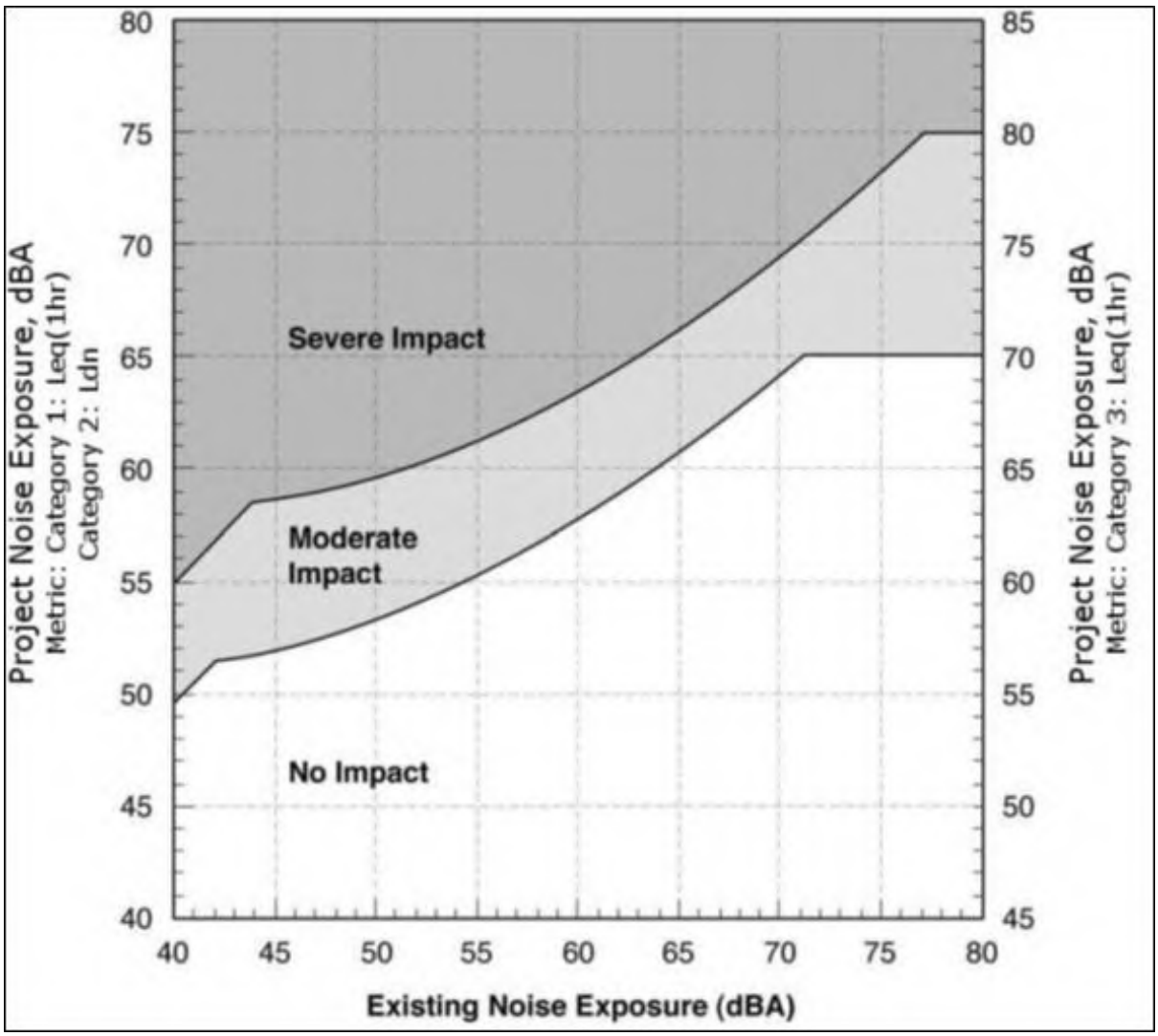
Land Use Category	GBV Impact Levels (VdB re 1 micro-inch /sec)			GBN Impact Levels (dBA re 20 micro Pascals)		
	Frequent Events	Occasional Events	Infrequent Events	Frequent Events	Occasional Events	Infrequent Events
Category 1: Buildings where vibration would interfere with interior operations.	65 VdB *	65 VdB *	65 VdB *	N/A **	N/A **	N/A **
Category 2: Residences and buildings where people normally sleep.	72 VdB	75 VdB	80 VdB	35 dBA	38 dBA	43 dBA
Category 3: Institutional land uses with primarily daytime use.	75 VdB	78 VdB	83 VdB	40 dBA	43 dBA	48 dBA

VdB = velocity level in decibels (vibration); dBA = A-weighted decibels; N/A = not applicable
* This criterion limit is based on levels that are acceptable for most moderately sensitive equipment such as optical microscopes. For equipment that is more sensitive, a Detailed Vibration Analysis must be performed.
** Vibration-sensitive equipment is generally not sensitive to ground-borne noise; however, the manufacturer's specifications should be reviewed for acoustic and vibration sensitivity.
Source: FTA, 2018 (Table 6-3)

Operational Noise and Vibration

FTA operational noise impacts are determined as a function of the predicted project noise and existing noise exposure and land use category, as shown in Figure 3.13-3. Generally, the higher the existing noise exposure, the higher the limit for moderate and severe impacts. For example, at a Category 2 (residential) receptor location with an existing noise exposure level of 55 dBA Ldn, a moderate noise impact would be triggered with a project noise exposure of 56 dBA Ldn and a severe impact at a project noise level of 61 dBA Ldn. However, for the same receiver location with an existing exposure of 60 dBA Ldn, a moderate impact would exist at a project noise level of 58 dBA Ldn, and a severe impact at 63 dBA Ldn. Operational ground-borne-vibration impact criteria are the same as for construction activity, as shown in Table 3.13-4.

Figure 3.13-3: FTA Operational Noise Impact Criteria



Source: FTA, 2018

Local

City of Irvine General Plan, Noise Element - The noise standards specified in the City's General Plan Noise Element (shown in Table 3.13-5) are used as a guideline to evaluate the acceptability of the noise levels generated by the traffic flow. These standards are for assessment of long-term vehicular traffic noise impacts. The City has exterior noise criteria for outdoor living areas associated with residential uses and requires that interior areas of new residential homes not exceed 45 dBA CNEL and that exterior active use areas not exceed 65 dBA CNEL. Other short-term noise impacts (e.g., construction activities or on-site stationary sources) are regulated by the noise ordinance.

Table 3.13-5: City of Irvine Interior and Exterior Noise Standards

Land Use Categories		Energy Average (CNEL)	
Categories	**Uses**	**Interior[1]**	**Exterior[2]**
Residential	Single-Family, Multiple-Family	45[3], 55[4]	65[7]
	Mobile Home	—	65[5]
Commercial/ Industrial	Hotel, Motel, Transient Lodging	45	65[6]
	Commercial, Retail, Bank, Restaurant	55	—
	Office Building, Professional Office, Research & Development	50	—
	Amphitheater, Concert Hall, Auditorium, Meeting Hall	45	—
	Gymnasium (Multipurpose)	50	—
	Health Clubs	55	—
	Manufacturing, Warehousing, Wholesale, Utilities	65	—
	Movie Theater	45	—
Institutional	Hospital, School Classroom	45	65
	Church, Library	45	—
Open Space	Parks	—	65

Notes:
[1] Interior environment excludes bathroom, toilets, closets, and corridors.
[2] Outdoor environment limited to private yard of single-family or multifamily residences private patio, which is accessed by a means of exit from inside the unit; mobile home park; hospital patio; park picnic area; school playground; and hotel and motel recreation area.
[3] Noise level requirement with closed windows. Mechanical ventilating system or other means of natural ventilation shall be provided pursuant to Appendix Chapter 12, Section 1208 of UBC.
[4] Noise level requirement with open windows, if they are used to meet natural ventilation requirement.
[5] Exterior noise level shall be such that interior noise level will not exceed 45 dBA CNEL.
[6] Except those areas affected by aircraft noise.
[7] Multifamily developments with balconies that do not meet the 65 dBA CNEL are required to provide occupancy disclosure notices to all future tenants regarding potential noise impacts.
CNEL = Community Noise Equivalent Level; UBC = Uniform Building Code
Source: City of Irvine General Plan Supplement No. 3, Noise Element, Table F-1 (2005).

Municipal Code. Section 6-8-204 of the City's Municipal Code (City of Irvine, 2015a) establishes the maximum permissible noise level that may intrude into a neighbor's property. The Noise Ordinance (adopted in 1975 and revised in 2015) establishes noise level standards for various land use categories affected by stationary noise sources. Land use categories in Irvine are defined in four noise zones, as listed below. Table 13.3-5 provides the City's maximum noise standard based on the noise zone, the location of the noise (exterior/interior), and the time period. As shown in Table 3.13-6, the City's noise standards do not apply to multifamily residence private balconies (City of Irvine, 2015a).

Noise Zone 1: All hospitals, libraries, churches, schools, and residential properties

Noise Zone 2: All professional office and public institutional properties

Noise Zone 3: All commercial properties excluding professional office properties

Noise Zone 4: All industrial properties

Table 3.13-6: City of Irvine Maximum Noise Level Standards

Noise Zone	Exterior/ Interior	Time Period	L50 (30 mins)	L25 (15 mins)	L8 (5 mins)	L2 (1 min)	L_{max} (Anytime)
1	Exterior	7:00 AM to 10:00 PM	55	60	65[1]	70	75
		10:00 PM to 7:00 AM	50	55	60	65[1]	70
	Interior	7:00 AM to 10:00 PM	—	—	55	60	65
		10:00 PM to 7:00 AM	—	—	45	50	55
2	Exterior	Anytime	55	60	65	70	75
	Interior	Anytime	—	—	55	60	65
3	Exterior	Anytime	60	65	70	75	80
	Interior	Anytime	—	—	55	60	65
4	Exterior	Anytime	70	75	80	85	90
	Interior	Anytime	—	—	55	60	65

Notes:
It shall be unlawful for any person at any location within the City to create any noise or to allow the creation of any noise on property owned, leased, occupied or otherwise controlled by such person which causes the noise level when measured on any property within designated noise zones either within or without the City to exceed the applicable noise standard. Each of the noise standards specified above shall be reduced by 5 dBA for impact, or predominant tone noise or for noises consisting of speech or music. In the event the noise source and the affected property are within different noise zones, the noise standards of the affected property shall apply.
[1] This standard does not apply to multifamily residence private balconies. Multifamily developments with balconies that do not meet the 65 dBA CNEL are required to provide occupancy disclosure notices to all future tenants regarding potential noise impacts.
Source: City Municipal Code (City of Irvine, 2015a).

The City's Municipal Code Noise Ordinance has not established any upper limits for construction noise because construction noise is temporary and will stop after Project construction is complete. Section 6-8-205a of the City's Municipal Code Noise Ordinance regulates the timing of construction activities and includes special provisions for sensitive land uses. Construction activities shall occur only between the hours of 7:00 a.m. and 7:00 p.m. Monday through Friday and between 9:00 a.m. and 6:00 p.m. on Saturday. No construction shall be permitted outside of these hours or on Sundays and federal holidays, except for Columbus Day, unless a temporary waiver is granted by the Chief Building Official or his or her

authorized representative. Trucks, vehicles, and equipment that are making or are involved with material deliveries, loading, or transferring materials, equipment service, maintenance of any devices or appurtenances for or within any construction project in the City shall not be operated or driven on City streets outside of these hours or on Sundays and federal holidays unless a temporary waiver is granted by the City. Any waiver granted shall take into consideration the potential impact on the community. No construction activity will be permitted outside of these hours except in emergencies, including maintenance work on the City ROWs that might be required.

Zoning Ordinance. Sections 5-8-4.A.5a and 5-8-4.A.5b of the City's Zoning Ordinance (City of Irvine, 2015b) establish requirements to minimize construction noise and vibration impacts. Although these requirements are intended for residential and mixed-use spaces in the Irvine Business Complex, the requirements listed below are applicable for the Project. Section 5-8-4.A.5a of the City's Zoning Ordinance requires that, before the issuance of grading permits, the project applicants shall incorporate the following measures as a note on the grading plan cover sheet to ensure that the greatest distance between noise sources and sensitive receptors during construction activities has been achieved:

- Construction equipment, fixed or mobile, shall be equipped with properly operating and maintained noise mufflers consistent with manufacturer's standards.
- Construction staging areas shall be located away from off-site sensitive uses during the later phases of Project development.
- The project contractor shall place all stationary construction equipment so that emitted noise is directed away from sensitive receptors nearest the Project Site, whenever feasible.
- For construction of sound walls that have been incorporated into the Project design, prior to construction of the building foundation, installation of temporary sound blankets (fences typically composed of poly-vinyl-chloride-coated outer shells with absorbent inner insulation) shall be placed along the boundary of the Project Site during construction activities.

Section 5-8-4.A.5b of the City's Zoning Ordinance requires that, before the issuance of a grading permit, applicants for individual projects that involve vibration-intensive construction activities (e.g., pile drivers, jack hammers, and vibratory rollers) near sensitive receptors shall submit a noise vibration analysis. If construction-related vibration is determined to exceed the FTA vibration annoyance criterion of 78 Velocity Level in Decibel (Vibration) (VdB) for residential uses during the daytime (FTA, 2018), additional requirements, such as the use of less vibration-intensive equipment or construction techniques, shall be implemented during construction (e.g., drilled piles to eliminate use of a vibration-intensive pile driver). In the same FTA guidelines, 84 VdB is the vibration annoyance criterion for offices and non-sensitive areas.

3.13.3. Discussion

3.13.3.1. Would the Project cause generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?

Determination: LESS THAN SIGNIFCANT IMPACT

Construction Impacts

The Project would require the use of heavy civil equipment to support construction activities related to utilities, drainage, roadway, structures, track, and buildings for the OCMF. Construction noise impacts were assessed by predicting construction noise levels using methods consistent with the FTA Noise and Vibration Manual (FTA, 2018) and comparing these values to identified impact thresholds (AECOM, 2021). The methodology is discussed in Appendix F (Noise and Vibration Technical Memorandum).

The range of predicted construction values presented in Table 3.13-7 represents the predicted noise levels over the 30-month Phase 1 schedule (i.e., for ST-1, 50 dBA during the least noisy month up to 68 dBA during the noisiest month). Locations of the Receiver ID can be viewed in Figure 3.13-1 of this section. Additionally, impact thresholds shown in Table 3.13-7 relate to the FTA thresholds discussed in Table 3.13-8. The predicted range of construction noise related to the Project is less than the FTA thresholds. Therefore, construction impacts related to the generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the Project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies would be less than significant.

Table 3.13-7: Construction Noise Levels and Impacts Summary (Worst Case for All Phases)

Receiver ID/ Land Use	Impact Metric	Impact Threshold (L_{dn}/L_{eq})	Distance to Project Center (feet)	Acoustical Shielding (dBA)	Predicted Range (L_{dn}/L_{eq})	Impact
ST-1/Residential	L_{dn}	75	1,275	5[1]	50-68	None
ST-2/Park	L_{eq}	80	1,100	0	57-74	None
ST-3/Park	L_{eq}	80	1,220	0	56-73	None
ST-4/Commercial	L_{eq}	80	650	5[2]	56-73	None

ST = Short-Term; L_{dn} = day-night average sound level; L_{eq} = equivalent sound level;
dBA = A-weighted decibels;
Source: AECOM, 2021

Operational Impacts

Table 3.13-8 below provides a summary of the operational noise level predictions and impact assessment. The total Project noise level includes contributions from both on-site operational noise sources associated with the Rail Shops and Yard, as well as automobile and truck traffic in and out of the site. Methodologies detailing the calculations and noise estimates related to

the Project's construction can be found in Appendix F (Noise and Vibration Technical Memorandum). Total Project sound levels would not meet or exceed the FTA thresholds shown in Table 3.13-8. Operational impacts related to the Project that could cause the generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the Project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies would be less than significant.

Table 3.13-8: Operational Noise Levels and Impacts Summary

Receiver info						Impact Thresholds (dBA)		Prediction (dBA)
ID	Land Use	Distance to Project Center (feet)	Analysis Metric	Existing Noise Level	Total Project-Only Sound Level	Moderate Impact Threshold	Severe Impact Threshold	Impact
ST-1	Residential	1,275	L_{dn}	67	52*	63	67	None
ST-2	Park	1,100	$L_{eq\text{-}1hr}$	55	41	61	66	None
ST-3	Park	1,220	$L_{eq\text{-}1hr}$	60	39	63	68	None
ST-4	Industrial	650	$L_{eq\text{-}1hr}$	52	51	60	65	None

dBA = A-weighted decibels; ST = Short-Term
*Predicted Project-only noise level at ST-1 includes contributions from both facility site and Project-related traffic on adjacent local roads.
Source: AECOM, 2021

3.13.3.2. Would the Project cause the generation of excessive groundborne vibration or groundborne noise levels?

Determination: <u>LESS THAN SIGNIFICANT WITH MITIGATION INCORPORATED</u>

Construction Impacts

Construction vibration typically only generates potential impacts at existing structures within a maximum of a few hundred feet, and only then with the use of equipment with particularly high vibration levels such as vibratory roller and impact pile drivers. Of these, impact pile drivers were identified for potential use on just two construction sub-phases, Foundations and Bridges. The exact locations of the potential pile driving activity are currently unknown, but if pile driving is conducted within approximately 250 feet of an occupied commercial building, a short-term significant impact could occur with a predicted vibration level of 75 VdB or greater (corresponding to vibration annoyance for "frequent" events). Only the commercial buildings on the southwest side of the existing SCRRA Orange Subdivision tracks could potentially be within this distance.

Ground-borne vibration for construction activities would not be expected to approach potential damage thresholds at any nearby structures. The closest distance between a pile driver and an existing building might be approximately 120 feet from the existing commercial building south of the SCRRA Orange Subdivision tracks, with an estimated vibration level from

impact pile driving of 0.144 inches per second (in/sec) peak particle velocity (PPV), which is well below the damage threshold of 0.5 in/sec PPV for modern commercial buildings.

Construction impacts that could be considered significant would be construction vibration annoyance resulting from pile-driving equipment if these are used within 250 feet of an existing structure. The commercial buildings on the southwest side of the existing SCRRA Orange Subdivision tracks could potentially be within this distance. The following mitigation measures should be implemented to reduce or eliminate vibration impacts associated with the use of impact pile drivers during construction:

- **MM-NOI-1:** If feasible, relocate Project elements requiring pile driving to locations greater than 250 feet from occupied buildings.
- **MM-NOI-2:** If MM-NOI-1 is not feasible, use a less intrusive form of pile insertion, such as pre-augured piling.
- **MM-NOI-3:** Arrange to conduct pile driving activities during a period when the affected building(s) are not in use (such as Saturdays).

Operational Impacts

Metrolink actively operates on the railroad corridor that the Project would be servicing. No additional train services or increase of any train vehicles is associated with operations of the Project. While ground vibration may be generated by some types of operational rail or industrial activity, no significant ground vibration sources are anticipated from the operation of the OCMF. Methodology and findings for this topic can be found in Appendix F. Therefore, operational impacts related to the generation of excessive groundborne vibration or groundborne noise levels would be less than significant.

3.13.3.3. For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the Project expose people residing or working in the project area to excessive noise levels?

Determination: <u>NO IMPACT</u>

Construction and Operational Impacts

With a distance of approximately 7 miles, John Wayne Airport is the closest airport to the Project Site. The Project would not locate new or additional sensitive receptors in the area of influence of any airports. Therefore, no construction or operational impacts would occur related to being within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within 2 miles of a public airport or public use airport, that would expose people residing or working in the vicinity of the Project to excessive noise levels.

3.14. POPULATION AND HOUSING

Would the project:		Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
3.14.3.1	Induce substantial population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?	☐	☐	☐	☒
3.14.3.2	Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere?	☐	☐	☐	☒

3.14.1. Existing Conditions

Housing does not currently exist on the Project Site and the nearest residences of a senior community are approximately 650 feet to the northeast of the Project Site. The City of Irvine has designated the existing Project Site's land use as the Great Park and zoned for 6.1 Institutional (City of Irvine, 2015). Institutional uses include a variety of publicly or privately owned and operated facilities such as hospitals, schools, religious facilities, and other nonprofit land uses.

3.14.2. Regulatory Framework

Local

City of Irvine General Plan Housing Element:

Goal 1.0 Policy 1.6: Ensure proper land use planning for adequate infrastructure, services, and facilities is provided to serve existing and future residents. The City of Irvine takes measures to ensure dedicated land for infrastructure development in support of future residents' transportation needs.

3.14.3. Discussion

3.14.3.1. Would the Project induce substantial unplanned population growth in an area either directly or indirectly?

Determination: NO IMPACT

Construction Impacts

Due to the Project's proximity to urban centers, such as the cities of Irvine and Tustin, the Project would likely draw workforce from the existing local market. If construction workers from outside the region were employed during the construction period, the temporary nature

of the work suggests that it would be unlikely those non-local workers would permanently relocate. Therefore, no construction impacts related to inducing substantial unplanned population growth directly or indirectly would occur.

Operational Impacts

The Project does not include a housing component, so there would be no direct population growth induced. The nature of the work proposed under the Project is not likely to require relocation of staff, given the proximity of the Project Site to urban centers and the extended network of highways in the vicinity. Therefore, no operational impacts related to inducing substantial unplanned population growth directly or indirectly would occur.

3.14.3.2. Would the Project displace substantial number of existing people or housing, necessitating the construction of replacement housing elsewhere?

Determination: <u>NO IMPACT</u>

Construction and Operational Impacts

The Project would be located on vacant land where no housing currently exists. Therefore, no construction or operational impacts related to displacing substantial numbers of housing or people necessitating the construction of replacement housing elsewhere would occur.

3.15. PUBLIC SERVICES

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:				
3.15.3.1 Fire protection?	☐	☐	☒	☐
3.15.3.2 Police protection?	☐	☐	☒	☐
3.15.3.3 Schools?	☐	☐	☐	☒
3.15.3.4 Parks?	☐	☐	☐	☒
3.15.3.5 Other public facilities?	☐	☐	☐	☒

3.15.1. Existing Conditions

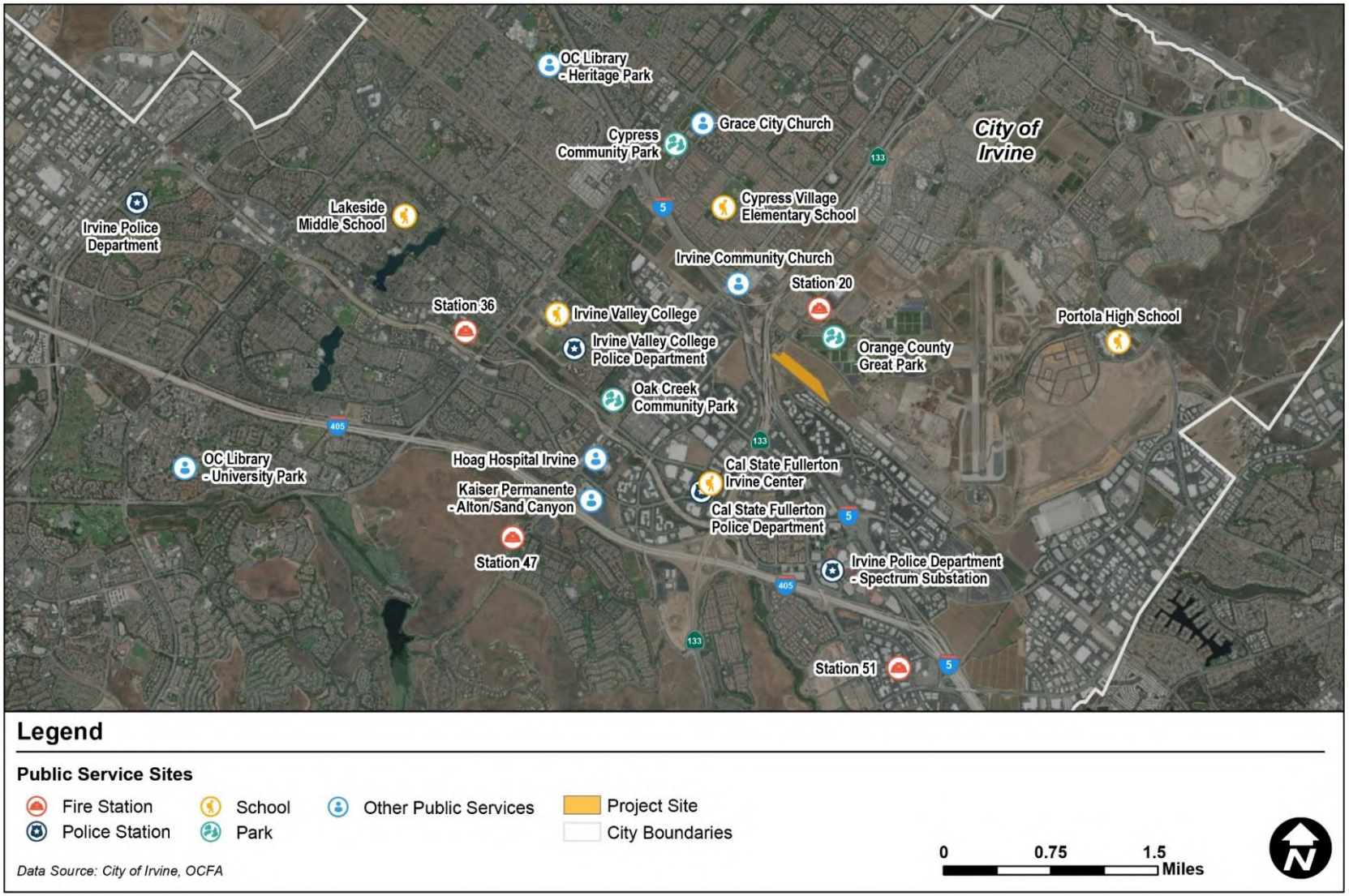
Table 3.15-1 lists the closest public service facilities to the Project Site. Figure 3.15-1 shows their geographical relation to the Project Site. The City of Irvine contracts with OCFA to provide fire suppression, and emergency medical, rescue, and fire prevention services to the City. Eleven OCFA fire stations serve the City, 10 of which are within a five-mile buffer from the Project Site. In addition, the Irvine Police Department serves as the main location responsible for receiving all 911 calls. The four fire and police stations located closest to the Project Site are identified in Table 3.15-1.

Table 3.15-1: Public Service Facility Summary

Public Service Category	Name	Distance	Direction to the Project Site
Fire and Emergency	Fire Station #20 – Irvine	0.4 mile	Northeast
	Fire Station #36 – Woodbridge	2 miles	West
	Fire Station #47 – Irvine	2.1 miles	Southwest
	Fire Station #51 – Irvine Spectrum	1.9 miles	Southeast
Police Protection	Irvine Valley College Police Department	1.4 miles	West
	Cal State Fullerton Police Department	1 mile	Southwest
	Irvine Police Department – Spectrum Substation	1.1 miles	South
	Irvine Police Department	4.4 miles	Northwest
Schools	Irvine Valley College	1.4 miles	Northwest
	Cal State Fullerton Irvine Center	1 mile	Southwest
	Portola High School	2 miles	East
	Lakeside Middle School	2.6 miles	Northwest
	Cypress Village Elementary School	1 mile	Northwest
Parks	Cypress Community Park	1.5 miles	Northwest
	Oak Creek Community Park	1.1 miles	Southwest
	Great Park	600 feet	Northeast
Other Services	Hoag Hospital Irvine	1.4 miles	Southwest
	Kaiser Permanente – Alton/Sand Canyon Medical Offices	1.5 miles	Southwest
	Irvine Community Church	0.5 mile	Northwest
	Grace City Church	1.6 miles	Northwest
	Orange County Library – Heritage Park	2.4 miles	Northwest
	Orange County Library – University Park	4 miles	Southwest

Source: AECOM, 2020

Figure 3.15-1: Public Service Facility Location Map



Source: AECOM 2020

Table 3.15-2 summarizes the fire responses and incidents that occurred in the City of Irvine in 2019.

Table 3.15-2: City of Irvine Response Data Summary

Jurisdiction	Population (2019)	Unit Responses	Fire Stations	Fire Incidents	EMS Incidents	Other Incidents	Total Incidents
Irvine	280,202	25,385	11	252	12,729	5,091	18,072

Source: OCFA, 2019

The OCFA - Standards of Coverage and Deployment Plan published in 2014 delineated that, during larger incidents, OCFA is typically acting together with one or more neighboring fire departments in providing fire and life protection through a coordinated regional response system of mutual and automatic aid agreements. It is suggested in the plan that a prompt arrival of at least four personnel is critical for structure fires (OCFA, 2014). According to OCFA, three of the four fire stations located nearest to the Project Site all have less than 1,000 annual responses. This means that the stations have less workload than 70 percent of the other OCFA fire stations and are not at full capacity and would be able to handle additional fire service needs.

Police Services

The Irvine Police Communications Bureau serves as the primary answering point for all 911 emergency calls and is responsible for dispatching of police and animal services field resources. It functions under the Business Services Division in the Irvine Police Department. The Communications Bureau staff is composed of one communications bureau supervisor, four supervising dispatchers, 15 full-time dispatchers, and two part-time dispatchers (City of Irvine, 2020a).

Table 3.15-3 summarizes the existing police service level in Irvine. Currently, every 10,000 Irvine residents are served by eight officers and 11 law enforcement employees.

Table 3.15-3: Police Service Staffing Summary

Jurisdiction	Officers per 10k Population	Officers	Total Law Enforcement per 10k Population	Total Law Enforcement
Irvine	8.0	213	11.3	301

Source: Governing calculations of employment and population data from 2016 FBI Uniform Crime Reporting program

As shown in Table 3.15-1, three police stations are located near the Project Site. They are the Irvine Valley College Police Department, the Cal State Fullerton Police Department, and the Irvine Police Department – Spectrum Substation. The Spectrum Substation will be the principal service provider to the Project Site. The two school police departments do not usually answer requests outside of their respective campuses; however, additional staff could be dispatched for emergencies. In addition, the Irvine Police Department headquarters located 4.4 miles northwest of the Project Site could also serve as a backup in situations where the other three closer police departments are short in staff. With a low crime rate, the capacity of police service is sufficient for the Project Site through coordination of the three police departments.

School Services

The Irvine Unified School District (IUSD) provides service to the Project Site. As indicated in Table 3.15-1, the closest schools to the Project Site are Cypress Village Elementary School, Lakeside Middle School, and Portola High School.

Park Services

There are currently 23 community parks, six special facilities, and 39 neighborhood parks serving the City of Irvine. As of 2019, approximately 1,926 acres of park facilities are serving a population of 280,202. On average, 1 acre of park facility is serving 145 Irvine residents (City of Irvine, 2020b).

The community parks closest to the Project Site are Cypress Community Park, Oak Creek Community Park, and the Great Park.

Other Services

Other services include public facilities such as libraries, churches, and hospitals. The facilities located closest to the Project Site are identified in Figure 3.15-1 and described in Table 3.15-1.

3.15.2. Regulatory Framework

Regional

Orange County Fire Authority - Standards of Coverage and Deployment Plan (2014)

The Orange County Fire Authority - Standards of Coverage and Deployment Plan lays out the response time objectives in the scenarios below:

- Total response time for arrival of the first arriving response unit at a core incident. The first response unit capable of initiating effective incident intervention shall arrive at a core emergency within the time specified for each level of service area from receipt of the call at the dispatch center 90 percent of the time. In Urban Areas, the goal is 8 minutes, 45 seconds.
- Total response time for arrival of the first arriving Advanced Life Support response unit at a core medical incident. The first response unit capable of initiating effective incident intervention shall arrive at a core emergency within the time specified for each level of service area from receipt of the call at the dispatch center 90 percent of the time. In Urban Areas, the goal is 9 minutes and 54 seconds.

Local

City of Irvine General Plan Public Service Element

The City of Irvine also established response time standards in its General Plan:

- For fire and basic life safety incidents in urban areas, a first due unit shall be on scene within a five-minute response time, 80 percent of the time.

- For advanced life support incidents, units shall be located and staff available within an eight-minute response time, 80 percent of the time.

The standards for typical school sizes are as follows:

- Elementary School (K-6): Permanent core building to house 600 students, with provisions for relocatable buildings to house a maximum of 720 students on an average site of 10 acres.
- Middle School (7-8): Permanent facilities for 700 students with provision for relocatable buildings and short-term overload of facilities to house a maximum of 900 students on an average site of 20 acres.
- High School (9-12): Permanent facilities for 1,800 students with provisions for relocatable buildings and short-term overload of facilities to house a maximum of 2,400 students on an average site of 40 acres.

3.15.3. Discussion

3.15.3.1. Would the Project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for fire protection?

Determination: LESS THAN SIGNIFCANT IMPACT

Construction Impacts

Construction of the Project would require the use of temporary construction workers. However, as discussed in the Section 3.14 Population and Housing, these construction workers would not result in a permanent increase in residential population. Therefore, no substantial increase in demand for fire services would result and no new facilities would be required. As such, construction impacts related to the provision of new facilities as a result of an increase in demand for fire services would be less than significant.

Operational Impacts

Operation of the Project would generate some work-based trips in the Project Site. As discussed in Section 3.14, this increase in work-based trips would not result in a generation of a permanent residential population. Nevertheless, an increase in demand for fire services is likely due to the increase in workforce in this area. As part of the design process, coordination with the local fire department would be required before any building occupancy to ensure worker safety measures are in place. As previously stated, three of the four fire stations that would be serving the Project Site, including Fire Stations #20, #47, and #51, are not at full capacity and would be able to handle additional fire service needs through local coordination. Coordination across the four existing fire stations would sufficiently meet any potential

increase in fire service demand due to operations of the Project. Therefore, operational impacts related to the provision of new facilities as a result of increased demand for fire services would be less than significant.

3.15.3.2. Would the Project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for police protection?

Determination: LESS THAN SIGNIFCANT IMPACT

Construction Impacts

Construction of the Project would generate temporary construction workers. However, the construction workers are not anticipated to generate a permanent residential population and, therefore, no substantial demand increase for police services. Therefore, construction impacts related to the provision of new facilities as a result of an increase in demand for police services would be less than significant.

Operational Impacts

Operation of the Project would generate some work-based trips in the Project Site. Increased work-based activities would not result in generation of a permanent residential population but would still increase demand for police services. However, police service needs induced by the Project are small enough to be covered by the existing police and sheriff resources in the vicinity of the Project. The Irvine Police Department – Spectrum Substation would be the principal service provider to meet the additional police service needs at the Project Site. Furthermore, the Irvine Police Department headquarters, as well as the nearby Irvine Valley College Police Department and Cal State Fullerton Police Department, would be available for situations when the aforementioned resources have been exhausted. It is anticipated that the capacity of police service is sufficient for the Project Site through coordination of three police departments. Therefore, operational impacts related to the provision of new facilities as a result of increased demand for police services would be less than significant.

3.15.3.3. Would the Project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for schools?

Determination: NO IMPACT

Construction and Operational Impacts

The Project does not include a housing component that would induce direct population growth that would then generate school-age population. Workers, temporary or permanent,

are not anticipated to generate a permanent residential population that would generate school age children that would in turn increase demand for school services. Therefore, no construction or operational impacts related to the provision of new facilities as a result of an increase in demand for school services would occur.

3.15.3.4. Would the Project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for parks?

Determination: NO IMPACT

Construction and Operational Impacts

The Project does not include a housing component that would induce direct population growth that would then generate demand for parks. Workers, temporary or permanent, are not anticipated to generate a permanent residential population that would generate demand for parks. Therefore, no construction or operational impacts related to the provision of new facilities as a result of an increase in demand for parks would occur.

3.15.3.5. Would the Project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for other public service facilities?

Determination: NO IMPACT

Construction and Operational Impacts

The Project does not include a housing component that would induce direct population growth that would then generate demand for other public services facilities. Workers, temporary or permanent, are not anticipated to generate a permanent residential population that would generate increased demand for other public services facilities. Therefore, no construction or operational impacts related to the provision of new facilities as a result of an increase in demand for other public service facilities would occur.

3.16. RECREATION

Would the project:		Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
3.16.3.1	Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?	☐	☐	☐	☒
3.16.3.2	Does the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?	☐	☐	☐	☒

3.16.1. Existing Conditions

The City of Irvine's public park system can be broken down into two categories: community parks and neighborhood parks. Community parks are owned and maintained by the City. These parks are generally a minimum of 20 acres in size and able to accommodate 10,000 persons (City of Irvine, 2015). There are two types of neighborhood parks: public neighborhood parks and private neighborhood parks. Public neighborhood parks are generally a minimum of 4 acres in size and able to serve a minimum of 2,500 persons (City of Irvine, 2015). Currently, 23 community parks and 39 neighborhood parks serve the City of Irvine. Additionally, the City is providing special recreation services to their residents through six special facilities such as the Irvine Animal Care Center, Harvard Skate Park, and Aquatic Centers such as the William Woollett Jr. Aquatics Center and the Northwood Aquatics Center. Recreational facilities and services can also be provided by the private sector and by jurisdictions other than the City. Private parks are owned and maintained by homeowner associations or maintenance districts (City of Irvine, 2015). In terms of jurisdictions other than the City, a county-wide regional park is located in the City and adjacent to the Project Site, which is known as the Great Park.

According to the City of Irvine General Plan, developers of residential subdivisions are required to dedicate parkland, or pay fees in lieu of dedication, at the rate of 5 acres per 1,000 population. The allocation of 5 acres of parkland is apportioned as 2 acres for community parks and 3 acres for neighborhood parks (City of Irvine, 2015).

One of the objectives in the City's General Plan is to "provide community parks which serve residents of a planning area to citywide level by providing facilities appropriate for citizens of various ages and interests, such as: community centers, athletic facilities, and picnic areas" (City of Irvine, 2015). Therefore, many community parks also function as community centers with athletic and picnic facilities. Parks are not the only facilities that can provide recreation services. Several other commercial

recreational facilities such as the Ranch House - Recreation Center and the Trabuco Center also offer spaces for community activities and programs.

Table 3.16-1 lists the nearest recreational facilities to the Project Site. Figure 3.16-1 shows their geographical relation to the Project Site.

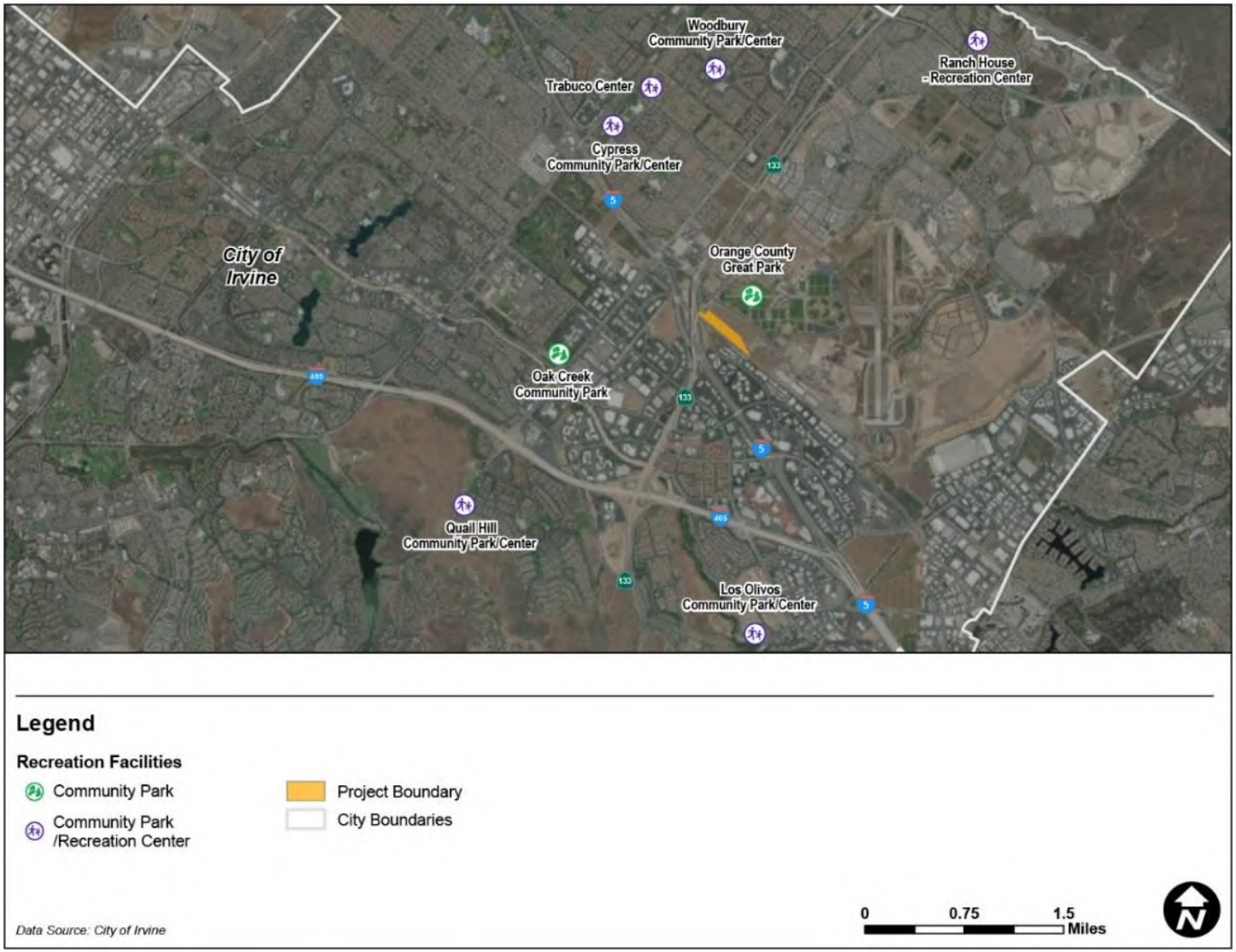
Two community parks, four community parks/community centers, and two recreation centers are within a three-mile radius of the Project Site.

Table 3.16-1: Recreational Facility Summary

Recreational Facility Name	Distance to Project Site	Direction from the Project Site
Great Park	600 feet	Northeast
Oak Creek Community Park	1.1 miles	Southwest
Cypress Community Park/Recreation Center	1.5 miles	Northwest
Trabuco Center	1.7 miles	Northwest
Woodbury Community Park/Recreation Center	1.8 miles	North
Los Olivos Community Park/Recreation Center	2.1 miles	South
Quail Hill Community Park/Recreation Center	2.3 miles	Southwest
Ranch House - Recreation Center	2.8 miles	Northeast

Source: AECOM, 2020

Figure 3.16-1: Recreational Facility Location Map



Source: AECOM, 2020

3.16.2. Regulatory Framework

City of Irvine General Plan, Parks and Recreation Element Objective K-1, Recreational Opportunities: Developers of residential subdivisions are required to dedicate park land, or pay fees in lieu of dedication, at the rate of 5 acres per 1,000 population. The allocation of 5 acres park land is apportioned as 2 acres for community parks and 3 acres for neighborhood parks.

Provide for a broad spectrum of recreational opportunities and park facilities, in either public or private ownership, to accommodate a variety of types and sizes of functions.

Policy (a) Provide community parks which serve residents of a planning area to citywide level by providing facilities appropriate for citizens of various ages and interests, such as:

- Community centers
- Athletic facilities
- Competition-level swimming pools
- Picnic areas
- Cultural centers
- Day care centers

3.16.3. Discussion

3.16.3.1. Would the Project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?

Determination: <u>NO IMPACT</u>

Construction and Operational Impacts

The Project does not include a housing component that would induce direct population growth that would then generate demand for parks or recreational facilities. Workers, temporary or permanent, are not anticipated to generate a permanent residential population that would generate demand for parks or recreational activities. As such, the Project would not conflict with the city's General Plan because the proposed OCMF would not be required to dedicate park land, or pay fees in lieu of dedication. Therefore, there are no construction or operational impacts related to the increase in use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated.

3.16.3.2. Would the Project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?

Determination: NO IMPACT

Construction and Operational Impacts

The Project does not include new recreational facilities or require the expansion of existing recreational facilities. Therefore, no construction or operational impacts would occur.

3.17. TRANSPORTATION

Would the project:		Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
3.17.3.1	Conflict with a program plan, ordinance, or policy addressing the circulation system, including transit, roadways, bicycle and pedestrian facilities?	☐	☐	☒	☐
3.17.3.2	Would the project conflict with or inconsistent with CEQA Guidelines Section 15064.3 subdivision (b)?	☐	☐	☒	☐
3.17.3.3	Substantially increase hazards due to a geometric design feature (e.g. sharp curves or dangerous intersections) or incompatible uses (e.g. farm equipment)?	☐	☐	☐	☒
3.17.3.4	Result in inadequate emergency access?	☐	☐	☐	☒

3.17.1. Existing Conditions

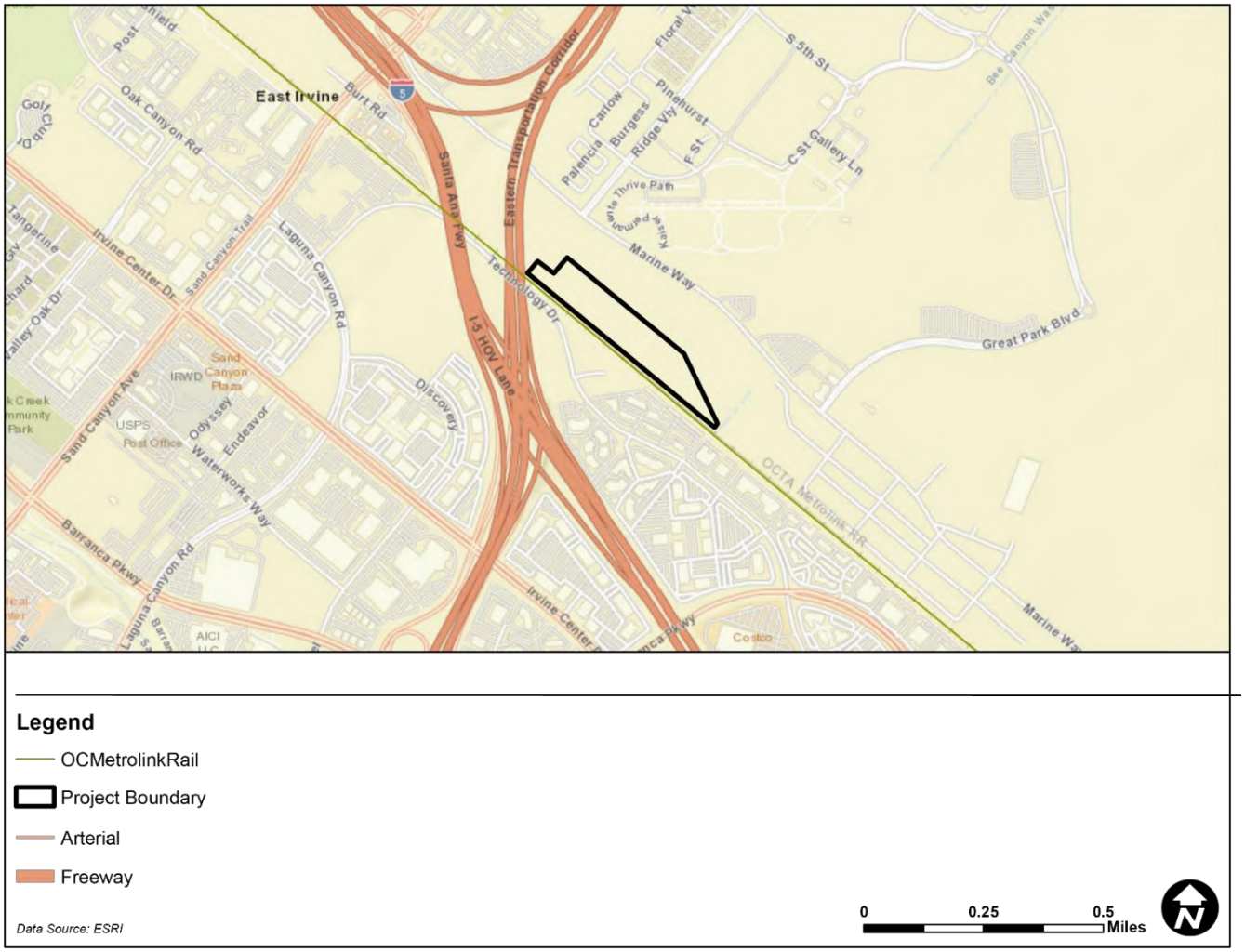
The 21.3-acre Project Site, which is undeveloped and vacant, lies directly northeast of the existing SCRRA Orange Subdivision railroad tracks (between mileposts 183.50 and 184.00) and south of Marine Way and the Great Park. Regional vehicle access to the Project Site is from I-5 at Sand Canyon Avenue. Local vehicle access is via Marine Way to Ridge Valley. The Project Site is bordered by a property owned by Orange County to the northeast, which connects to I-5 through ramps to/from Sand Canyon Avenue. To the southwest, the Project Site is bound by the existing SCRRA Orange Subdivision ROW (Figure 3.17-1).

Pedestrian access to/from the Project Site would be available via public sidewalks on Marine Way. Bicycle access to/from the Project Site would be available via Class II bikeways on Marine Way.

Surface parking spaces are available in two parking lots of the Great Park are northeast of the site on the north side of Marine Way.

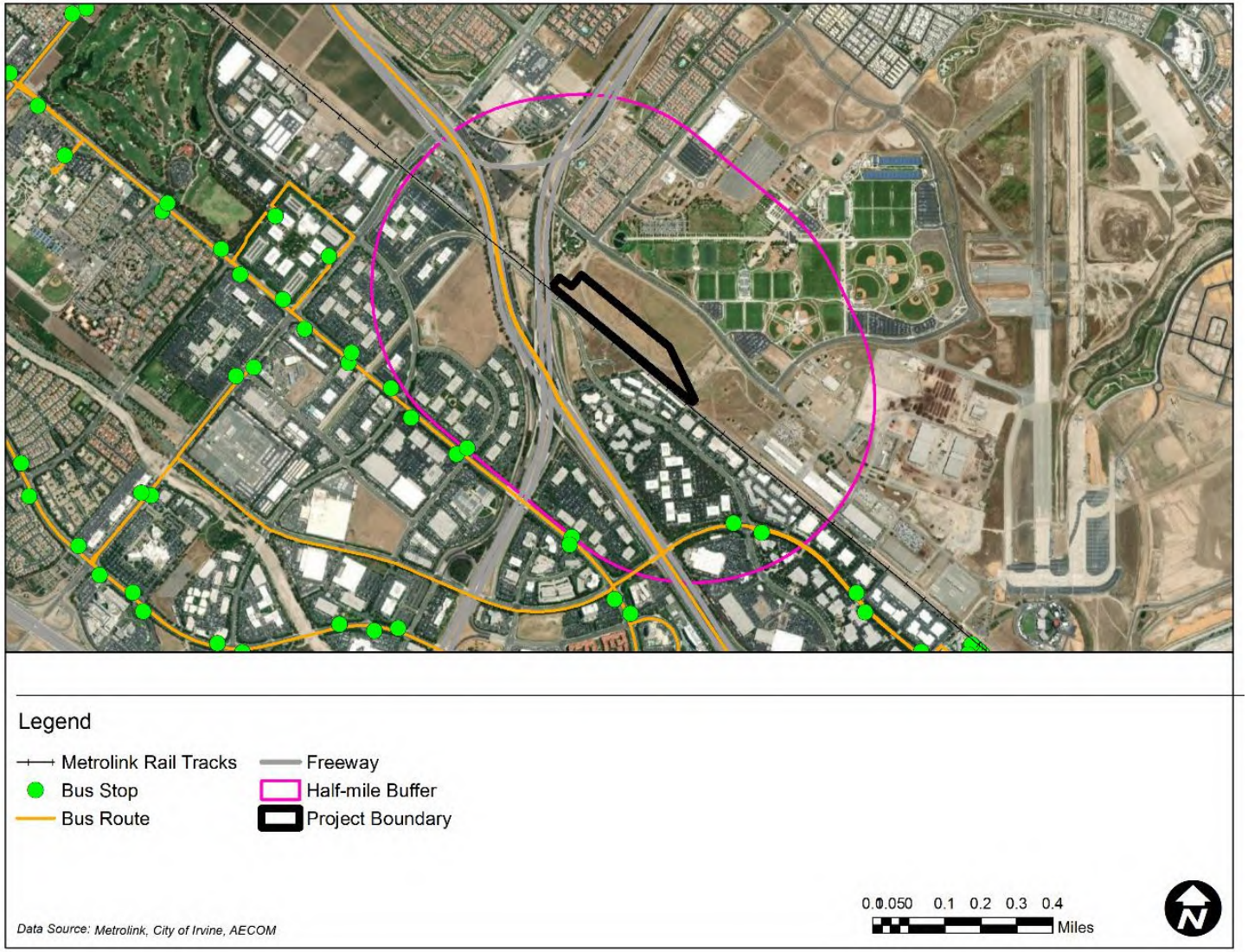
OCTA currently operates bus Routes 90, 402, and 403 in the vicinity of the Project Site, with four stops within 1.3 miles of the Project (Figure 3.17-2).

Figure 3.17-1: Roadway Network in the Project Site Vicinity



Source: AECOM, 2020

Figure 3.17-2: Transit Network in the Project Site Vicinity



Source: AECOM, 2020

3.17.2. Regulatory Framework

Local

City Standard Condition 3.17 (Emergency Access Plan) - An Emergency Access Plan will need to be submitted and approved by the Chief of Police, identifying and locating all Knox Boxes, Knox key switches, and Click2Enter radio access control receivers per the Irvine Uniform Security Code requirements.

City Standard Condition 4.9 (Emergency Access Inspection) - An inspection will need to be arranged prior to the Project opening, which is to be performed by the City of Irvine Police Department and OCFA, to ensure compliance with the Emergency Access Plan requirements. Test acceptance and locations of all Knox boxes, key switches and Click2Enter devices as depicted on the approved plan will need to be verified.

- The Project will also need to comply with the following City of Irvine municipal/zoning code items: Irvine Municipal Code, Title 6 (Public Works), Division 3 (Transportation), Chapter 6 (Trip Reduction Facilities).
- Irvine Municipal Code, Title 6 (Public Works), Division 3 (Transportation), Chapter 7 (North Irvine Transportation Mitigation Program).

Irvine Sustainability Community Initiative (Initiative Ordinance 10-11) - The Irvine Sustainability Community Initiative, adopted by the voters of the City as Initiative Measure S on November 2, 2010, and certified by the City Council on December 14, 2010, became effective December 24, 2010. The ordinance was adopted to ratify and implement policies in support of renewable energy and environmental programs for a sustainable community. It outlines the City's direction for continuing to develop and implement programs geared towards green building, renewable energy, and sustainability. For example, the City will continue to develop and implement participation in alternative transportation modes, including but not limited to alternate fuel, reduced emission or zero emission vehicles, mass transit services, carpooling, bicycling, and walking.

City of Irvine Engineering Standard Plans - The City's Engineering Standard Plans provide detailed requirements (e.g., dimensions, location) and illustrations for the design and construction of, among other things, roadways, driveways, curbs, raised medians, and sight distances.

City of Irvine Street Design Manual - All grading and improvement projects, whether public or private, are required to be designed in accordance with the City of Irvine Design Manual, Section 101 Street Design (2013). The Project will need to comply with the Design Manual since driveways and private roads will be added.

3.17.3. Discussion

3.17.3.1. Would the Project conflict with a program, plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities?

Determination: <u>LESS THAN SIGNIFCANT IMPACT</u>

Construction Impacts

Transportation-related programs, plans, ordinances, and policies relevant to the Project are listed below:

- City of Irvine General Plan (Amended through June 2015)
- Connect SoCal (SCAG, 2020)
- OCTA Long-Range Transportation Plan (OCTA, 2018)
- City of Irvine Traffic Study Guidelines (City of Irvine, 2021)
- City of Irvine Transportation Design Procedures (City of Irvine, 2007)
- Orange County Foothills Bikeways Strategy (OCTA, 2016)
- City of Irvine Active Transportation Plan (City of Irvine, 2015)

During construction of the Project, a temporary increase in VMT is anticipated along the roadway network at the Project Site and along Marine Way and Ridge Valley due to construction activities.

No transit, freight, or pedestrian infrastructure is identified in the immediate vicinity of the Project Site. There are existing Class II bikeways along Marine Way and Ridge Valley. The construction of the Project would not require new or additional transit, freight, bicycle, or pedestrian infrastructure because the existing roadway network would provide sufficient construction access to the Project Site.

Therefore, no construction impacts related to the Project being in conflict with a program, plan, ordinance, or policy addressing the circulation system, including transit, roadway, freight, bicycle, and pedestrian facilities, would occur.

Operational Impacts

<u>Level of Service (LOS) Impacts</u>

The Project Site can be accessed by I-5 at Sand Canyon Avenue, supplemented by SR-133 for regional trips. Local access is primarily provided by Marine Way and Ridge Valley. The LOS of four intersections and three roadway segments were analyzed to determine the LOS deficiency resulting from the Project. The four intersections analyzed are:

1. Sand Canyon Avenue / I-5 Northbound Ramps
2. Sand Canyon Avenue / Marine Way
3. Sand Canyon Avenue / I-5 Southbound Ramps

4. Ridge Valley / Marine Way

The three roadway segments analyzed are:

A. Marine Way between Sand Canyon Avenue and Ridge Valley
B. Marine Way east of Ridge Valley
C. Ridge Valley between Great Park Boulevard and Marine Way

Table 3.17-1 summarizes the LOS for the four intersections analyzed under six scenarios during AM Peak hours and PM Peak hours, respectively. Table 3.17-2 summarizes the LOS for the three roadway segments analyzed under six scenarios.

Table 3.17-1: Summary of Traffic Effects (Intersection LOS) in OCTA Project Vicinity

Scenario	Time Period	Intersection LOS			
		Sand Canyon Ave./ I-5 NB Ramps	Sand Canyon Ave./ Marine Way	Sand Canyon Ave./ I-5 SB Ramps	Ridge Valley/ Marine Way
Existing Baseline	AM Peak	A	B	A	A
	PM Peak	B	A	A	A
Existing Baseline + Project	AM Peak	A	B	B	A
	PM Peak	B	A	A	A
Short-term Interim Year Alt 1	AM Peak	C	A	B	A
	PM Peak	D	C	C	A
Short-term Interim Year Alt 1 + Project	AM Peak	C	A	B	A
	PM Peak	D	C	C	A
Short-term Interim Year Alt 2	AM Peak	C	A	B	A
	PM Peak	C	A	C	A
Short-term Interim Year Alt 2 + Project	AM Peak	C	A	B	A
	PM Peak	C	A	C	A

Source: AECOM (2022)

Based on the results of the LOS analysis in Table 3.17-1 and Table 3.17-2, all study intersections and roadway segments would operate at acceptable LOS under all scenarios based on the City's LOS thresholds, with the exception of the segment of Marine Way between Sand Canyon Avenue and Ridge Valley, which would be deficient under Short-Term Interim Year Alternative 1, with and without the Project. However, a peak-hour link analysis indicates that this segment would operate at acceptable conditions based on peak-hour LOS, even with the addition of the Project. Therefore, the Project would not result in or substantially contribute to LOS deficiencies at any study intersections or roadway segments and no improvements are required.

Table 3.17-2: Summary of Traffic Effects (Roadway Segment LOS) in OCTA Project Vicinity

Scenario	Roadway Segment LOS		
	Marine Way between Sand Canyon Avenue and Ridge Valley	Marine Way East of Ridge Valley	Ridge Valley between Great Park Boulevard and Marine Way
Existing Baseline	D	A	A
Existing Baseline + Project	D	A	A
Short-term Interim Year Alt 1	F	A	A
Short-term Interim Year Alt 1 + Project	F	A	A
Short-term Interim Year Alt 2	A	A	A
Short-term Interim Year Alt 2 + Project	A	A	A

Source: AECOM (2012)

An analysis of the City of Irvine's Transportation Design Procedures (TDPs) was conducted to determine if the roadway modifications to provide direct access to the Project Site would satisfy the City's TDPs. The Transportation Technical Memorandum (Appendix H) concluded that all Project modifications comply with all applicable TDPs, including TDP-10 (Distance Between Driveways and Intersections), TDP-11 (Corner Clearance), and TDP-14 (Driveway Lengths).

Congestion Management Program Impacts

Table 3.17-3 indicates the Project's weekday daily trip generation to be 220. As a result, a VMT impact analysis is not required for the Project, in accordance with the project screening criteria established in Exhibit 8 of the City of Irvine Traffic Study Guidelines (City of Irvine, 2021).

Table 3.17-3: Project Trip Generation

Trip category	Vehicle Trips								
	Daily			AM peak hour			PM peak hour		
	In	Out	Total	In	Out	Total	In	Out	Total
Worker commutes 80 employees	80	80	160	8	24	32	0	8	8
Fleet vehicles 10 vehicles	10	10	20	3	1	4	1	6	7
Other	20	20	40	3	3	6	3	3	6
Total	**110**	**110**	**220**	**14**	**28**	**42**	**4**	**17**	**21**

Notes: "Other" includes deliveries, visitors, and other ancillary traffic. No "other" trips are assumed during a.m. and p.m. peak hours.
Source: AECOM (2022)

The daily weekday trip generation of 220 is also below the general threshold of 2,400 daily trips for all development projects and the specific threshold of 1,600 daily trips for development projects with direct access to, or in proximity to, the Congestion Management Program (CMP) Highway System. Therefore, a CMP Traffic Study to determine the Project's consistency with the CMP is not required, in accordance with Exhibit 6 of the City of Irvine Traffic Study Guidelines (City of Irvine, 2021).

Freight

The Project would not contribute to increased traffic on the SCRRA Orange Subdivision,. Therefore, no operational impacts would occur related to the Project being in conflict with a program, plan, ordinance, or policy addressing the circulation system.

Bicycles

While the Project is a specialized use with limited access for the general public and would not be a major activity generator or attractor for bicycle activities, bicycle access would be provided by existing Class II bikeways along Marine Way, Ridge Valley, and Sand Canyon Avenue, as well as Class I bikeways along Sand Canyon Avenue (Sand Canyon Side Path) and within the Great Park and the surrounding neighborhoods. The Project would not physically alter existing bikeways, and the proposed modifications at the Ridge Valley / Marine Way intersection as part of the Ridge Valley extension would be designed in accordance with applicable standards to facilitate safe bicycle circulation at this location.

Bicycle infrastructure at the Project's operational phase conforms to Objective B-4 of the Circulation Element of the City's General Plan, which is to "plan, provide and maintain a comprehensive bicycle trail network that together with the regional trail system, encourages increased use of bicycle trails for commuters and recreational purposes."

Pedestrians

The Project would be considered a specialized use without access for the general public and would not be a major activity generator or attractor. Pedestrian circulation from the general public is not anticipated for the Project and therefore sidewalks would not be provided on the Ridge Valley extension. The Project would provide two sidewalk curb ramps on the Ridge Valley and Marine Way intersection. These modifications would generally support Objective B-3 and the three associated policies by providing safe, convenient, and direct pedestrian access. Proposed modifications would also be designed in accordance with applicable standards (such as City of Irvine street design standards and Americans with Disabilities Act [ADA] design standards) and would facilitate safe pedestrian circulation at this location.

Transit

As shown in Figure 3.17-2, there are no transit services in the immediate vicinity of the Project Site. The closest major route is OCTA's Route 90, with the closest stops located approximately 1.3 miles away from the Ridge Valley / Marine Way intersection. Supplemental peak-period-only bus service is provided by two OCTA Shuttle routes (402C and 403D) at Metrolink's Irvine Station. Route 402C is approximately 1.1 miles away from the Ridge Valley / Marine Way intersection and Route 403D is approximately 1.4 miles away from the Ridge Valley / Marine Way intersection.

These two routes are designed to connect Metrolink passengers with workplaces in the areas surrounding the station, and only operate in commute directions (departing the station during the a.m. peak period and arriving at the station during the p.m. peak period).

Given the above considerations, construction and operation of the Project would generally conform to and support—and not conflict with—programs, plans, ordinances, and policies addressing the circulation system, and the associated impacts of Project operation related to the regulatory setting would be less than significant.

3.17.3.2. Would the Project conflict or be inconsistent with CEQA Guidelines section 15064.3, subdivision (b)?

Determination: LESS THAN SIGNIFICANT IMPACT

Construction Impacts

During the construction phase of the OCMF, an increase of VMT induced by construction-related vehicular activities to and from the proposed OCMF is anticipated. However, these activities are not anticipated to generate a permanent increase in VMT. Therefore, construction impacts related to the Project being in conflict with CEQA Guidelines section 15064.3 subdivision (b) would be less than significant.

Operational Impacts

While some increase in localized VMT is anticipated due to vehicles traveling to and from the proposed OCMF, impacts resulting from increased VMT would be minor and would not generate a permanent increase in VMT. Therefore, operational impacts related to the Project being in conflict with CEQA Guidelines section 15064.3 subdivision (b) would be less than significant.

3.17.3.3. Would the Project substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?

Determination: NO IMPACT

Construction and Operational Impacts

The Project would involve construction and operation of a new commuter rail storage and maintenance facility, along with associated trackwork and site access improvements.

There are no existing at-grade crossings along the SCRRA Orange Subdivision near the Project Site. The service tracks, storage tracks, access tracks, and run-around track would be constructed on the existing vacant land. The lead tracks and some set-out tracks would be constructed within the existing SCRRA ROW. The inside circulation, including at-grade crossings within the Project Site, would be designed to avoid geometric features that would increase hazards or incompatible uses. No new at-grade crossing or any permanent physical barriers on existing public streets would be created as part of the Project.

In addition, the design, construction, and operation of the Project would comply with applicable standards at the federal, state, and local level. Similarly, design, construction, and operation of site access improvements, including new roadways or modifications to existing roadways, would adhere to applicable standards such as the California Manual on Uniform Traffic Control Devices and the City of Irvine's standard plans and design guidelines. Design approval for specific Project components would be sought from the appropriate agencies as part of detailed design and subsequent stages of the Project.

Given these considerations, no construction or operational impacts related to hazards from geometric design features or incompatible uses would occur.

3.17.3.4. Would the Project result in inadequate emergency access?

Determination: NO IMPACT

Construction and Operational Impacts

Local vehicle access in the area is currently provided primarily by Marine Way and Ridge Valley. Emergency access to the Project would be through the extension of Ridge Valley on the northwest side of the Project Site. Although the emergency access would be on the west side

of the Project Site, the internal circulation design would ensure easy access to the east side of the Project Site.

The Project does not involve elimination of a through-route, nor does it involve the narrowing of a roadway. However, the Project would include the modification of the traffic signal at the existing Marine Way/Ridge Valley intersection for vehicles leaving the Project Site. The proposed access road and drive lanes extending from the existing Ridge Valley would be required to meet standards. The access road design for the Project must be coordinated with third-party stakeholders including but not limited to the County of Orange, City of Irvine, IRWD, and Heritage Fields LLC. The design also needs to comply with all building, fire, and safety codes, and plans are subject to review and approval by the City of Irvine's Public Works and the Transportation Departments, the Building Division, and OCFA. Any temporary roadway closures would be coordinated with local agencies to minimize any disruptions to the circulation system, including to emergency vehicle response.

Given these considerations, no construction or operational impacts related to the Project resulting in inadequate emergency access would occur.

3.18. TRIBAL CULTURAL RESOURCES

Would the project cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:		Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
3.18.3.1	Listed or eligible for listing in the California Register of Historic Resources, or in the local register of historical resources as defined in Public Resources Code Section 5020.1(k) or	☐	☒	☐	☐
3.18.3.2	A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision(c) of Public Resources Code Section 5024.1? In applying the criteria set forth in subdivision(c) of Public Resources Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.	☐	☒	☐	☐

3.18.1. Existing Conditions

No resources eligible for listing in the NRHP, CRHR, or local register were identified during the course of the archival research or archaeological survey. No potential tribal cultural resources were identified during the courses of archival research or the archaeological survey.

On July 8, 2020, AECOM contacted the Native American Heritage Commission (NAHC) and requested the Sacred Lands File be searched for documented sacred sites within the APE or its vicinity. The NAHC responded in a letter dated July 9, 2020. According to the NAHC letter, “The results were positive [meaning that there are known sacred lands or resources in the vicinity of the APE]. Please contact the Juaneno Band of Mission Indians and the Juaneno Band of Mission Indians Acjachemen Nation - Belardes on the attached list for more information.” The response also included a list of 11 Native American representatives of nine State-recognized tribal governments who may have interest in and knowledge of resources that may be impacted by the Project.

OCTA contacted each of the tribal contacts by mail on June 2, 2021, to invite them to consult under both AB 52. One of these letters was returned by the U.S. Postal Service as undeliverable. Follow-up emails were sent on June 30, 2021, to each tribal contact who did not respond to the mailing.

To date, one tribal representative has responded to the request for AB 52 consultation. Chairperson Andrew Salas of the Gabrieleno Band of Mission Indians-Kizh Nation requested a meeting with OCTA to discuss his tribe's concerns regarding the project. On September 9, 2021, a meeting was held between OCTA representatives and Chairperson Salas and Tribal Archaeologist John Torres representing the Kizh Nation. At the meeting, Chairperson Salas expressed that the Project APE is sensitive for buried tribal cultural resources. He pointed out that his tribe, and his family in particular, have ties to the region. He noted that railroads often followed traditional Native American trails, and also observed that military bases often encompassed ancient village sites. Moreover, he informed OCTA that his monitors are currently involved in projects elsewhere in the Irvine area where buried human remains were identified by his tribal monitors. Chairperson Salas recommended tribal monitoring during ground-disturbing activities in order to identify and protect any tribal cultural resources that may exist within the APE. Chairperson Salas provided OCTA with more historical information regarding the general project region, the project APE, as well sample language to help guide mitigation measures to be developed for this project.

3.18.2. Regulatory Framework

State

CEQA - CEQA was modified in 2014 with the passage of AB 52. AB 52 established a new category of protected resources in CEQA called tribal cultural resources. The purpose of establishing this new category of resources is to consider tribal cultural values in addition to scientific and archaeological values when determining project impacts and mitigation measures during the planning process.

Assembly Bill 52 - AB 52 recognizes that "California Native American tribes may have expertise with regard to their tribal history and practices, which concern the tribal cultural resources with which they are traditionally and culturally affiliated. Because the California Environmental Quality Act calls for a sufficient degree of analysis, tribal knowledge about the land and tribal cultural resources at issue should be included in environmental assessments for projects that may have a significant impact on those resources."

According to PRC Section 21074, tribal cultural resources consist of either of the following:

(1) Sites, features, places, cultural landscapes, sacred places, and objects with cultural value to a California Native American tribe that are either of the following:

    (A) Included or determined to be eligible for inclusion in the California Register of Historical Resources.

    (B) Included in a local register of historical resources as defined in subdivision (k) of Section 5020.1.

(2) A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Section 5024.1. In applying the criteria set forth in subdivision (c) of Section 5024.1 for the purposes of this paragraph, the lead agency shall consider the significance of the resource to a California Native American tribe.

Additionally, PRC Section 21080.3.1 was also added to the Public Resources Code by Assembly Bill 52. Section 21080.3.1 recognizes that California Native American tribes which are traditionally and culturally affiliated with a geographic area may have expertise regarding potential tribal cultural resources that may be impacted by proposed projects. Section 21080.3.1 also mandates that a lead agency consult with geographically and culturally affiliated Native American tribes prior to the release of a negative declaration, mitigated negative declaration, or environmental impact report for a project in order to identify potential impacts to tribal cultural resources and, if necessary, craft mitigation measures to reduce impacts to tribal cultural resources.

3.18.3. Discussion

3.18.3.1. Would the Project cause a substantial adverse change in the significance of a tribal cultural resource that is listed or eligible for listing in the California Register of Historic Resources, or in the local register of historical resources as defined in Public Resources Code Section 5020.1(k)?

Determination: <u>LESS THAN SIGNIFCANT WITH MITIGATION INCORPORATED</u>

Construction Impacts

A resource is generally considered "historically significant" if the resource meets at least one of the four criteria for listing in the CRHR (PRC Section 5024.1[a]). The CRHR is used as a guide by state and local agencies, private groups, and citizens to identify the state historical resources and to include which properties are to be protected, to the extent prudent and feasible, from substantial adverse change. The CRHR evaluation criteria are similar to NRHP criteria. For a property to be eligible for inclusion in the CRHR, it must meet one or more of the following criteria:

- It is associated with events that have made a significant contribution to the broad patterns of California history and cultural heritage;
- It is associated with the lives of persons important in California's past;
- It embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of an important creative individual, or possesses high artistic values; or
- It has yielded, or may be likely to yield, important information in prehistory or history.

An archival records search for the Project Site was conducted at the SCCIC. Previously conducted cultural resources investigations and previously identified cultural resources were reviewed as part of this investigation. A half-mile radius around the Project Site was examined. Archival research indicates that the entire Project Site has been previously studied. A pedestrian survey was conducted within all portions of the Project Site to identify and record cultural resources that are at least 45 years old and evaluate any discovered resources for historical significance based on criteria for listing in the CRHR.

In the course of the archival research, one previously-recorded Venus shell fragment was identified within the Project Site (P-30-100372), refer to Section 3.5.3.2. The resource was not relocated during the survey. The clam shell fragment may or may not have been deposited as a result of Native American use of the Project Site. As described in detail above, a resource is generally considered "historically significant" if the resource meets at least one of the four criteria for listing in the CRHR (PRC Section 5024.1[a]). Isolated resources such as the shell fragment are by their nature generally not eligible for inclusion in the CRHR and therefore are not considered cultural resources for the purposes of CEQA. It is therefore by definition not a tribal cultural resource unless additional "substantial evidence" provided during tribal consultation indicates that it possesses significance to a California Native American Tribe.

The subsurface investigations conducted to identify potential buried archaeological resources was negative. However, Native American consultation indicates that the Project area has a heightened sensitivity for potential buried tribal cultural resources.

Project construction requires ground-disturbing activities that have the potential to impact archaeological resources that may be eligible for inclusion in the NRHP, CRHR, or local register. Most of the Project's three-dimensional area of direct impact has been previously disturbed by past farming or by the construction and use of MCAS El Toro. However, unknown archaeological resources may be encountered during ground-disturbing activities associated with the Project, with the sensitivity for archaeological resources increasing with depth.

Mitigation Measures TCR-1, TCR-2, and TCR-3 would be implemented during construction. With the implementation of Mitigation Measures TCR-1, TCR-2, and TCR-3 construction impacts to archaeological tribal cultural resources would be less than significant.

- **MM-TCR-1: Retain a Native American Monitor Prior to Commencement of Ground-Disturbing Activities.**

  A. The project applicant/lead agency shall retain a Native American Monitor from or approved by the Gabrieleño Band of Mission Indians – Kizh Nation. The monitor shall be retained prior to the commencement of any "ground-disturbing activity" for the subject project at all project locations (i.e., both on-site and any off-site locations that are included in the project description/definition and/or required in connection with the project, such as public improvement work). "Ground-disturbing activity" shall include, but is not limited to, demolition, pavement removal, potholing, auguring, grubbing, tree removal, boring, grading, excavation, drilling, and trenching.

  B. A copy of the executed monitoring agreement shall be submitted to the lead agency prior to the earlier of the commencement of any ground-disturbing activity, or the issuance of any permit necessary to commence a ground-disturbing activity.

  C. The monitor will complete daily monitoring logs that will provide descriptions of the relevant ground-disturbing activities, the type of construction activities performed, locations of ground-disturbing activities, soil types, cultural-related materials, and any

other facts, conditions, materials, or discoveries of significance to the Tribe. Monitor logs will identify and describe any discovered TCRs, including but not limited to, Native American cultural and historical artifacts, remains, places of significance, etc., (collectively, tribal cultural resources, or "TCR"), as well as any discovered Native American (ancestral) human remains and burial goods. Copies of monitor logs will be provided to the project applicant/lead agency upon written request to the Tribe.

D. On-site tribal monitoring shall conclude upon the latter of the following (1) written confirmation to the Kizh from a designated point of contact for the project applicant/lead agency that all ground-disturbing activities and phases that may involve ground-disturbing activities on the project site or in connection with the project are complete; or (2) a determination and written notification by the Kizh to the project applicant/lead agency that no future, planned construction activity and/or development/construction phase at the project site possesses the potential to impact Kizh TCRs.

E. Upon discovery of any TCRs, all construction activities in the immediate vicinity of the discovery shall cease (i.e., not less than the surrounding 50 feet) and shall not resume until the discovered TCR has been fully assessed by the Kizh monitor and/or Kizh archaeologist. The Kizh will recover and retain all discovered TCRs in the form and/or manner the Tribe deems appropriate, in the Tribe's sole discretion, and for any purpose the Tribe deems appropriate, including for educational, cultural and/or historic purposes.

- **MM-TCR-2: Unanticipated Discovery of Human Remains and Associated Funerary Objects.**

A. Native American human remains are defined in PRC 5097.98 (d)(1) as an inhumation or cremation, and in any state of decomposition or skeletal completeness. Funerary objects, called associated grave goods in Public Resources Code Section 5097.98, are also to be treated according to this statute.

B. If Native American human remains and/or grave goods discovered or recognized on the project site, then all construction activities shall immediately cease. Health and Safety Code Section 7050.5 dictates that any discoveries of human skeletal material shall be immediately reported to the County Coroner and all ground-disturbing activities shall immediately halt and shall remain halted until the coroner has determined the nature of the remains. If the coroner recognizes the human remains to be those of a Native American or has reason to believe they are Native American, he or she shall contact, by telephone within 24 hours, the Native American Heritage Commission, and Public Resources Code Section 5097.98 shall be followed.

C. Human remains and grave/burial goods shall be treated alike per California Public Resources Code section 5097.98(d)(1) and (2).

D. Construction activities may resume in other parts of the project site at a minimum of 200 feet away from discovered human remains and/or burial goods, if the Kizh determines in its sole discretion that resuming construction activities at that distance is acceptable and

provides the project manager express consent of that determination (along with any other mitigation measures the Kizh monitor and/or archaeologist deems necessary). (CEQA Guidelines Section 15064.5(f).)

E. Preservation in place (i.e., avoidance) is the preferred manner of treatment for discovered human remains and/or burial goods. Any historic archaeological material that is not Native American in origin (non-TCR) shall be curated at a public, non-profit institution with a research interest in the materials, such as the Natural History Museum of Los Angeles County or the Fowler Museum, if such an institution agrees to accept the material. If no institution accepts the archaeological material, it shall be offered to a local school or historical society in the area for educational purposes.

F. Any discovery of human remains/burial goods shall be kept confidential to prevent further disturbance.

- **MM-TCR-3: Procedures for Burials and Funerary Remains.**

A. As the Most Likely Descendant ("MLD"), the Koo-nas-gna Burial Policy shall be implemented. To the Tribe, the term "human remains" encompasses more than human bones. In ancient as well as historic times, Tribal Traditions included, but were not limited to, the preparation of the soil for burial, the burial of funerary objects with the deceased, and the ceremonial burning of human remains.

B. If the discovery of human remains includes four or more burials, the discovery location shall be treated as a cemetery and a separate treatment plan shall be created.

C. The prepared soil and cremation soils are to be treated in the same manner as bone fragments that remain intact. Associated funerary objects are objects that, as part of the death rite or ceremony of a culture, are reasonably believed to have been placed with individual human remains either at the time of death or later; other items made exclusively for burial purposes or to contain human remains can also be considered as associated funerary objects. Cremations will either be removed in bulk or by means as necessary to ensure complete recovery of all sacred materials.

D. In the case where discovered human remains cannot be fully documented and recovered on the same day, the remains will be covered with muslin cloth and a steel plate that can be moved by heavy equipment placed over the excavation opening to protect the remains. If this type of steel plate is not available, a 24-hour guard should be posted outside of working hours. The Tribe will make every effort to recommend diverting the project and keeping the remains in situ and protected. If the project cannot be diverted, it may be determined that burials will be removed.

E. In the event preservation in place is not possible despite good faith efforts by the project applicant/developer and/or landowner, before ground-disturbing activities may resume on the project site, the landowner shall arrange a designated site location within the footprint of the project for the respectful reburial of the human remains and/or ceremonial objects.

F. Each occurrence of human remains and associated funerary objects will be stored using opaque cloth bags. All human remains, funerary objects, sacred objects and objects of cultural patrimony will be removed to a secure container on site if possible. These items should be retained and reburied within six months of recovery. The site of reburial/repatriation shall be on the project site but at a location agreed upon between the Tribe and the landowner at a site to be protected in perpetuity. There shall be no publicity regarding any cultural materials recovered.

G. The Tribe will work closely with the project's qualified archaeologist to ensure that the excavation is treated carefully, ethically and respectfully. If data recovery is approved by the Tribe, documentation shall be prepared and shall include (at a minimum) detailed descriptive notes and sketches. All data recovery data recovery-related forms of documentation shall be approved in advance by the Tribe. If any data recovery is performed, once complete, a final report shall be submitted to the Tribe and the NAHC. The Tribe does NOT authorize any scientific study or the utilization of any invasive and/or destructive diagnostics on human remains.

Operational Impacts

Operation of the OCMF would result in the complete excavation of the Project Site. Operation of the OCMF is not anticipated to result in the disturbance of any native soils. Therefore, no operational impacts would occur related to tribal cultural resources.

3.18.3.2. Would the Project cause a substantial adverse change in the significance of a tribal cultural resource that is a resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision(c) of Public Resources Code Section 5024.1 in applying the criteria set forth in subdivision(c) of Public Resources Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.

Determination: <u>LESS THAN SIGNIFCANT WITH MITIGATION INCORPORATED</u>

OCTA contacted the NAHC and requested that a Sacred Lands File (SLF) search be conducted for the Project Site. The NAHC responded in a letter dated July 9, 2020, and stated: "A record search of the Native American Heritage Commission (NAHC) Sacred Lands File (SLF) was completed for the information you have submitted for the above referenced project. The results were positive. Please contact the Juaneno Band of Mission Indians and the Juaneno Band of Mission Indians Acjachemen Nation - Belardes on the attached list for more information. Other sources of cultural resources should also be contacted for information regarding known and recorded sites." The response included the names and contact information for eleven Native American representatives who may have knowledge of and interest in tribal cultural resources located within the Project Vicinity and Project Site.

On June 2, 2021, the eleven Native American representatives were notified by mail of the project and invited to consult. One Native American representative, Chairperson Andrew Salas

of the Gabrieleno Band of Mission Indians—Kizh Nation responded by letter on June 18, 2021, and requested formal consultation.

To date, one tribal representative has responded to the request for AB 52 consultation. Chairperson Andrew Salas of the Gabrieleno Band of Mission Indians-Kizh Nation requested a meeting with OCTA to discuss his tribe's concerns regarding the project. On September 9, 2021, a meeting was held between OCTA representatives and Chairperson Salas and Tribal Archaeologist John Torres representing the Kizh Nation. At the meeting, Chairperson Salas expressed that the Project APE is sensitive for buried tribal cultural resources. He pointed out that his tribe, and his family in particular, have ties to the region. He noted that railroads often followed traditional Native American trails, and also observed that military bases often encompassed ancient village sites. Moreover, he informed OCTA that his monitors are currently involved in projects elsewhere in the Irvine area where buried human remains were identified by his tribal monitors. Chairperson Salas recommended tribal monitoring during ground-disturbing activities in order to identify and protect any tribal cultural resources that may exist within the APE. Chairperson Salas provided OCTA with more historical information regarding the general project region, the project APE, as well sample language to help guide mitigation measures to be developed for this project. Consultation is ongoing.

Background research and Native American consultation have not identified specific resources within the Project Site that may be tribal cultural resources. However, tribal consultation indicates that there is a high probability that resources that may be considered tribal cultural resources exist within the Project Site.

Due to the Project APE's sensitivity, an XPI study was also conducted to probe the APE for subsurface archaeological deposits. No resources were identified during the execution of the XPI for this project. Although the entire Project APE has been subject to surficial ground disturbance including farming and the construction of Marine Corps Station El Toro and despite the negative findings of the XPI, the likelihood of encountering native sedimentary deposits that may preserve significant archaeological remains increases with depth. With the implementation of Mitigation Measures CUL-2, TCR-1, TCR-2, and TCR-3, construction impacts to archaeological tribal cultural resources would be less than significant.

Construction Impacts

No tribal cultural resources were identified within the Project Site as a result of background research or Native American consultation. However, Project construction requires ground-disturbing activities that have the potential to impact archaeological resources that may be eligible for inclusion in the NRHP, CRHR, or local register, or that may otherwise be of significance to a California Native American tribe. Unknown archaeological resources may be encountered during ground-disturbing activities associated with the Project, with the sensitivity for archaeological tribal cultural resources increasing with depth.

Compliance with TCR-3 would ensure tribal input is included in the treatment and final disposition of any resources of Native American origin encountered during ground-disturbing activity.

Operational Impacts

Operation of the OCMF would result after the complete excavation of the Project Site. Operation of the OCMF is not anticipated to result in the disturbance of any additional native soils. Therefore, no operational impacts would occur related to archaeological resources that may be tribal cultural resources.

3.19. UTILITIES AND SERVICE SYSTEMS

Would the project:		Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
3.19.3.1	Require or result in the relocation or construction of new or expanded water, wastewater treatment or storm water drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects?	☐	☐	☒	☐
3.19.3.2	Have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years?	☐	☐	☐	☒
3.19.3.3	Result in a determination by the wastewater treatment provider which serves or may serve the project that is has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?	☐	☐	☐	☒
3.19.3.4	Generate solid waste in excess of State or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals?	☐	☐	☐	☒
3.19.3.5	Comply with federal, state, and local management and reduction statutes and regulations related to solid waste?	☐	☐	☐	☒

3.19.1. Existing Conditions

The Project Site is adjacent to existing water, sewer, storm, gas, and underground electrical and communication lines on Ridge Valley, Marine Way, and Skyhawk. IRWD owns several water facilities including a 12-inch PVC potable water mainline on Marine Way and multiple PVC reclaimed water lines that tie into a shallow groundwater unit (SGU) pump next to the northeast corner of the Project Site. Additionally, a six-inch reclaimed water line is located approximately 80-feet from the westerly edge of the site. There are 12-inch and 24-inch IRWD sewer lines located on Ridgeway Valley and Skyhawk that transverse underneath the Metrolink ROW. Bee Canyon Channel and other storm drain lines of varying sizes run on Ridge Valley and Skyhawk. An SCE duct bank and 30-inch SCG line runs parallel with the railroad track alignment within the SCRRA Orange Subdivision ROW is south of the proposed OCMF perimeter road.

Some existing and abandoned utilities are within the Project Site. Metrolink's Composite Utility Plan suggests that one 24-inch corrugated metal pipe storm drain would require removal (Figure 3.19-1). A sanitary sewer line, a 30-inch SCG gas line, and a 2-inch MCI communication (subsidiary of Verizon) conduit line would require protect-in-place measures. Two DON groundwater monitoring wells exist on the Project Site; one well would require relocation.

Utility as-builts (Figure 3.19-2) from IRWD show multiple sewer and storm drain manholes that can serve as future connections for the Project. Similarly, a water service feed stub-out wye from the 12-inch IRWD waterline on Marine Way is oriented towards the Project Site and can serve as a future connection point.

The regulatory framework set forth by the State of California and the City of Irvine would require the Project to implement waste reduction detailed in the Regulatory Framework Section below. The Project encompasses over 5,000 square feet and would be subjected to the City's Pre-Project Waste Management Plan per City Council Ordinance No. 07-18.

3.19.2. Regulatory Framework

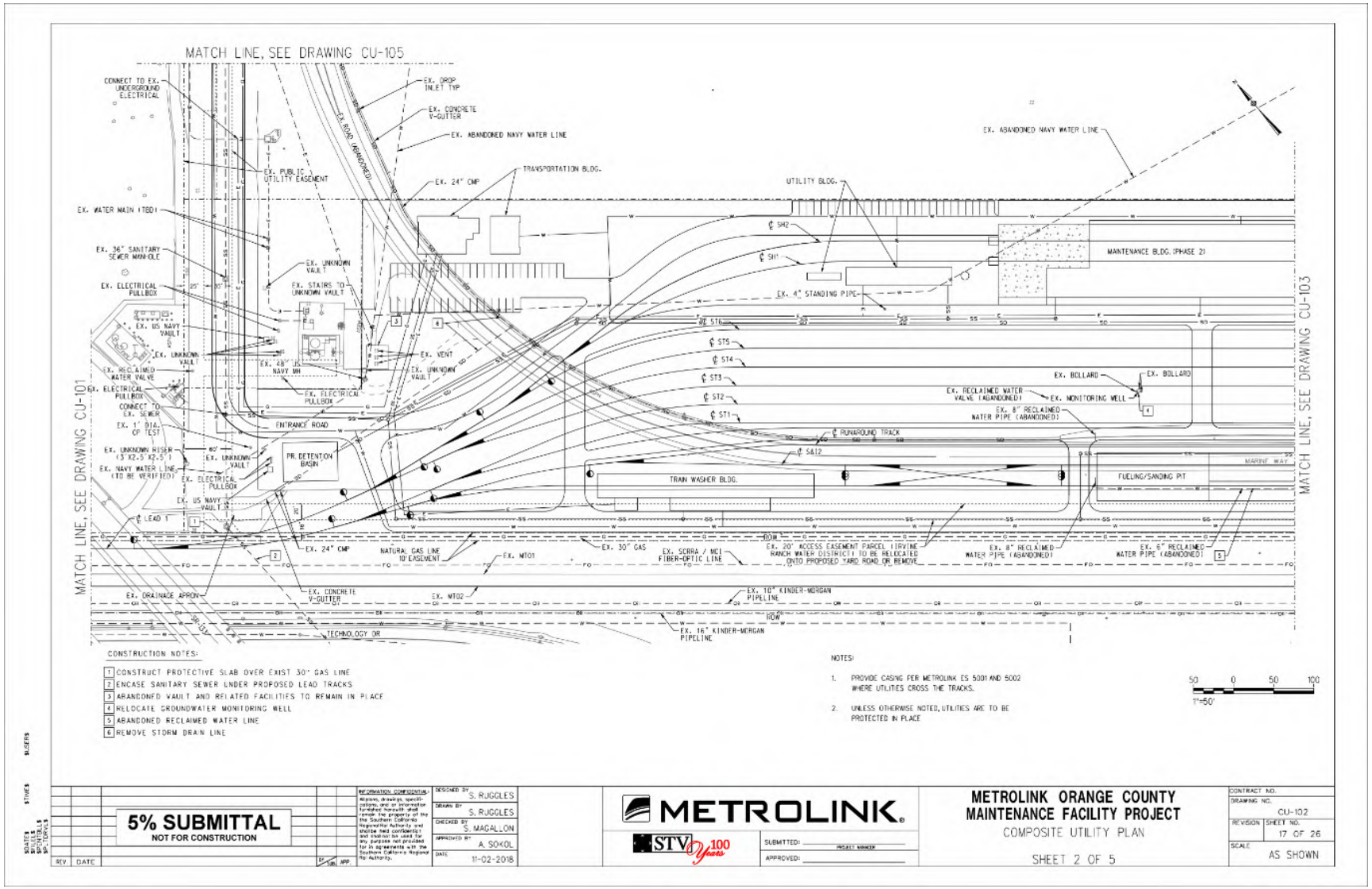
State

Integrated Solid Waste Management Act (AB 939) - AB mandates each city and county to develop and implement waste reduction and recycling plans. AB 939 requires all jurisdictions to divert 50 percent of solid waste generated (as compared to 1990 levels) from landfills by the year 2000.

Local

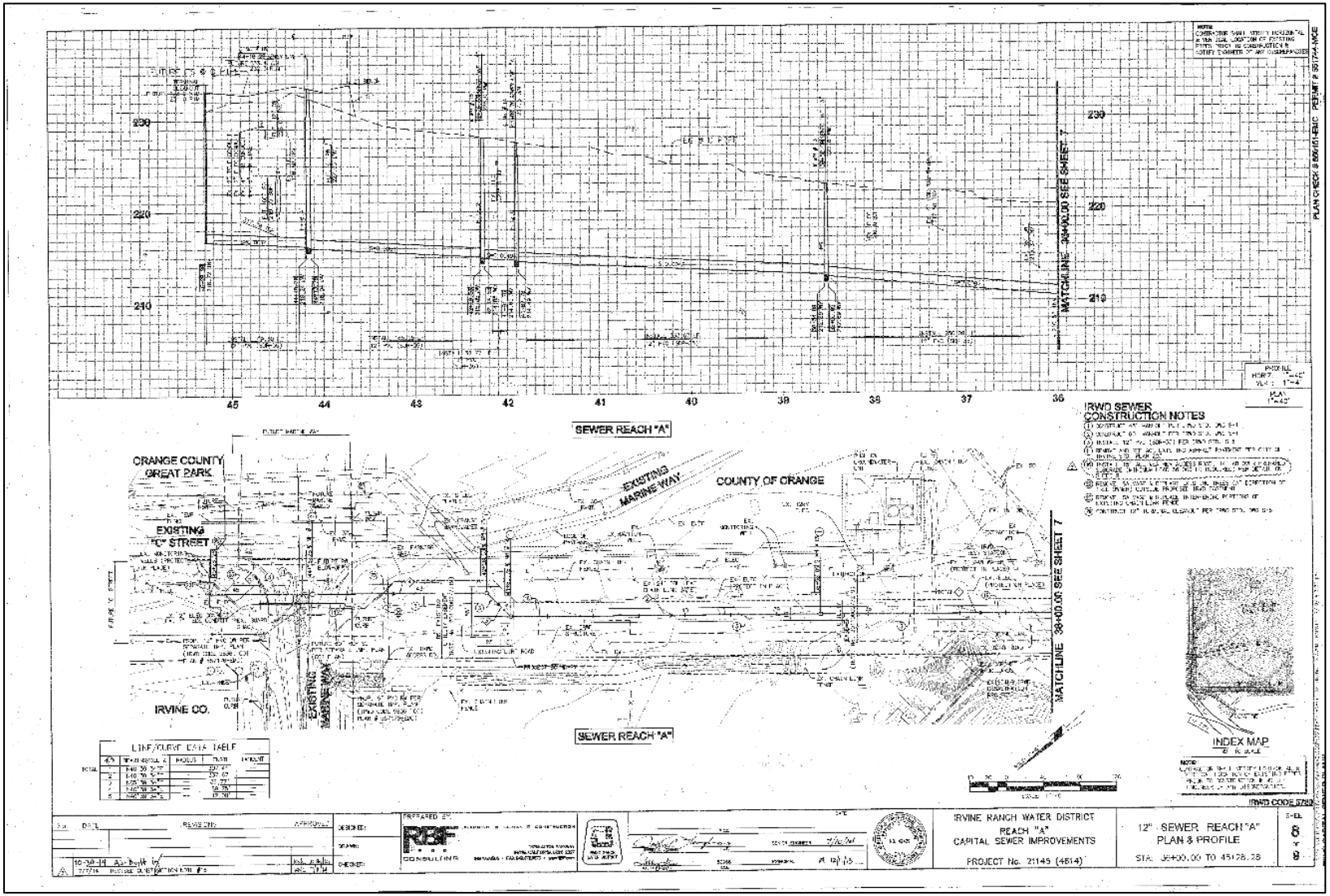
Irvine City Council Ordinance No. 07-18 - Projects involving new non-residential development of at least one structure with a Project Site of 5,000 square feet or greater require a Pre-Project Waste Management Plan (WMP) from the City of Irvine Department of Public Works. The ordinance requires the City of Irvine to implement source reduction and recycling plans to reach landfill diversion goals to regulate the volume of waste materials going to landfills and to otherwise remain in compliance with AB 939. The ordinance requires at least 75 percent of all concrete and asphalt construction and demolition debris and 50 percent of all other construction and demolition debris generated by an approved Project to be delivered to a material recovery facility, wherein the material would be recycled or diverted from landfills.

Figure 3.19-1: Metrolink Composite Utility Plan



Source: Metrolink, 2019

Figure 3.19-2: IRWD Capital Water Line Improvement As-Builts



Source: IRWD, 2014

3.19.3. Discussion

3.19.3.1. Would the Project require or result in the relocation or construction of new or expanded water, wastewater treatment or storm water drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects?

Determination: LESS THAN SIGNIFICANT IMPACT

Construction and Operational Impacts

The Project would require the relocation of existing drainage facilities as well as the installation of new drainage infrastructure for new storage and grading needs. It is anticipated that new or expanded water or stormwater drainage for the Project would tie into existing City and County facilities within the Project Site. Additionally, existing electrical, natural gas, and telecommunication facilities would require protect-in-place measures. In addition to typical fire service (hydrant) and sanitary facilities, other project needs include the expansion of water, gas, and sanitary services for proposed train wash operations and emergency fixtures (safety shower/eyewash), which would tie into existing facilities located along the permitter of the Project Site.

Sanitary waste would be generated during construction activities and for building facilities during operation. As such, the construction of new underground wastewater pipes would occur as part of this Project. Michelson Water Recycling Plant in Irvine has been IRWD's primary source of recycled water for more than half a century. Tertiary treatment of sewage there results in excellent-quality recycled water, which is used for landscape and agricultural irrigation, and for industrial and commercial needs. IRWD is currently developing a new master plan that will identify optimal locations and methods for conveying, treating, and distributing sewage and recycled water within their service area. This includes an evaluation of expanding the capacity at Michelson Water Recycling Plant. As mentioned above, a water service feed stub-out wye from the 12-inch IRWD waterline on Marine Way is oriented towards the Project Site and can serve as a future connection point for sewer or wastewater drainage. As such, connections to this existing line would minimize construction of new or expanded wastewater facilities. Therefore, construction or operational impacts related to new wastewater drainage systems would be less than significant.

The Project would require the construction of new stormwater drainage facilities within the Project Site with the development of the access road and buildings. As such, a stormwater drainage system would be constructed to provide drainage for stormwater from the access road and other maintenance facility amenities. Because the Project is located within the SARWQCB's jurisdiction, it shall follow the Model WQMP that the OCFCD uses to address post-construction urban runoff and stormwater pollution from new developments or significant redevelopments. Additionally, the Project is within the Upper San Diego Creek Watershed, which is a high-risk receiving watershed. The San Diego Creek Reach 2 has established TMDLs

that need to be considered during the development of the WQMP. Based on this, the preferred BMP type would be infiltration, evapotranspiration, or harvest/use. Therefore, the Project would integrate a 115-foot by 115-foot by 5-foot deep underground cistern that would hold approximately 552,254 gallons for retention and capture/reuse.

The existing topography of the Project Site provides a drainage pattern that slopes from east to west. Runoff is collected at the surface via open earth channels and concrete drainage inlets and is then routed to the north end of the site through two 24-inch corrugated steel pipes. Runoff leaves the site through an open concrete channel and empties downstream into a channel owned by OCFCD. The Bee Canyon Channel, located on the south end of the site, runs east to west and does not take runoff from the Project Site. It is anticipated that this existing drainage pattern would not be altered or rerouted after the development of the OCMF. The existing outlet discharges and volumes would also be maintained so that the OCFCD facilities are not impacted. Prior to construction, a drainage analysis shall be performed to establish the Project requirements in order to establish the correct sizing of the drainage facilities. Implementing standard construction practices such as Best Available Technology Economically Feasible (BATs), Best Conventional Pollutant Control Technology (BCTs), and BMPs would help reduce potential impacts related to stormwater drainage systems. Therefore, construction or operational impacts related to new stormwater drainage systems would be less than significant.

As discussed in the Project Description, the Project would reprofile Bee Canyon Channel. This will result in a lower Hydraulic Grade Line and a 2.5-feet channel drop at the inlet of the 60-inch reinforced concrete pipe lateral to the channel. An existing 30-inch SCG crosses the storm drain perpendicularly and would require relocation and/or protect in place measures to maintain vertical clearance from the invert of the storm drain. The Project would require the construction of electrical and telecommunication facilities, such as lighting, wireless security cameras, and information panels. However, construction or operational impacts related to the expansion of electrical and telecommunication facilities would be minimal and less than significant.

3.19.3.2. Would the Project have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years?

Determination: <u>NO IMPACT</u>

Construction and Operational Impacts

IRWD provides water supply for areas within the Project Site and for more than 370,000 residents in its service area. IRWD's drinking water comes from two primary sources: local groundwater and imported water. The blending of these sources varies according to the time of year and the geographic location within the IRWD. Approximately 48 percent of the overall supply comes from local groundwater wells in the Orange County Groundwater Basin, and the

Irvine and Lake Forest sub-basins. The Dyer Road Wellfield Project extracts low-cost, high-quality water from deep within the Orange County Groundwater Basin. IRWD now operates 25 groundwater wells within its service area. IRWD imports 27 percent of its water through the Municipal Water District of Orange County, which purchases water from the Metropolitan Water District of Southern California (MWD), a regional water wholesaler that delivers imported water from Northern California and the Colorado River.

Additionally, IRWD produces approximately a quarter of the recycled water supply by capturing water that normally would run out to the ocean, treating it, and reusing it for irrigation and other non-potable, or non-drinking, uses. IRWD supplements their supplies by cleaning non-potable groundwater to make it suitable for irrigation.

IRWD manages its supply and demand with careful research and analysis regarding flow, diversions, climate, customer demand, and population estimates to ensure an adequate supply of clean, reliable water well into the future. Since future land use within the Project Site is designated for the Great Park use, it is assumed sufficient water supplies would be available to serve the Project and future developments during normal, dry and multiple dry years.

During Project operations, water irrigation would be required for landscape within the Project Site and for train washing activities. In addition, the proposed OCMF would require onsite irrigation that would be tied to an existing recycled water main line located on Ridge Valley. Domestic water requirements are estimated under 250 gallons per minute (gpm) and would require a two to four-inch connection line to an existing 12-inch water main line on Marine Way, which would adequately support the project needs. Therefore, no construction or operational impacts related to having sufficient water supplies would occur.

3.19.3.3. Would the Project result in a determination by the wastewater treatment provider which serves or may serve the project that is has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?

Determination: <u>NO IMPACT</u>

Construction and Operational Impacts

As described under Impact 3.19.3.1, the Project would generate wastewater from building facilities with restrooms, as well as for train washing. As described under Impact 3.19.3.1, the Project would require the construction of new underground wastewater pipes, that would tie into existing utilities located on Marine Way. A 12-inch sewer line and a 24-inch IRWD sewer line are located on Ridge Valley and Skyhawk, and transverse underneath the SCRRA Orange Subdivision ROW. A water service feed stub-out wye from a 12-inch IRWD waterline on Marine Way is oriented towards the Project Site, which can serve as a future connection point.

Wastewater produced by restrooms would not likely exceed existing capacity. Wastewater was estimated under 150 gpm and would be connected to the existing 12-inch sanitary sewer main line fronting the property on Ridge Valley via a proposed four to eight-inch service line. Water and service connection requirements are being coordinated with the IRWD and OCFA. As such, no construction or operational impacts would occur that would result in a determination by the wastewater treatment provider that is has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments.

3.19.3.4. Would the Project generate solid waste in excess of State or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals?

Determination: <u>NO IMPACT</u>

Construction and Operational Impacts

During Project construction and operations, waste would be disposed of by using bins for both recycling and waste material in compliance with IRWD, local, state, and federal criteria, standards, regulations, or laws, and would be disposed of through a commercial collector. Solid waste collected during construction within the Project Site would be sent to the Prima Deshecha Landfill approximately 20 miles south in the City of San Juan Capistrano within Orange County. Any contaminated soil removed from the Project Site as a result of grading activities would require testing by California ELAP Certified Laboratories for amounts more than 5 cubic yards. The laboratory would submit a report to a Materials Regulation Specialist who would review the lab results and determine if the soil meets criteria for disposal. The landfill is owned and operated by Orange County. The total acreage permitted is 1,530, with 697 acres designated for waste disposal. The Prima Deshecha landfill has a projected capacity to serve residents and businesses until approximately 2102. As such, there is adequate capacity at the landfill site within Orange County to dispose of solid waste from Project construction. The Project would need to notify the appropriate agencies (e.g., OCHCA, DTSC, or the RWQCB) since soil and groundwater contamination is possible due to the MCAS El Toro site.

As discussed in Section 3.10 Hydrology and Water Quality, the Project would be required to obtain the NPDES General Construction Permit, which requires that the Project develop and implement a SWPPP as the primary compliance mechanism. The SWPPP would include BMPs that address source control, BMPs that address pollutant control, and BMPs that address treatment control.

During Project operations, solid waste would be collected by underground pipes that would connect to existing utilities on Marine Way that would transfer wastewater from the Project Site. The Project would also be required to divert (recycle) 50 percent of the solid waste generated by both construction and operation to comply with the 50 percent solid waste diversion rate mandated by the California Integrated Waste Management Act of 1989 (AB

939). Additionally, monitoring of the Project WQMP and the integration of BMPs would reduce impacts related to solid waste. As such, no construction or operational impacts would occur that exceed state or local standards, including excess capacity of local infrastructure that would impair the attainment of solid waste reduction goals.

3.19.3.5. Would the Project comply with federal, state, and local management and reduction statutes and regulations related to solid waste?

Determination: NO IMPACT

Construction and Operational Impacts

As described in Impact 3.19.3.1 through Impact 3.19.3.4 above, construction and operation of the Project would meet the requirements of applicable federal, state, and local statutes for regulating solid waste. This is accomplished by implementing BATs, BCTs, and BMPs, as well as applying for all the required water and disposal permits from the City and County for construction and operation permits. Therefore, no construction or operational impacts related to compliance with federal, state, and local statutes and regulations related to solid waste would occur.

3.20. WILDFIRE

If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project:		Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
3.20.3.1	Substantially impair an adopted emergency response plan or emergency evacuation plan?	☐	☐	☐	☒
3.20.3.2	Due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose project occupants to, pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire?	☐	☐	☒	☐
3.20.3.3	Require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment?	☐	☐	☒	☐
3.20.3.4	Expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slop instability, or drainage changes?	☐	☐	☒	☐

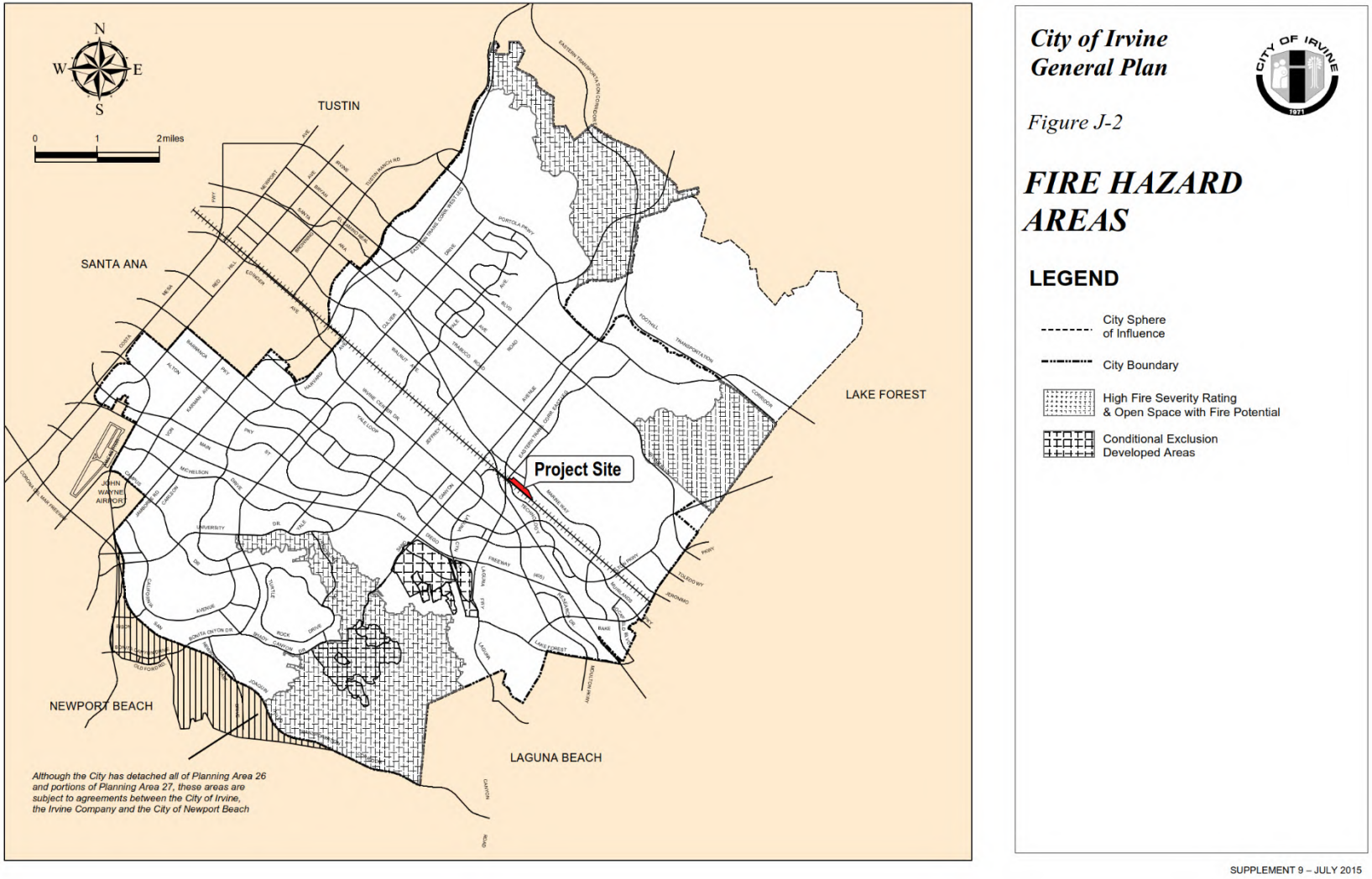
3.20.1. Existing Conditions

According to the City of Irvine General Plan's Safety Element, the Project Site is not within fire hazard areas (Figure 3.20-1). Additionally, according to the CAL FIRE Fire and Resource Assessment Program, the Project Site is not within or near a Very High Fire Hazard Severity Zone of a State or Local Responsibility Area (Figure 3.20-2).

The Project Site is located in a developed portion of the City. According to the track plan and profile developed for this Project, the Project Site is relatively flat (up to 2 percent grading) and there are no significant slopes adjacent to the site. The Project does not include any characteristics (such as permanent road closure or long-term blocking of road access) that would physically impair or otherwise conflict with the City's Emergency Preparedness Program.

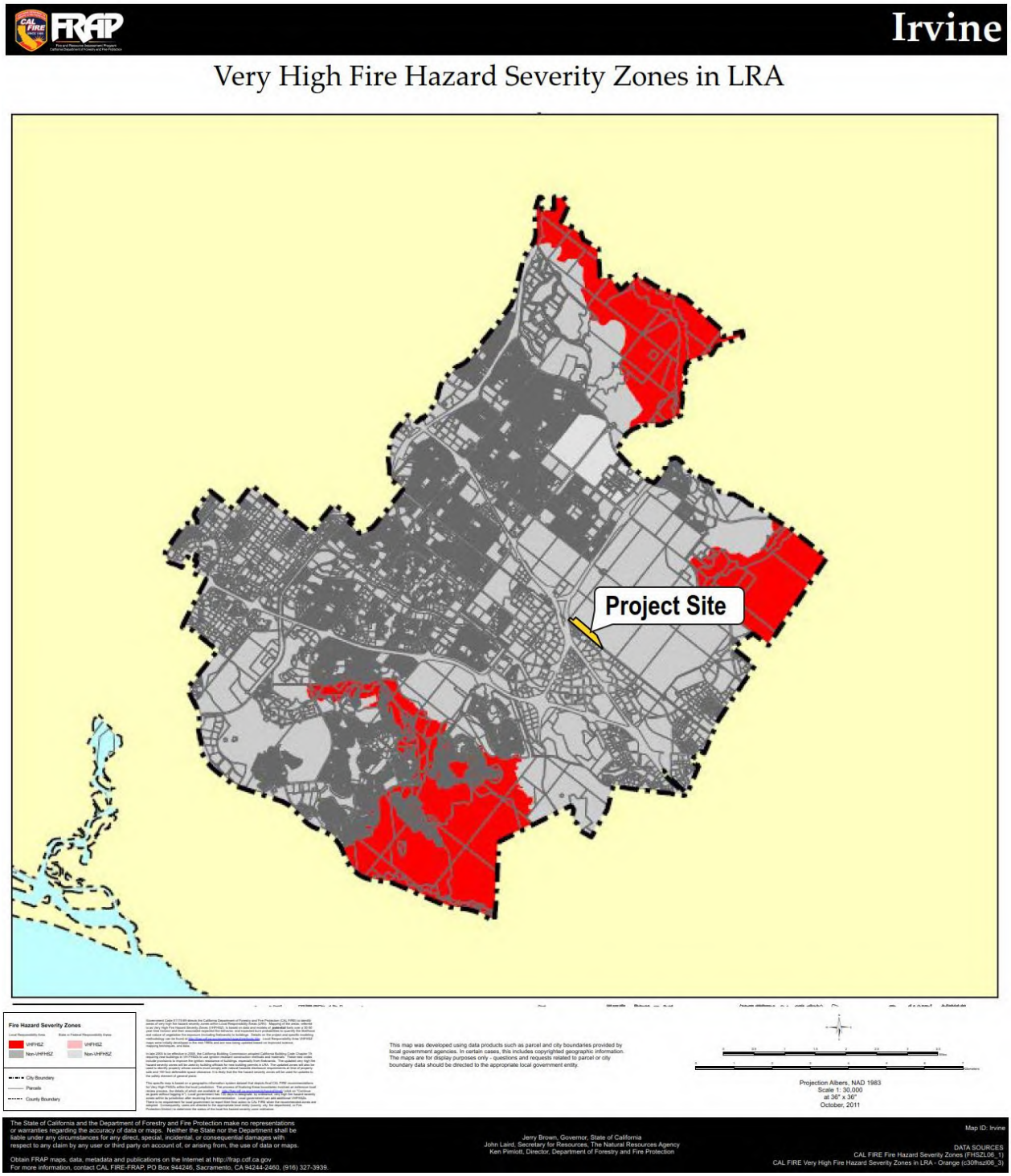
The Project is in an urbanized area and would require wet and dry utilities service connections from existing mainlines in the vicinity of the Project Site. In addition, a 30-inch SCG line runs longitudinally along the east edge of the railroad ROW. The extension of the tracks to and from the Project Site would necessitate a crossing of the line. Appropriate protect-in-place details incorporated into the track design would be required and coordinated with the utility owner.

Figure 3.20-1: City of Irvine Fire Hazard Areas



Source: City of Irvine, 2015

Figure 3.20-2: City of Irvine Very High Fire Hazard Severity Zones in LRA (CAL FIRE)



Source: Office of the State Fire Marshal, 2011

Moreover, the Project Site is not in a flood hazard zone according to the Safety Element of the General Plan; based on the FEMA Flood Insurance Rate Map (FIRMs) (panel number 06059C0315J, dated December 3, 2009), the Project Site is within Zone X, which is defined as an area of minimal flooding.

3.20.2. Regulatory Framework

State

California Fire Plan - The Project would comply with terms where applicable as listed in the California Fire Plan, which is a roadmap for reducing the risk of wildfire through planning and prevention.

Regional

County of Orange and Orange County Fire Authority Local Hazard Mitigation Plan - The County of Orange and Orange County Fire Authority Local Hazard Mitigation Plan promotes "sound public policy designed to protect residents, critical facilities, infrastructure, key resources, private property, and the environment from natural hazards in County unincorporated area, fire hazards in the OCFA service area, and County and OCFA owned facilities."

Orange County Fire Authority - OCFA has set forth fire prevention guidelines in the Fire Master Plans for Commercial and Residential Development Guideline B-09. The document is a general guideline pertaining to the creation and maintenance of fire department access roadways, access walkways to and around buildings, and hydrant quantity and placement as required by the 2016 California Fire and Building Codes and as amended by local ordinance.

Local

City of Irvine Standard Condition 4.9 (Emergency Access Inspection) - An inspection would need to be arranged prior to the Project opening, which is to be performed by the Police Department and OCFA, to ensure compliance with the Emergency Access Plan requirements. Test acceptance and locations of all Knox boxes, key switches, and Click2Enter devices as depicted on the approved plan would need to be verified.

City of Irvine the Irvine Uniform Security Code Sec. 5-9-518. Special parking facilities provisions:

Structures or fencing designed to screen trash enclosures from public view shall be designed with no more than three solid walls and (an) access gate(s). They shall be designed in such a manner as to allow a maximum of six inches clearance between trash bins, walls and gates.

Exterior pedestrian doors which provide access into the parking facility, shall be constructed and equipped as follows:

1. A minimum 18-gauge steel and equipped with automatic hydraulic closure device.

2. A minimum 100-square-inch vision panel, with the width not less than five inches, to provide visibility into the area being entered. Vision panels shall meet requirements of the Uniform Building Code.
3. Vision panels shall preclude manipulation of the interior locking device from the exterior.
4. No openings within twenty-four inches of the locking device which would allow a piece of metal, 1/16-inch diameter or greater to be inserted and access gained to the interior side of the door.
5. When panic hardware is required, it shall have a self-locking mechanism and be constructed/equipped.
6. Emergency exits not intended as a primary entrance shall have no exterior handles, knobs, or levers.
7. Hinges shall be equipped with nonremovable hinge pins or a mechanical interlock to preclude removal of the door from the exterior by removing the hinge pins.

Sec. 5-9-519. Emergency access:

Private roads and parking areas or structures controlled by unmanned mechanical parking type gates shall provide for police emergency access utilizing an approved key switch device and designed as follows:

1. A control pedestal consisting of a metal post/pipe shall be installed at a height of 42 inches and a minimum of 15 feet from the entry/exit gate. It shall be located on the driver's side of the road or driveway and accessible in such a manner as to not require a person to exit their vehicle to reach it; nor to require any back-up movements in order to enter/exit the gate.
2. A control housing consisting of a heavy gauge metal, vandal and weather resistant square or rectangular housing which shall be installed on the top of the control pedestal. The key switch is to be mounted on the side facing the roadway.

Nonresidential multi-tenant buildings utilizing electronic access control systems on the main entry doors, and enclosed retail shopping centers shall provide police emergency access utilizing an approved key switch-device or approved key vault which shall be installed as follows:

1. All doors using an electromagnetic type lock shall install a key switch device within the building's exterior telephone/intercom console or in a control housing as described in section (a)(2) above, located within close proximity and in a visible area near the door.
2. Exterior main entry doors of an enclosed shopping center utilizing mechanical door locks shall install a key vault within close proximity and in a visible area near the door.

City of Irvine Municipal Code, Title 5 (Planning), Division 9 (Building Regulations) - The code provides regulations on the state fire code with local considerations, which would require compliance.

City of Irvine Local Hazard Mitigation Plan - The Plan provides a comprehensive assessment of threats that the City faces (both natural and man-made), as well as an assessment of the current conditions. The Project would comply with the strategy developed as part of this plan to lessen the vulnerability and severity of future disasters and hazardous situations.

3.20.3. Discussion

3.20.3.1. Would the Project substantially impair an adopted emergency response plan or emergency evacuation plan?

Determination: NO IMPACT

Construction and Operational Impacts

The City of Irvine's Local Hazard Mitigation Plan (LHMP) focuses on minimizing the harm caused by a disaster. The LHMP provides a comprehensive assessment of the threats that the City faces from natural and human-caused hazard events and a coordinated strategy to reduce these threats. The Project Site is in an urbanized area not located in a Fire Hazard Zone and, therefore, would not be subject to wildland fire risks. The Project does not include any characteristics such as permanent road closure or long-term blocking of road access that would physically impair or otherwise conflict with the City's Emergency Preparedness Program. Furthermore, the Project shall comply with fire prevention regulations codified by local, regional, and state authorities. Emergency access roadways would be designed to meet OCFA fire prevention guidelines (Guideline B-09) and City Ordinance provisions Sec. 5-9-519 Emergency access. The OCMF would comply with the 2019 California Fire Code Part 9, Title 24 CCR. The City of Irvine Standard Condition 4.9 shall require an inspection by the Police Department and OCFA prior to the Project opening, to ensure compliance with the Emergency Access Plan requirements. Therefore, no construction or operational impacts related to substantially impairing an adopted emergency response plan or emergency evacuation plan would occur.

3.20.3.2. Would the Project, due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose project occupants to, pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire?

Determination: LESS THAN SIGNIFICANT IMPACT

Construction and Operational Impacts

The Project is not located in a Fire Hazard Zone according to the City of Irvine General Plan. In Southern California, the most common type of severe wind event is Santa Ana winds, which are often the leading cause of wildfires in California. While the City of Irvine is often affected by Santa Ana winds blowing through the Santa Ana Mountain range, the Project Site is in an urbanized area wherein the existence of brush and dry plant material would not exist during construction or operations. The City notes that sometimes the start of wildfires may occur if

power lines located around overgrown trees or fuel cause a spark and ignite a fire. Existing electrical lines within the Project Site are underground and the service feeds associated with the Project would also be routed underground. The Project Site's profile would be flat with drainage and track grade ranging at approximately 1 percent slope. As a result, construction and operational impacts related to the Project, due to slope, prevailing winds, and other factors, that would exacerbate wildfire risks, and thereby expose Project occupants to pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire would be less than significant.

3.20.3.3. Would the Project require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment?

Determination: <u>LESS THAN SIGNIFICANT IMPACT</u>

Construction and Operational Impacts

While the addition of utility service feeds would be required for the OCMF, the Project is in an urbanized area where utility mainlines already exist in the vicinity of the Project Site. Electrical service feeds for the OCMF would tie into an existing underground duct bank. Roadways within the Project Site would meet design standards to allow for emergency services per OCFA (OCFA, 2020). Additionally, the OCMF would be designed to meet building codes per City of Irvine Municipal Code, Title 5, Division 9. Building design, materials, and operations would comply with state regulations set forth in the 2019 California Fire Code Part 9, Title 24 CCR. Therefore, construction and operational impacts related to the installation and maintenance with associated infrastructure that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment would be less than significant.

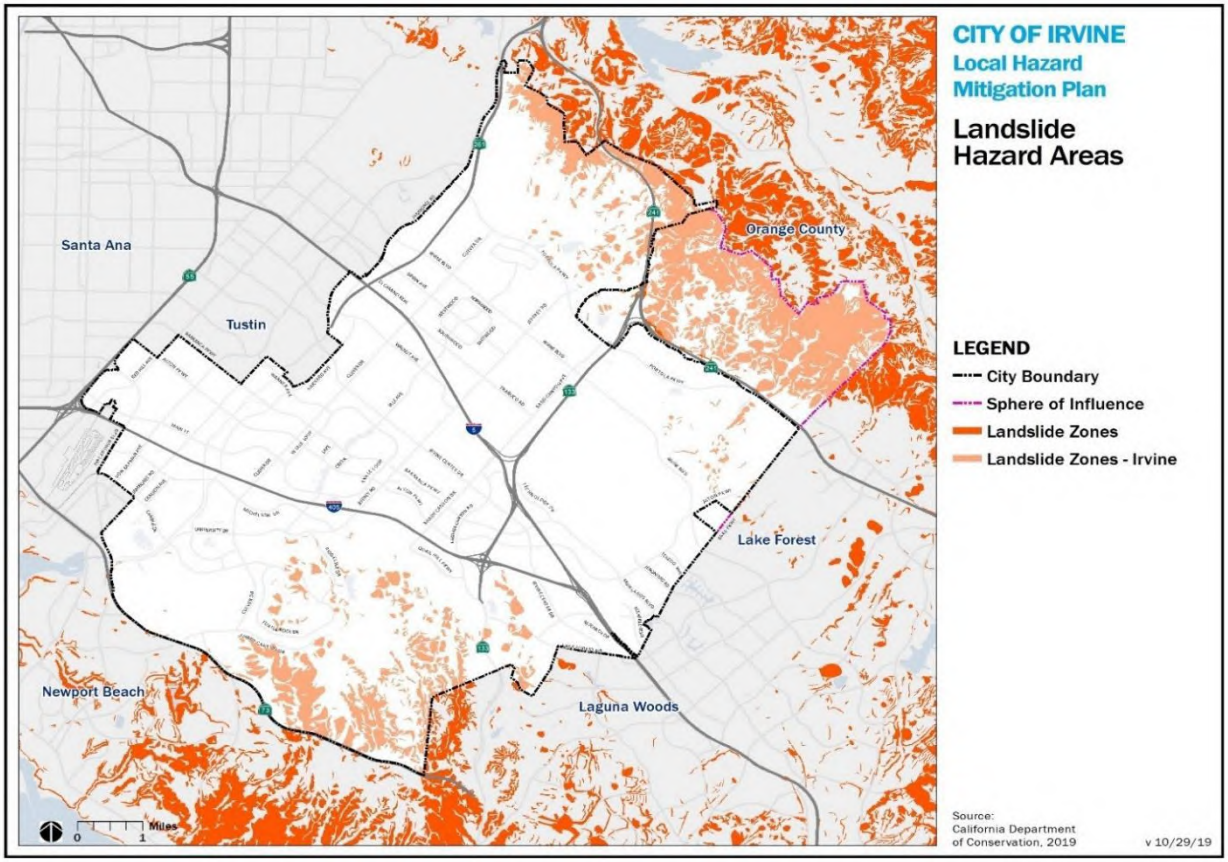
3.20.3.4. Would the Project expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slop instability, or drainage changes?

Determination: <u>LESS THAN SIGNIFICANT IMPACT</u>

Construction and Operational Impacts

A majority of the City's identified landslide hazards are located in the foothills of the San Joaquin Hills and Santa Ana Mountains. These areas are characterized by steep slopes that have the potential to create landslides after long periods of heavy rainfall. The Project Site is not located in a landslide zone (Figure 3.20-3) and, as a result, would not be susceptible to landslides or post-fire slope instability. As discussed in the Section 3.10.3.1 Hydrology and Water, the existing topography of the site provides a drainage pattern that slopes from east to west. The Project's final grading configuration would have a similar direction of flow as that of

Figure 3.20-3: City of Irvine - Landslide Hazards



Source: City of Irvine, 2019

the existing topography. Underground cisterns would be located in the northern corner of the Project Site underneath the proposed parking lot and would provide enough storage to contain the Design Capture Volume and collect excess stormwater runoff. As a result, stormwater runoff and drainage changes related to the Project would not induce any downslope or landslides. Post-fire slope instability would also not be of concern since the Project is not within a landslide hazardous area.

The Project Site is not located in a flood hazard zone according to the Safety Element of the General Plan. Based on the FEMA FIRMs (panel number 06059C0315J, dated December 3, 2009), the Project Site is within Zone X, which is defined as an area of minimal flooding. Additionally, reconfigurations of Bee Canyon Channel would match runoff conditions since the existing concrete-lined bottom is impervious. Bee Canyon Channel's drainage would have similar drainage capacity and runoff conditions as in existing conditions. Therefore, construction and operational impacts related to the Project's exposure to people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes would be less than significant.

3.21. MANDATORY FINDINGS OF SIGNIFICANCE

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
1) Does the project have the potential to substantially degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, substantially reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?	☐	☒	☐	☐
2) Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects)?	☐	☐	☒	☐
3) Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?	☐	☒	☐	☐

3.21.1. Discussion

3.21.1.1. Does the Project have the potential to substantially degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, substantially reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?

Determination: <u>LESS THAN SIGNIFICANT WITH MITIGATION INCORPORATED</u>

Construction and Operational Impacts

Refer to Sections 3.4 Biological Resources, 3.5 Cultural Resources, and 3.7 Geology and Soils.

Mitigation measures MM-BIO-1 and MM-BIO-2 would reduce any potential impacts related to degrading the quality of the environment, substantially reducing the habitat of a fish or

wildlife species, causing a fish or wildlife population to drop below self-sustaining levels, threatening to eliminate a plant or animal community, substantially reducing the number or restrict the range of a rare or endangered plant or animal to less than significant.

Mitigation measures MM-CUL-1, MM-CUL-2, MM-GEO-1, and MM-GEO-2 would reduce any potential impacts related to eliminated important examples of the major periods of California history or prehistory to less than significant.

Therefore, impacts would be less than significant with mitigation incorporated.

3.21.1.2. Does the Project have impacts that are individually limited, but cumulatively considerable?

Determination: <u>LESS THAN SIGNIFICANT IMPACT</u>

Construction and Operational Impacts

The related projects (

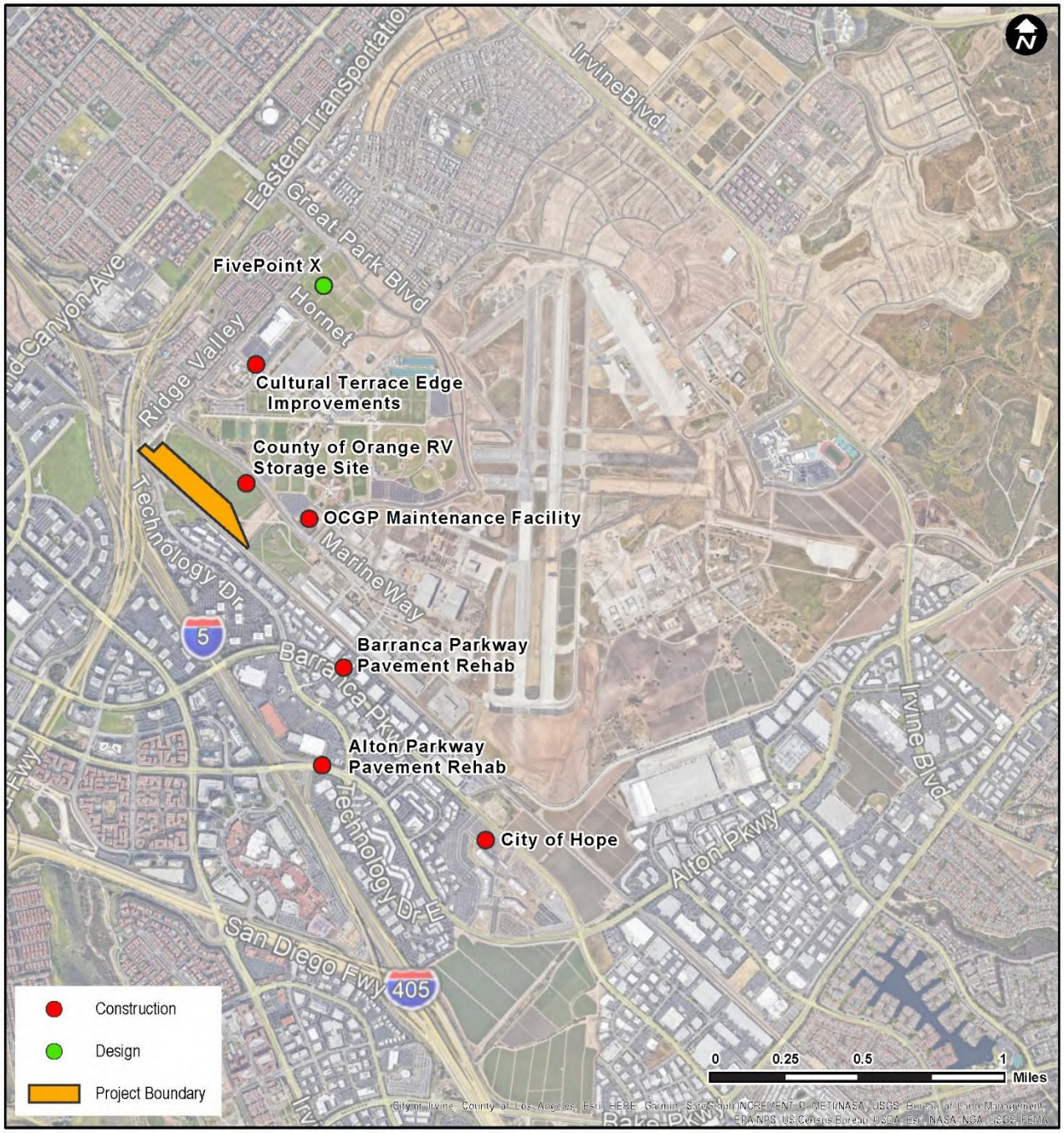
Figure 3.21-1) that would be in construction or be developed during the construction and operations of the Project include:

1. Great Park Maintenance Facility – The City of Irvine has design plans to expand the maintenance facility that serves and maintains the Great Park, and Bee and Bosque Trail. The location of the proposed maintenance facility is near the intersection of Marine Way and Skyhawk and approximately 850 feet from the Project Site. Construction is scheduled to begin in Summer 2022.

   The Great Park Maintenance Facility would require construction related vehicles. In the event that the construction of the Project and the Great Park Maintenance Facility project occur simultaneously, it is anticipated that Marine Way would experience a temporary increase in VMT from both projects. As a decommissioned military site, the area surrounding the Project Site has a limited roadway network and the projects would utilize Marine Way as a primary roadway to access the I-5 freeway during construction. The increase in traffic impacts as a result of the Great Park Maintenance Facility's construction activities would be less than the Project due to the nature of the Great Park Maintenance Facility's size and lesser extent of its construction scope. Therefore, the impacts related to traffic due to the Project and the Great Park Maintenance Facility would not be cumulatively considerable.

   The Great Park Maintenance Facility exists within a portion of the MCAS El Toro Superfund site and would impact the ongoing military clean-up site operations. This project would be required to implement measures to reduce significant impacts in separate environmental approval processes and would therefore be required to comply with the regulatory frameworks set forth by federal, state, and local agencies concerning hazardous materials. Therefore, the impacts related to hazardous materials due to the Project and the Great Park Maintenance Facility would not be cumulatively considerable.

Figure 3.21-1: Related Projects



Source: City of Irvine, 2021

2. Barranca Parkway Pavement Rehab – This project consists of pavement rehabilitation from the I-5 Freeway to Ada. Specific improvements include cold mill damaged roadway and pave rubberized asphalt concrete, construction of ADA-compliant access ramps and driveways, and reconstructing damaged curb, gutter and sidewalk. Construction began March 2021 and will be completed in November 2021.

   In addition to the one-mile distance between the two projects, the existing Metrolink ROW serves as a physical barrier between the Barranca Parkway Pavement Rehab and the Project. Geographical constraints (distance of projects and existing Metrolink ROW barrier) and lack of construction overlap would result in no cumulatively considerable impacts.

3. Cultural Terrace Roadway Edge Improvements – The project consists of continuing the Great Park landscape into the Cultural Terrace road network. Construction activities include improving the edge conditions along future roadways in the Cultural Terrace including landscape, sidewalks, lighting, irrigation, signage, and water quality. The project location is bounded by Marine Way, Skyhawk, and Great Park Avenue and is approximately 0.25 miles from the Project Site. The start date for construction has not been determined.

   The Cultural Terrace Roadway Edge Improvements project would require construction related vehicles. As a decommissioned military site, the area surrounding the Project Site has a limited roadway network. In the event that the construction of the Project and the Cultural Terrace Roadway Edge Improvements project occur simultaneously, it is anticipated that Marine Way would experience a temporary increase in VMT. The projects would utilize Marine Way as one of the primary roadways to access the I-5 freeway. However, the Cultural Terrace Roadway Edge Improvements project would utilize Skyhawk and Great Park Boulevard as alternative routes for access to the I-5 freeway. Additionally, the increase in traffic as a result of the Cultural Terrace Roadway Edge Improvements would be less than the Project due to the project's scope of construction. Therefore, the impacts related to traffic due to the Project and the Cultural Terrace Roadway Edge Improvements would not be cumulatively considerable.

   The Cultural Terrace Roadway Edge Improvements project exists within a portion of the MCAS El Toro Superfund site and would impact the ongoing military clean-up site operations. This project would be required to implement measures to reduce significant impacts in separate environmental approval processes and would therefore be required to comply with the regulatory frameworks set forth by federal, state, and local agencies concerning hazardous materials. Therefore, the impacts related to hazardous materials due to the Project and the Cultural Terrace Roadway Edge Improvements project would not be cumulatively considerable.

4. FivePoint X – This new mixed-use commercial project would be located just south of the Great Park Neighborhoods. The project is approximately one-half mile from the Project Site and is bound by Great Park Boulevard, Ridge Valley, and Hornet. The commercial center is designed to provide amenities for Great Park visitors and neighboring residential communities. Two hotels situated along Hornet and a warehouse for operations and shopping will also be part of the project. This project has been approved by the City; however, the construction start date has not been determined. The Irvine City Council approved the Orange County Great Park (OCGP) Final Environmental Impact Report (FEIR) on May 27, 2013, which outlines roadway and utility improvements for future developments within the Great Park.

   Due to the nature of the project and its location, in the event that the FivePoint X development and the Project would be constructed simultaneously, it is anticipated that impacts on traffic, utilities, noise, and hazardous materials could be cumulatively considerable. The FivePoint X development would require construction related vehicles, new or expanded water and wastewater utilities, and would be located on decommissioned military site. The area surrounding the project site has a limited roadway network and the project would utilize Ridge Valley and Marine Way as primary roadways to access the I-5 freeway during construction. As such, it is anticipated that Ridge Valley and Marine Way would experience a temporary increase in VMT from both projects. The 2013 OCGP EIR concluded that all transportation impacts resulting from increased traffic congestion in relation to the existing traffic load and capacity of the street system would result in less than significant impacts with mitigation incorporated. The report also concluded that impacts to emergency vehicle access would be less than significant with mitigation incorporated. The increase in traffic impacts as a result of the FivePoint X development construction activities would be less than the Project due to the distance from the Project Site and the number of alternative roadways, including Great Park Boulevard and Ridge Valley, that can be used to access the site. Therefore, impacts related to increased traffic due to the Project and FivePoint X development would not be cumulatively considerable.

   The FivePoint X development would require the construction of utilities and service systems. Commercial and residential projects typically result in increased demands on water supply, and more substantial generation of wastewater and solid waste. In the event that the construction and operations of the Project and FivePoint X development occur simultaneously, it is anticipated that an increase in sufficient water supplies would occur from both projects. However, the FivePoint X development would be required to comply with all applicable regulations and standards that control these utilities. In addition, mitigation measures outlined in the 2013 OCGP EIR would reduce impacts related to utilities, wastewater systems, and sufficient water supply to be less than significant during project construction and operations. Therefore, the impacts related to

utilities and service systems due to the Project and the FivePoint X development would not be cumulatively considerable.

The FivePoint X development would require the use of construction related vehicles and machinery. In the event that the construction of the Project and the FivePoint X development occur simultaneously, it is anticipated that a temporary increase in noise levels would occur from both projects. However, due to geographical constraints (distance of projects) and lack of construction overlap would result in no cumulatively considerable impacts.

The FivePoint X development exists within a portion of the MCAS El Toro Superfund site and would impact the ongoing military clean-up site operations. This project would be required to implement measures to reduce significant impacts in separate environmental approval processes and would therefore be required to comply with the regulatory frameworks set forth by federal, state, and local agencies concerning hazardous materials. Therefore, the impacts related to hazardous materials due to the Project and the FivePoint X development would not be cumulatively considerable.

5. City of Hope – This new cancer treatment center of approximately 60,000 square feet, as well as medical offices of approximately 190,000 square feet is located between Alton Parkway and Barranca Parkway approximately 1.4 miles southeast of the proposed OCMF site. Construction of the medical office was completed in December 2017, and a new aboveground parking structure is currently under construction along Barranca Parkway near the intersection of Marine Way, which is a separate roadway from the Marine Way used for the Project.

   The parking structure requires construction related vehicles and dewatering activities. In the event that the construction of the Project and the City of Hope parking structure occur simultaneously, it is anticipated that both projects would experience a temporary increase in water usage. Due to geological barriers (Metrolink ROW and separate roadway for Marine Way), any increase in VMT is not anticipated if both projects were to be constructed concurrently, and would not be cumulatively considerable.

   Operations of the City of Hope medical office and parking structure could also result in impacts to local utilities and service systems. Commercial projects typically result in increased demands on electrical and water supply, and the generation of wastewater and solid waste. This project would be required to comply with all applicable regulations and standards that control these utilities. Demand on utilities and services systems during operations would not result in new facilities being required and would not exceed applicable requirements. In addition, the existing Metrolink ROW serves as a physical barrier between the proposed OCMF and the City of Hope project. Therefore, the

proposed OCMF in conjunction with the City of Hope project would not be cumulatively considerable.

6. County of Orange RV Storage Site - The vacant parcel between the Project Site and Marine Way is currently being developed into an RV (recreational vehicle) storage area by the County of Orange. The intended use of this parcel is for storage of unoccupied vehicles. However, construction is currently ongoing for the County of Orange's RV Storage Site and, thus, construction activities such as grading would not be different than what is encountered now.

   The County of Orange RV Storage Site would require construction related vehicles. In the event that construction of the County of Orange's RV Storage Site and the Project occur simultaneously, a temporary increase in VMT would occur along Marine Way and Ridge Valley during project construction due to construction vehicles utilizing these roadways to access the project site. However, the increase in traffic as a result of the County of Orange RV Storage Site would be less than the Project due to the project's scope of construction. Therefore, the proposed OCMF in conjunction with the County of Orange RV Storage Site would not be cumulatively considerable.

   The project site is located in the adjacent parcel north of the Project. In the event that the construction of the County of Orange's RV Storage Site and Project occur simultaneously, it is anticipated that residential properties located northwest of the project site and visitors from the Great Park would experience temporary visual impacts from both projects. However, visual impacts as a result of the County of Orange's RV Storage Site construction activities would be less than the Project due to the nature of the County of Orange's RV Storage Site size and lesser extent of its construction scope. Therefore, the impacts related to visual quality and aesthetics due to the Project and the County of Orange's RV Storage Site would not be cumulatively considerable.

   The County of Orange's RV Storage Site exists within a portion of the MCAS EL Toro Superfund site and would impact the ongoing military clean-up site operations. This project would be required to implements measures to reduce significant impacts in separate environmental approval processes and would therefore be required to comply with the regulatory frameworks set forth by federal, state, and local agencies concerning hazardous materials. Therefore, the impacts related to hazardous materials due to the Project and the County of Orange's RV park would not be cumulatively considerable.

For this Project, given the extent and comprehensive character of mitigation that has been provided in this document to reduce impacts to less than significant, the Project in conjunction with the related projects listed above would not have substantive residual or significant impacts and thus it is not anticipated that this Project would contribute considerably to any significant cumulative impacts.

3.21.1.3. Does the Project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?

Determination: LESS THAN SIGNIFICANT WITH MITIGATION INCORPORATED

Construction and Operational Impacts

As discussed in Section 3.9, Hazards and Hazardous Materials, the Project Site is located on the former MCAS El Toro where two regional groundwater contamination plumes of VOC exist. Both plumes are within the OCWD Management Area and are under active remediation by the DON. The Project would need to notify the appropriate state and local agencies (e.g., OCHCA, DTSC, or the SARWQCB) since soil and groundwater contamination is present due to the MCAS site. Mitigation measures MM-HAZ-2 and MM-HAZ-3 would reduce any potential impacts related to causing a substantial adverse effect on human beings, either directly or indirectly. Therefore, impacts would be less than significant with mitigation incorporated.

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METROLINK ORANGE COUNTY MAINTENANCE FACILITY PROJECT

INITIAL STUDY/
MITIGATED NEGATIVE DECLARATION
APPENDICES

ORANGE COUNTY TRANSPORTATION AUTHORITY

June 2022

Initial Study/
Mitigated Negative Declaration
Appendices

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Appendix A
Technical Memorandum
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June 2022

REVISION	DESCRIPTION	DATE
0	Draft Aesthetics Technical Memorandum	01/15/21
1	Draft Aesthetics Technical Memorandum (Incorporating OCTA's comments)	4/27/2021
2	Draft Aesthetics Technical Memorandum (Incorporating OCTA's comments)	6/17/2021

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1. INTRODUCTION

The Southern California Regional Railroad Authority (SCRRA) Metrolink Commuter Rail System (Metrolink) is proposing to construct a new Orange County Maintenance Facility (hereafter referred to as "OCMF" or "the Project"). The Project would include several facilities including a transportation building, employee parking area, train-wash building, pump house, utility building, guard booth, equipment booth, sand silos, a maintenance facility, a maintenance facility extension, and 11 tracks. Approximately 80 employees would report to the Project. The Project consists of buildings that would have a total building area of approximately 90,000 square feet when combined. Metrolink currently operates two maintenance facilities across its service area: Central Maintenance Facility (CMF) in Los Angeles and Eastern Maintenance Facility (EMF) in San Bernardino County. Due to projected population expansion within its service area and the agency's goal to be prepared for the 2028 Los Angeles Summer Olympic Games, Metrolink will require an increased number of commuter rail services, as well as additional train storage and maintenance facilities associated with an increased fleet size. As a significant proportion of the expanded services will operate in Orange County, the Project would provide an optimal location for a new Metrolink maintenance facility. Metrolink's member agency, the Orange County Transportation Authority (OCTA), proposes to build this facility on an OCTA-owned parcel in the City of Irvine. OCTA is the lead agency under the California Environmental Quality Act (CEQA). The City of Irvine and SCRRA are the responsible agencies under CEQA.

The purpose of this memorandum is to describe the potential impacts that the Project would have on the existing baseline visual and aesthetic resources.

2. PROJECT DESCRIPTION

2.1 PROJECT BACKGROUND

As a result of the projected population expansion within the five-county area (Orange County, Los Angeles County, San Bernardino County, Riverside County, and Ventura County) currently served by the SCRRA, Metrolink will require an increased number of commuter rail services to support the growth. Consequently, the Metrolink system (Figure 2.1-1) would require additional train storage and maintenance facilities to support an increased fleet size.

Figure 2.1-1 Metrolink System Map

Source: SCRRA (2019)

Metrolink's CMF facility is located on the east bank of the Los Angeles River near the Interstate 5 (I-5) and Interstate 10 (I-10) highways, just south of the location of the former Southern Pacific Taylor Yard. The CMF is currently near capacity, which will impact the ability to provide the necessary train servicing for planned service-expansion of various Metrolink lines throughout the system under the Southern California Optimized Rail Expansion (SCORE) program. By transferring a portion of the current fleet from CMF to the proposed OCMF (specifically the Orange County Line trains), capacity for the non-Orange County trains will be increased at CMF. The Orange County Line has the highest ridership within the Metrolink system; therefore, a maintenance facility to serve the Orange County area with sufficient storage and servicing capabilities for both locomotives and rail cars is critical to controlling operating costs. In order to optimize rail service in the region, the proposed facility development would need to be completed by 2028. The SCORE program may also require heavy overhaul capabilities at OCMF, subject to pending decisions regarding fleet technology and management.

The expansion of Orange County and overall Metrolink commuter rail service will ultimately require additional or expanded equipment servicing capabilities for both locomotives and rail cars. Since a significant portion of the fleet will be in Orange County, a maintenance facility located along the Metrolink route through Orange County would be the optimal location as it would reduce operating costs by limiting non-revenue moves to the existing SCRRA storage and maintenance facilities in the cities of Los Angeles and San Bernardino. The proposed maintenance facility would provide equipment to inspect, clean, and maintain cars and locomotives on a regular and efficient basis. Much of the inspection and maintenance activity is federally mandated and must be performed at specific intervals. The OCMF will also provide refueling services thus reducing fuel costs, reducing fuel consumption, and will reduce emissions. Currently trains operating in the Orange County Region must travel either the CMF or EMF for refueling, which are sometimes non-revenue runs. The location of the Project is on a 21.3-acre OCTA-owned parcel on Ridge Valley south of Marine Way in the City of Irvine (Project Site). The Project Site is located within the boundaries of a closed military base (Marine Corps Air Station [MCAS] El Toro) formerly owned by the United States Department of the Navy (DON). After MCAS El Toro was closed, the site was quitclaimed by the Navy to Heritage Fields El Toro, LLC in 2011, and then by way of grant deed conveyed by Heritage Fields to the City of Irvine that same year. OCTA then purchased the fee ownership of the Project Site from the City of Irvine. Regional vehicle access to the Project Site is from I-5 at Sand Canyon Avenue. Local vehicle access is via Marine Way to Ridge Valley.

Prior to the current construction of the storage/set-out track, the Project Site was mostly vacant. The site currently includes 1,000-foot-long storage for miscellaneous rail equipment including temporary railroad bridges, signal houses, railroad ties, and signal components. Although not part of the Project, OCTA is currently installing a single 1,000-foot-long, single-ended storage track and fencing of the perimeter of the property to provide temporary storage of two trainsets and/or track maintenance equipment when necessary. There is a segment of an abandoned road, stormwater drains, and underground water transfer vault with a network of pipelines, valves and associated vents, that are currently not in use.

2.2 PROJECT DESCRIPTION

The OCMF would be located in the City of Irvine, on a 21.3-acre parcel owned by OCTA and adjacent to Marine Way and the Metrolink Orange subdivision between mileposts 183.50 and 184.00 on Metrolink's "Orange" Subdivision (Figure 2.2-1). The Project Site is located within Planning Area 51 of the updated City of Irvine General Plan, adopted in June 2015, and designated for the Great Park (formerly known as the Orange County Great Park (OCGP)), land use under the General Plan (City of Irvine, 2015). Per the City's zoning ordinance, the proposed use is a conditionally allowable use under the existing zone; therefore, OCTA is submitting a Conditional Use Permit to the City of Irvine for approval,

The Project would be developed in two phases with an anticipated completion date of 2028. Phase 1 focuses on developing facilities needed for the storage and routine cleaning, inspection, and servicing of the anticipated trainsets. The total area of the Phase 1 buildout would be approximately 20,996 square feet and would be comprised of the following facilities: the transportation building, employee parking area, train-wash building, pump house, utility building, guard booth, equipment booth and sand silos (Table 0-1). A total of 11 tracks would be built.The Phase 1 layout situates the train wash, fueling/sanding, and service and inspection tracks on the two tracks with the greatest tangent length, which are the ones nearest to the railroad right-of-way ("ROW"). This is important in fitting a second fueling/sanding facility so that there is one at each end of the service and inspection platform to support having the locomotive at either end, all within tangent track. Additionally, all six storage tracks and appurtenant features (air, water, head end power and toilet dump facilities) would be constructed. The storage tracks would be built near the middle of the site east of the service and inspection tracks. Phase 1 of the buildout would anticipate approximately 52 employees total throughout the entire day, split across three eight-hour shifts.

Table 0-1 Building Specifications

Building/Facility/Item	Building Area	Building Height
Transportation Building	7,495 sq. ft.	20 ft
Train Wash Building	11,110 sq. ft.	21 ft
Maintenance Building	40,392 sq. ft.	48 ft
Maintenance Building Expansion	27,880 sq. ft.	---
Utility Building	981 sq. ft.	20 ft
Pump House	750 sq. ft.	14 ft
Guard Booth	36 sq. ft.	---
Equipment Booth	48 sq. ft.	---
Sand Silos (2 Total)	576 sq. ft.	---
Total	89,268 sq. ft.	

Source: Gannett Fleming, Metrolink (February 2022)

Note: sq. ft. = square feet; ft = feet

A runaround track would be provided between the service and inspection tracks and storage tracks. Additionally, two temporary stub-ended set out tracks would be provided in the Phase 1 layout that occupies the footprint of the future shop tracks (one at the north and one at the south end of the yard). These set out tracks would be converted to shop access tracks in Phase 2 and therefore, would no longer be available as set out tracks. A new set out track would then be provided as part of Phase 2.

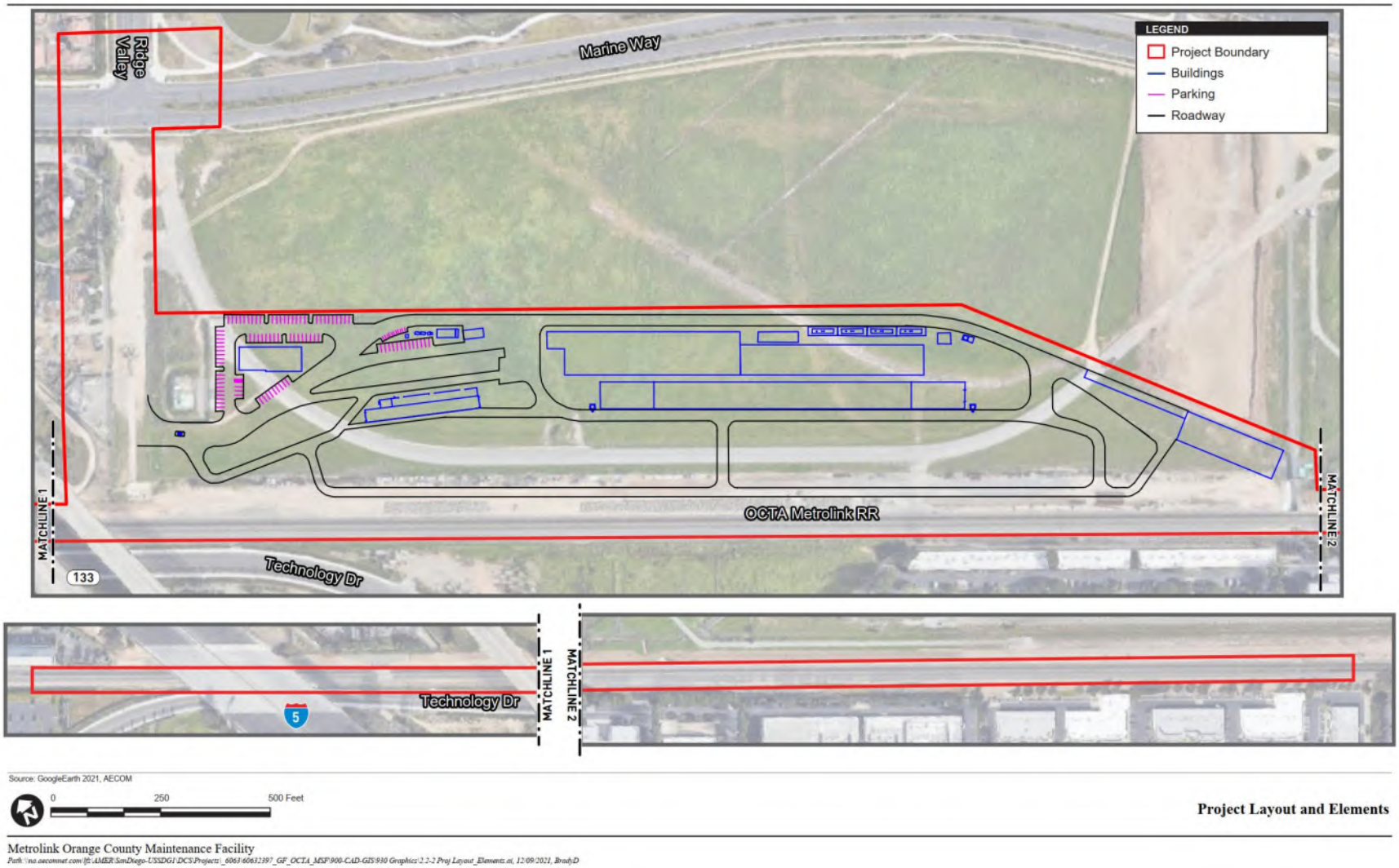
A transportation building that would be utilized for administrative purposes is also included in Phase 1. This building would house managerial offices, welfare spaces for train crews and on-site personnel. This facility would include restrooms, showers, locker rooms, a break/day room, vending space and a kitchenette.

Parking would be provided for staff reporting to the site. Fire department compliant roadways would be developed to permit circulation of the site for Metrolink vehicles as well as delivery trucks (sand and fuel).

Phase 2 completes the full buildout of the Project. It would include development of the maintenance shop building and its future extension that would comprise of a total buildout area of 68,272 square feet (Table 0-1). The shop would have capabilities to perform regular three-month, six-month, and one-year preventive maintenance cycles on trainsets. Phase 2 of the buildout would consist of approximately 28 employees. With the full buildout of Phase 1 and Phase 2, approximately 80 employees are expected to access the Project Site daily, split across three eight-hour shifts.Access to the OCMF would require a roadway extension along Ridge Valley from the intersection of Ridge Valley and Marine Way. The Project includes the southern extension of Ridge Valley Road from Marine Way and associated traffic signal improvements to provide access to the OCMF.

The 11 new east and west lead tracks, as discussed in this section above, would be constructed within the existing railroad corridor between MP 183.0 and MP 184.00 on Metrolink's "Orange" Subdivision to connect the existing mainline railroad to the proposed OCMF rail yard. A new single span concrete bridge over the Bee Canyon Channel (Channel) would be built for the east lead track. A segment of the Channel and utilities that are found to be in conflict would be lowered by approximately 2.5 feet to facilitate the construction of the bridge.

Figure 2.2-1 Project Layout and Elements



Source: ESRI (2021), OCTA (2021)

3. ENVIRONMENTAL SETTING

3.1 EXISTING CONDITIONS

The Project Site is located in a relatively flat area adjacent to the OCGP, with a multi-sport complex in close proximity to the northeast, office/industrial uses to the southwest, and the I-5 and State Route 133 (SR-133) highways. The existing area in the vicinity of the Project consists of an active railroad corridor, vacant, undeveloped land, active parkland associated with the OCGP, and other urbanized attributes areas containing medium-high rise commercial office buildings (Google Maps, 2018). A complex of two-story single-family homes is located at the northwest corner of Marine Way and Ridge Valley Boulevard. The City of Irvine and their private partner are converting 1,300 acres of the former military base into 472 acres of developed parkway for Great Park with amenities hosting: twenty-five tennis courts, thirteen soccer fields, a golf course, twelve baseball fields, and other community buildings and open space features (City of Irvine, 2020). Future development will consist of museums and other cultural and entertainment components that would require approval from the Irvine City Council. The OCGP would be the fourth largest sports complex in the nation after full build out.

The Santa Ana Mountains can be seen to the east of the Project Site and Bommer and Shady Canyon can be seen southwest of the Project Site. There are no designated Caltrans scenic vistas or scenic resources in the area (Caltrans, 2019).

The vacant parcel between the Project Site and Marine Way is currently being developed into an RV (recreational vehicle) storage area by the County of Orange. The intended use of this parcel is for storage of unoccupied vehicles.

The existing Project Site does not have any light sources. Sources of lighting in the vicinity of the Project Site include the OCGP's tennis courts, sports fields, and parking lot security lighting. The highways additionally have light sources for roadway visibility and headlights from motor vehicle traffic.

3.2 EXISTING VISUAL CHARACTER AND QUALITY

The existing visual character of the Project Site exhibits some natural landforms and vegetation, such as low grasses, due to the Project Site currently being vacant and undeveloped (Figure 3.2-1 and 3.2-2). Other landforms such as a narrow paved road traverses the visual landscape. Minor visual structural features on the Project Site include unused stormwater drains, valves and vents, rail equipment, signal houses, and storage of other rail or electrical related equipment. The form of the Project Site is generally flat, low, and simple, with no vertical elements that dominate the landscape. Lines associated with the Project Site are generally horizontal, curving and continuous, but occasionally irregular, which do not visually dominate the view. Colors that are visible within the landscape include primary hues of brown, with some patches of greens and variable lines including grays. The texture of the Project Site is fine-grained, dense, patchy, with occasional areas of striation. The existing visual quality of the Project Site is considered to have low vividness, intactness, and unity because the Project Site does not exhibit distinctive or memorable visual

elements; the integrity of the visual environment is not consistent or patterned; and the visual elements do not combine to form a coherent visual design or organization.

A majority of the areas surrounding the Project Site vary greatly in visual character from the Project Site in terms of form, line, color, and texture due to the presence of more and taller vertical features such as trees, residences, elevated highways, as well as vibrant large areas of green spaces. The visual quality of the surrounding area varies, but generally exhibits a slightly higher degree of vividness, intactness, and unity.

Figure 3.2-1 View from within the Project Site, Looking West

Source: Google Maps (2018)

Figure 3.2-2 View from within the Project Site, Looking Northeast

Source: Google Maps (2018)

3.3 VIEWER CHARACTERISTICS AND SENSITIVITY

Viewer sensitivity or concern is based on the visibility of resources in the landscape, the proximity of viewers to the aesthetic resource, the relative elevation of the viewers compared to the aesthetic resource, the frequency and duration of views, the number of viewers, and the types of individuals. In considering aesthetic impacts of the Project, key views and visually prominent features have been assessed to determine how they would most influence impact perception.

The viewer population is a mix of viewer groups, including residents, park patrons, office building and industrial workers, transit patrons, commuters and bicyclists. Commuters, including bicyclists and motorists on streets and freeways, are anticipated to have low sensitivity to visual change than other viewer groups because they are focused on driving in traffic. Similarly, transit patrons are anticipated to have low sensitivity to visual change because they are taking transit (e.g., Metrolink) typically for the specific purpose of traveling to and from their place of employment. Workers in the nearby office buildings and industrial buildings are anticipated to have low sensitivity to visual change because they are present in this area primarily to work, and not for leisure activities. The residents and park patrons would have high sensitivity to visual change in the area either because their activities are elective or because they spend a great deal of time in the area surrounding the Project Site.

Light sensitive receptors or land uses may include, but are not limited to, all types of residences; commercial or institutional uses that require minimal nighttime illumination for proper function, physical comfort, or commerce; and natural areas. In the vicinity of the Project Site, the sensitive receptors include the senior residential community to the northwest. OCGP, as a park, would be considered a light sensitive receptor; however, it already contains several sources of nighttime illumination for its sports fields. Therefore, the OCGP is not considered a light sensitive receptor for the purposes of this Project.

3.4 REGULATORY FRAMEWORK

City of Irvine General Plan Land Use Policy Objective A-1 Policy (a)- Objective A-1 of City of Irvine's Land Use Policy is to strengthen Irvine's identity. One policy mechanism to achieve this objective is through the conservation of visual resources along the scenic corridors that define the City of Irvine.

4. METHODOLOGY

Visual or aesthetic resources are the natural and built features of the landscape that can be seen. The combination of landform, water, and vegetation patterns represents the natural landscape features that define an area's visual character. Built features, such as buildings, roads, utility structures, and ornamental plantings, reflect human modifications to the landscape. These natural and built landscape features, or visual resources, contribute to the public's experience and appreciation of the environment.

The process used in this visual impact assessment generally follows the guidelines outlined in the publication *Guidelines for the Visual Impact Assessment of Highway Projects* published by the Federal Highway Administration (FHWA) in January 2015, which is an updated version of publication *Visual Impact Assessment for Highway Projects* also published by FHWA in March 1981. Although this guidance was

developed for highway projects, it is adaptable to many types of projects. The major components of the visual impact assessment include establishing the visual setting and assessing impacts of the project on visual resources, such as nearby natural or constructed features.

The degree of aesthetic or visual impact was determined by assessing the visible changes that would be introduced by the Project. The assessment focuses on areas where changes in the visual environment would be greatest, such as areas with higher viewer sensitivity and/or where sensitive views would be affected. The assessment of potential aesthetic impacts addresses the following:

- Conflicts or complements to the existing visual character;
- Changes in visual quality;
- Likely impact on viewers with consideration of viewer sensitivity;
- Visual intrusion and blockage of sensitive views with an emphasis placed on any views that are identified by local jurisdictions as requiring protection; and
- Increases in light and glare.

The viewer population is a mix of major viewer groups that includes residents, park patrons, office building and industrial workers, transit patrons, commuters and bicyclists. Scenic views are defined as long-range views toward preserved natural areas or recognized visual and/or historic landmarks. A visual change would be considered significant if it introduces obstructive elements substantially out of character with existing land uses or substantially obscures a scenic view or vista available to major viewer groups near project features. The degree of visual impact is determined by assessing visible changes that would be introduced by the Project during construction and operation, as well as viewers' exposure and sensitivity to these changes.

4.1 CALIFORNIA ENVIRONMENTAL QUALITY ACT THRESHOLDS

CEQA considers an impact significant if the Project would:

1. Have a substantial adverse effect on a scenic vista.
2. Substantially degrade scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway.
3. In nonurbanized areas, substantially degrade the existing visual character or quality of public views of the site and its surroundings. (Public views are those that are experienced from publicly accessible vantage point). If the project is in an urbanized area, if the project would conflict with applicable zoning and other regulations governing scenic quality.
4. Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area.

5. IMPACTS ANALYSIS

5.1 SCENIC VISTAS

A scenic vista generally provides focal views of objects, settings, or features of visual interest; or panoramic views of large geographic areas of scenic quality, primarily from a given vantage point. A significant impact would occur if a project introduced incompatible visual elements within a field of view containing a scenic vista or substantially altered a view of a scenic vista.

Scenic views or vistas are panoramic public views of various natural features, including the ocean, striking or unusual natural terrain, or unique urban or historic features. Public access to these views may be available from nearby parklands, private and public-owned sites, and public ROW.

The City of Irvine General Plan does not delineate or designate any specific views as protected scenic vistas in the Project Site. There are no designated Caltrans scenic vistas or scenic resources in the area. The closest designated scenic highway is Highway 91 and is located approximately 13 miles away from the Project. The Project Site is within an urban setting within the eastern portion of Irvine, directly adjacent to the Metrolink ROW and an elevated freeway. The Project Site is relatively flat, and implementation of the Project would not result in a significant alteration of its topography. The Project would include a new maintenance facility located along the Metrolink ROW and would involve the construction and operation of up to 30-foot-tall buildings, and approximately 30-foot-tall metal structures that would serve as bridges for utility lines. The construction and operations of the Project would include visible features; however, the Project would not alter the views of a designated scenic vista. The Project would not result in the disruption of any designated scenic vistas from the perspective of residences to the northwest of the Project Site or patrons at the surrounding OCGP complex. Therefore, construction and operational impacts related to effects on a scenic vista would be less than significant.

5.2 SCENIC RESOURCES

A significant impact would occur where scenic resources within a state scenic highway were damaged or removed as a result of the Project. The Project is not located along or near an officially designated California Scenic Highway or locally designated scenic highway. The closest designated scenic highway is Highway 91 and is located approximately 13 miles away from the Project. Old Town Irvine is a registered California historical landmark, located approximately ½ mile away from the Project Site; however, it is occluded by the SR-133 and I-5 highways (State of California Office of Historic Preservation, 2020; National Park Services, 2020).

The Project would not impact any groves of trees, street trees, rock outcroppings, historic buildings, or any other potential scenic resources during construction or operations as no existing scenic resources are located on the Project Site. Therefore, no construction or operational impacts would occur related to scenic resources including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway.

5.3 VISUAL CHARACTER

Construction Impacts

Project construction would include two phases and would be temporary in nature. Phase 1 would consist of the primary build-out of the facility and would last up to 30 months in duration. Phase 2 is a secondary build-out of up to 24 months in duration.

Visually, the Project Site consists of a vacant area with a minor accessory structure and access roads. The Project Site does not contain any buildings, trees, or landscaping and the existing landscape is not memorable. This is a contrast from the green open space area to the north which includes the OCGP. During the construction phase, construction equipment, staging areas, construction trucks and vehicles, and temporary fencing would be visible to several viewer groups and would result in a contrast and change in visual character from the existing vacant area. However, construction is currently ongoing for the County of Orange's RV park and, thus, construction activities such as grading would not be different than what is encountered now.

Transit patrons, commuters, and bicyclists would primarily experience views of construction activities while riding the adjacent Metrolink, driving along Marine Way adjacent to the Project Site, and while traveling in the bike path that also exists along Marine Way. The latter two groups would have some blockage of views of the construction site by the proposed RV storage area between Marine Way and the Project Site. In addition, commuters may have prolonged views while idling on the congested freeways. The change in the visual character of the Project Site during the construction phase would be noticed by these viewer groups. However, transit patrons, commuters, and bicyclists are considered to have a low sensitivity to any visual changes on the Project Site as they are likely passing through the vicinity of the Project Site to reach their destinations and their duration of exposure and awareness of landscape changes would be low.

The employees of office buildings and industrial land uses in the vicinity of the Project Site would primarily experience views of the construction activities on the Project Site as they approach and leave their place of work. Therefore, their views of the construction activities would primarily take place while en route to and from these locations in the Project Site. The change in the visual character of the Project Site during the construction phase would be noticed by these viewer groups. However, patrons and employees of office buildings and industrial land uses are considered to have a low sensitivity to any visual changes on the Project Site as they are likely passing through the vicinity to reach their place of work or business and their duration of exposure and awareness of landscape changes would be low.

Residents and OCGP patrons would primarily experience views of construction activities while driving to and from their homes and while recreating in the OCGP. Views from the residences located northwest of the Project Site would be blocked by existing mature trees on their properties, as well as the concrete wall which surrounds the residential complex. It would also be blocked by fencing that would surround the Project Site. In addition, park patrons would have prolonged views while spending time in the OCGP located directly north of the Project Site, although their view would be obstructed by the proposed RV storage area

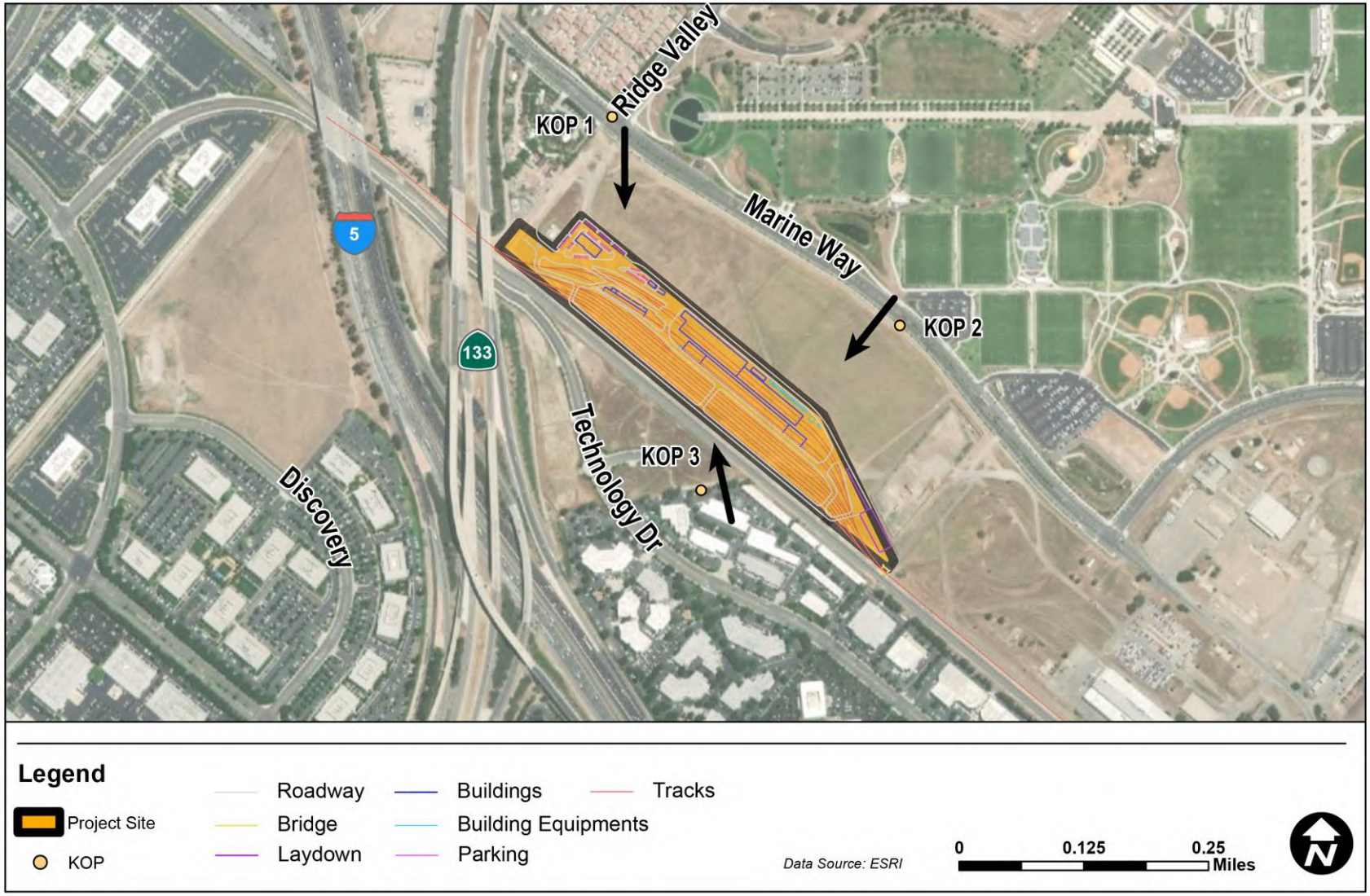
between Marine Way and the Project Site, as well as the fencing around the Project Site during construction and operations.

Overall, the construction phase would represent a temporary change in the visual quality and character of the Project Site. However, the construction site would be visibly similar to other construction projects in the City and urban areas. During construction, the Project Site would be surrounded by fencing that would also block the majority of the construction activities. Therefore, construction impacts related to visual character would be less than significant.

Operational Impacts

The Project would include a new maintenance facility located adjacent to the Metrolink ROW and would involve the construction and operation of up to 30-foot-tall buildings, and approximately 30-foot-tall metal structures that would serve as bridges for utility lines. The new structures would be set back on the Project Site over 500 feet from Marine Way to the north. The Project would be within an urban environment and would be consistent with the City's General Plan goals of conservation of visual resources along the scenic corridors in the City. To assess the potential visual changes that would result from the operation of the Project, three Key Observation Points (KOPs) were selected specifically for the Project, as shown below. KOPs represent key locations where the visual character is representative and can be used for visual simulations to evaluate potential visual impacts. Visual simulations from these KOPs were prepared to provide a before and after comparison of the visual effects that would result from the Project. The locations of the three KOPs are shown on Figure 5.3-1. The KOP existing views and simulations are shown on Figures 5.3-2 through 5.3-4.

Figure 5.3-1 Location of Key Observation Points



Source: ESRI (2021), OCTA (2021)

The KOPs are representative of direct views within the Project Site and its surrounding area; simulations from the same locations show how these views would change as a result of the implementation of the Project. The simulated views represent conceptual design and are not intended to represent the Project's final design.

KOP 1 shows the Project Site looking southeast from along Marine Way and the intersection with Ridge Way (see Figure 5.3-2). The Marine Way street ROW, including traffic signals and a streetlight pole, dominate the foreground of the view. Public parkway landscaping and fencing is visible directly adjacent to the roadway. The flat and somewhat vegetated Project Site is visible in the middle ground of the view with no existing structures present. The background of the view includes a segment of elevated freeway on the right, as well as trees and tall office buildings on the center and left. In the distance, the tops of hills can be seen above the elevated freeway.

As shown on Figure 5.3-2, the Project is visible in the middle ground of the view. The new buildings interrupt some of the background views of the distant office buildings, trees, and the elevated freeway. The tops of the hills can still be seen. The Project includes a solid wall that is visible throughout the center of the view from right to left. The simulated view from KOP 1 represents a visual change compared to existing conditions as the development would occur on a site with no existing structures. However, due to the urban and visual environment of the area surrounding the Project Site, including various types of uses and structures, this visual change would be consistent with other developments in the vicinity of the Project Site. The Project would include new large aboveground structures; however, the height and massing of the buildings would not substantially alter visual character for residential viewers since the residential buildings are surrounded by a tall concrete wall and large trees. Additionally, the Project would not substantially alter visual character from this viewpoint primarily due to the distance of the Project buildings from the residential viewers. No aesthetically significant view or landmark would be altered or blocked. Therefore, operational impacts related to visual character would be less than significant for KOP 1.

KOP 2 shows the Project Site looking southwest from along Marine Way, approximately 1,800 feet southeast of Ridge Valley (see Figure 5.3-3). The OCGP is located approximately 94 feet behind the view perspective. This view represents the perspective of vehicle drivers, pedestrians, cyclists, and OCGP patrons. Visible in the foreground is the public sidewalk, landscaping, small bushes, a small tree, and a small concrete slab housing a manhole cover and small, green aboveground utility box. Visible in the middle ground is a narrow dirt road, and a large area of green and brown ground vegetation within the Project Site. The elevated freeway is visible in the background on the right and center of the view. Mature trees, commercial and office buildings, other development, and distant hills are visible in the background in the center and partially in the right side of the view.

Figure 5.3-2 KOP 1 – Before and After Simulation View, Looking Southeast from Residential Uses at Marine Way/Ridge Valley Intersection

Source: Trimble (2021), OCTA (2021)

Figure 5.3-3 KOP 2 – Before and After Simulation View, Looking Southwest from Marine Way and the OCGP

Source: Trimble (2021), OCTA (2021)

As shown in the simulated view of Figure 5.3-3, the Project would be visible in the middle ground of the view, with the tallest buildings being on the right. The new buildings would block the background views of the elevated freeway on the right and would only partially block views of the mature trees, commercial and office buildings, other development, and distant hills. The Project would include a solid wall that would be visible throughout the center of the view from right to left. The simulated view from KOP 2 represents a visual change compared to existing conditions as the development would occur on a site with no existing structures. However, due to the urban and visual environment of the area surrounding the Project Site, including various types of uses and structures, this visual change would be consistent with other developments in the vicinity of the Project Site. The Project would include new large aboveground structures; however, the height

and massing of the buildings would not substantially alter visual character for vehicle drivers, pedestrians, cyclists, and OCGP patrons from this viewpoint primarily due to the distance of the Project from the viewers. Also, no aesthetically significant view or landmark is being altered or blocked. Therefore, operational impacts related to visual character would be less than significant for KOP 2.

KOP 3 shows the Project Site looking north from the parking lot adjacent to a commercial/office building located approximately 335 feet south of the Project Site (see Figure 5.3-4). This view represents the perspective of commercial and industrial building users. Visible in the foreground is a portion of the paved and striped surface parking lot, a mature and smaller tree, as well as small bushes and a chain-linked fence that spans the view from right to left. Visible in the middle ground of the view is a vacant site that is not a part of the Project Site, as well as the Project Site itself. The ground vegetation on the vacant site and Project Site render the sites indistinguishable in this view. The Metrolink ROW divides these two sites, but this is indistinguishable in this view due to the vegetation. The background includes distant views of residential buildings on the center/left, as well as mature trees, OCGP, and hills on the right and center.

As shown in the simulated view in Figure 5.3-4, the Project would be visible in the middle ground of the view. The proposed maintenance building blocks the distant background views of mature trees, OCGP, and hills that would be visible on the right and center of the view. The simulated view from KOP 3 represents a visual change compared to existing conditions as the development would occur on a site with no existing structures. However, due to the urban and visual environment of the area surrounding the Project Site, including various types of uses and structures, this visual change would be consistent with other developments in the vicinity of the Project Site. The Project would include new large aboveground structures. Although the height and massing of the buildings would substantially alter views for commercial, office, and industrial building users, these are considered viewers with low sensitivity. Additionally, no aesthetically significant view or landmark is being altered or blocked. Therefore, no operational impacts related to visual character would occur for KOP 3.

Figure 5.3-4 KOP 3 – Before and After Simulation View, Looking North from Commercial and Industrial Uses

Source: Trimble (2021), OCTA (2021)

Overall, the operation of the Project would represent a change in visual character as compared to the existing Project Site as the development would occur on a site with no existing structures. However, the Project is in an urban area that currently has a mix of open space, industrial and office buildings, residential homes, and adjacent elevated freeway segments. Commercial businesses and offices would have a low to moderate sensitivity to this visual change. Viewers including residents and park patrons would likely have high sensitivity to the visual change; however, views from the residences would be interrupted by mature trees, existing and proposed walls, as well as the RV storage area between Marine Way and the Project Site. As a result, the Project would not conflict with any other regulations governing scenic quality because the Project would not substantially change views in the area or along any scenic corridor. Therefore, operational impacts related to visual character would be less than significant.

5.4 LIGHTING AND GLARE

Construction Impacts

The Project Site does not currently have any sources of lighting. A high level of existing ambient lighting currently exists surrounding the Project Site, including a substantial amount of high-poled sports field lighting located in the OCGP complex to the north. Construction of the Project would not include nighttime construction activities (primarily due to construction noise restrictions on work hours), which would require nighttime construction lighting. However, the Project Site would include standard safety lighting during construction. Nevertheless, sensitive receptors (the OCGP and residences) would be too far from the Project Site to experience spillover lighting due to security lighting. Therefore, construction impacts related to lighting would be less than significant. Regarding glare, construction equipment is not likely to be a significant source of glare. Therefore, no impacts related to glare would occur.

Operational Impacts

The Project would include installation of new standard exterior and interior security lighting around and within the maintenance facility, including buildings, which would operate continuously. Although, the sensitive receptors for lighting are located too far from the Project Site to be impacted by spillover lighting, per best management practices, nighttime lighting fixtures would be installed to direct the majority of the light to within and directly adjacent to the facility, and away from sensitive areas, to the maximum extent feasible. In addition, the materials used in the exterior of buildings and structures visible above the proposed six-foot-tall wall between the Project Site and Marine Way would need to comply with applicable City regulations under their Municipal Code (Division 9) and Zoning Ordinance (Section 3.16) to ensure no substantial source of glare. Figure 5.4-1 and Figure 5.4-2 illustrate that the existing Central Maintenance Facility and Eastern Maintenance Facility, which the Project would be similar to, include typical exterior building materials, such as concrete, and do not exhibit reflective properties that could result in glare. Therefore, operational impacts related to the creation of a substantial source of light or glare would be less than significant.

Figure 5.4-1 Existing Central Maintenance Facility, Exterior Building Materials

Source: Google Maps (2021)

Figure 5.4-2 Existing Eastern Maintenance Facility, Exterior Building Materials

Source: Google Maps (2021)

6. MITIGATION MEASURES

No mitigation measures are required.

7. IMPACTS AFTER MITIGATION

Construction and operation of the Project would be less than significant.

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Appendix B
Technical Memorandum
Air Quality & Greenhouse Gases

Metrolink Orange County Maintenance Facility

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REVISION	DESCRIPTION	DATE
0	Draft Air Quality and Greenhouse Gases Technical Memorandum	03/03/21
1	Draft Air Quality and Greenhouse Gases Technical Memorandum (Incorporating OCTA's comments and results of Health Risk Analysis and Dispersion Modeling)	05/17/21
2	Draft Air Quality and Greenhouse Gases Technical Memorandum (Incorporating OCTA's comments, which includes clarifying receptor spacing for HRA model runs, maps illustrating maximum cancer risk impacts and contour maps of cancer risk, and rationale behind assessing the recreational exposure scenario).	08/04/21
3	Draft Air Quality and Greenhouse Gases Technical Memorandum (Revised calculations based on internal QA)	12/08/21

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1 INTRODUCTION

The Southern California Regional Railroad Authority (SCRRA) Metrolink Commuter Rail System (Metrolink) is proposing to construct a new Orange County Maintenance Facility (hereafter referred to as "OCMF" or "the Project"). The Project would include several facilities including a transportation building, employee parking area, train-wash building, pump house, utility building, guard booth, equipment booth, sand silos, a maintenance facility, a maintenance facility extension, and 11 tracks. Approximately 80 employees would report to the Project. The Project consists of buildings that would have a total building area of approximately 90,000 square feet when combined. Metrolink currently operates two maintenance facilities across its service area: Central Maintenance Facility (CMF) in Los Angeles and Eastern Maintenance Facility (EMF) in San Bernardino County. Due to projected population expansion within its service area and the agency's goal to be prepared for the 2028 Los Angeles Summer Olympic Games, Metrolink will require an increased number of commuter rail services, as well as additional train storage and maintenance facilities associated with an increased fleet size. As a significant proportion of the expanded services will operate in Orange County, the Project would provide an optimal location for a new Metrolink maintenance facility. Metrolink's member agency, the Orange County Transportation Authority (OCTA), proposes to build this facility on an OCTA-owned parcel in the City of Irvine. OCTA is the lead agency under the California Environmental Quality Act (CEQA). The City of Irvine and SCRRA are the responsible agencies under CEQA.

The purpose of this memorandum is to present the results of the air quality and greenhouse gas (GHG) analyses and to describe the potential impacts associated with the Project.

2 PROJECT DESCRIPTION

2.1 PROJECT BACKGROUND

As a result of the projected population expansion within the five county area (Orange County, Los Angeles County, San Bernardino County, Riverside County, and Ventura County) currently served by SCRRA, Metrolink will require an increased number of commuter rail services to support the growth. Consequently, the Metrolink system (Figure 2.1-1) would require additional train storage and maintenance facilities to support an increased fleet size.

Figure 2.1-2.1-1 Metrolink System Map

Source: SCRRA (2019)

Metrolink's CMF facility is located on the east bank of the Los Angeles River near the Interstate 5 (I-5) and Interstate 10 (I-10) highways, just south of the location of the former Southern Pacific Taylor Yard. The CMF is currently near capacity, which will impact the ability to provide the necessary train servicing for planned service-expansion of various Metrolink lines throughout the system under the Southern California Optimized Rail Expansion (SCORE) program. By transferring a portion of the current fleet from CMF to the proposed OCMF (specifically the Orange County Line trains), capacity for the non-Orange County trains will be increased at CMF. The Orange County Line has the highest ridership within the Metrolink system; therefore, a maintenance facility to serve the Orange County area with sufficient storage and servicing capabilities for both locomotives and rail cars is critical to controlling operating costs. In order to optimize rail service in the region, the proposed facility development would need to be completed by 2028. The SCORE program may also require heavy overhaul capabilities at OCMF, subject to pending decisions regarding fleet technology and management.

The expansion of Orange County and overall Metrolink commuter rail service will ultimately require additional or expanded equipment servicing capabilities for both locomotives and rail cars. Since a significant portion of the fleet will be in Orange County, a maintenance facility located along the Metrolink route through Orange County would be the optimal location as it would reduce operating costs by limiting non-revenue moves to the existing SCRRA storage and maintenance facilities in the cities of Los Angeles and San Bernardino. The proposed maintenance facility would provide equipment to inspect, clean, and maintain cars and locomotives on a regular and efficient basis. Much of the inspection and maintenance activity is federally mandated and must be performed at specific intervals. The OCMF will also provide refueling services thus reducing fuel costs, reducing fuel consumption, and will reduce emissions. Currently trains operating in the Orange County Region must travel either the CMF or EMF for refueling, which are sometimes non-revenue runs.

The location of the Project is on a 21.3-acre OCTA-owned parcel on Ridge Valley south of Marine Way in the City of Irvine (Project Site). The Project Site is located within the boundaries of a closed military base (Marine Corps Air Station [MCAS] El Toro) formerly owned by the United States Department of the Navy (DON). After MCAS El Toro was closed, the site was quitclaimed by the Navy to Heritage Fields El Toro, LLC in 2011, and then by way of grant deed conveyed by Heritage Fields to the City of Irvine that same year. OCTA then purchased the fee ownership of the Project Site from the City of Irvine. Regional vehicle access to the Project Site is from I-5 at Sand Canyon Avenue. Local vehicle access is via Marine Way to Ridge Valley.

Prior to the current construction of the storage/set-out track, the Project Site was mostly vacant. The site currently includes 1,000-foot-long storage for miscellaneous rail equipment including temporary railroad bridges, signal houses, railroad ties, and signal components. Although not part of the Project, OCTA is currently installing a single 1,000-foot-long, single-ended storage track and fencing of the perimeter of the property to provide temporary storage of two trainsets and/or track maintenance equipment when necessary. There is a segment of an abandoned road, stormwater drains, and underground water transfer vault with a network of pipelines, valves and associated vents, that are currently not in use.

2.2 PROJECT DESCRIPTION

The OCMF would be located in the City of Irvine, on a 21.3-acre parcel owned by OCTA and adjacent to Marine Way and the Metrolink Orange subdivision between mileposts 183.50 and 184.00 on Metrolink's "Orange" Subdivision (Figure 2.2-1). The Project Site is located within Planning Area 51 of the updated City of Irvine General Plan, adopted in June 2015, and designated for the Great Park (formerly known as the Orange County Great Park (OCGP)) land use under the General Plan. The City has indicated that a Conditional Use Permit (CUP) would need to be obtained for the Project and application thereof filed with the City. The use of the site as a rail maintenance facility, although deemed consistent with the purpose and intent of the zoning district, has characteristics that the City has indicated would require Zoning Administrator review in order to avoid conflicts with surrounding land uses. Therefore, OCTA would be filing a CUP application for the Project.

The Project would be developed in two phases with an anticipated completion date of 2028. Phase 1 focuses on developing facilities needed for the storage and routine cleaning, inspection and servicing of the anticipated trainsets. The total area of the Phase 1 buildout would be approximately 20,996 square feet and would be comprised of the following facilities: the transportation building, employee parking area, train-wash building, pump house, utility building, guard booth, equipment booth and sand silos (**Error! R eference source not found.**). A total of 11 tracks would be built. The Phase 1 layout situates the train wash, fueling/sanding, and service and inspection tracks on the two tracks with the greatest tangent length, which are the ones nearest the railroad right of way ("ROW"). This is important in fitting a second fueling/sanding facility so that there is one at each end of the service and inspection platform to support having the locomotive at either end, all within tangent track. Additionally, six storage tracks and appurtenant features (air, water, head end power and toilet dump facilities) would be constructed. The storage tracks would be built near the middle of the site east of the service and inspection tracks. Phase 1 of the buildout would anticipate approximately 52 employees total throughout the entire day, split across three eight-hour shifts.

Table 2.2-1 Building Specifications

Building/Facility/Item	Building Area	Building Height
Transportation Building	7,495 sq. ft.	20 ft
Train Wash Building	11,110 sq. ft.	21 ft
Maintenance Building	40,392 sq. ft.	48 ft
Maintenance Building Expansion	27,880 sq. ft.	---
Utility Building	981 sq. ft.	20 ft
Pump House	750 sq. ft.	14 ft
Guard Booth	36 sq. ft.	---
Equipment Booth	48 sq. ft.	---
Sand Silos (2 Total)	576 sq. ft.	---
Total	89,268 sq. ft.	

Source: Gannett Fleming, Metrolink (February 2022)

Note: sq. ft. = square feet; ft = feet

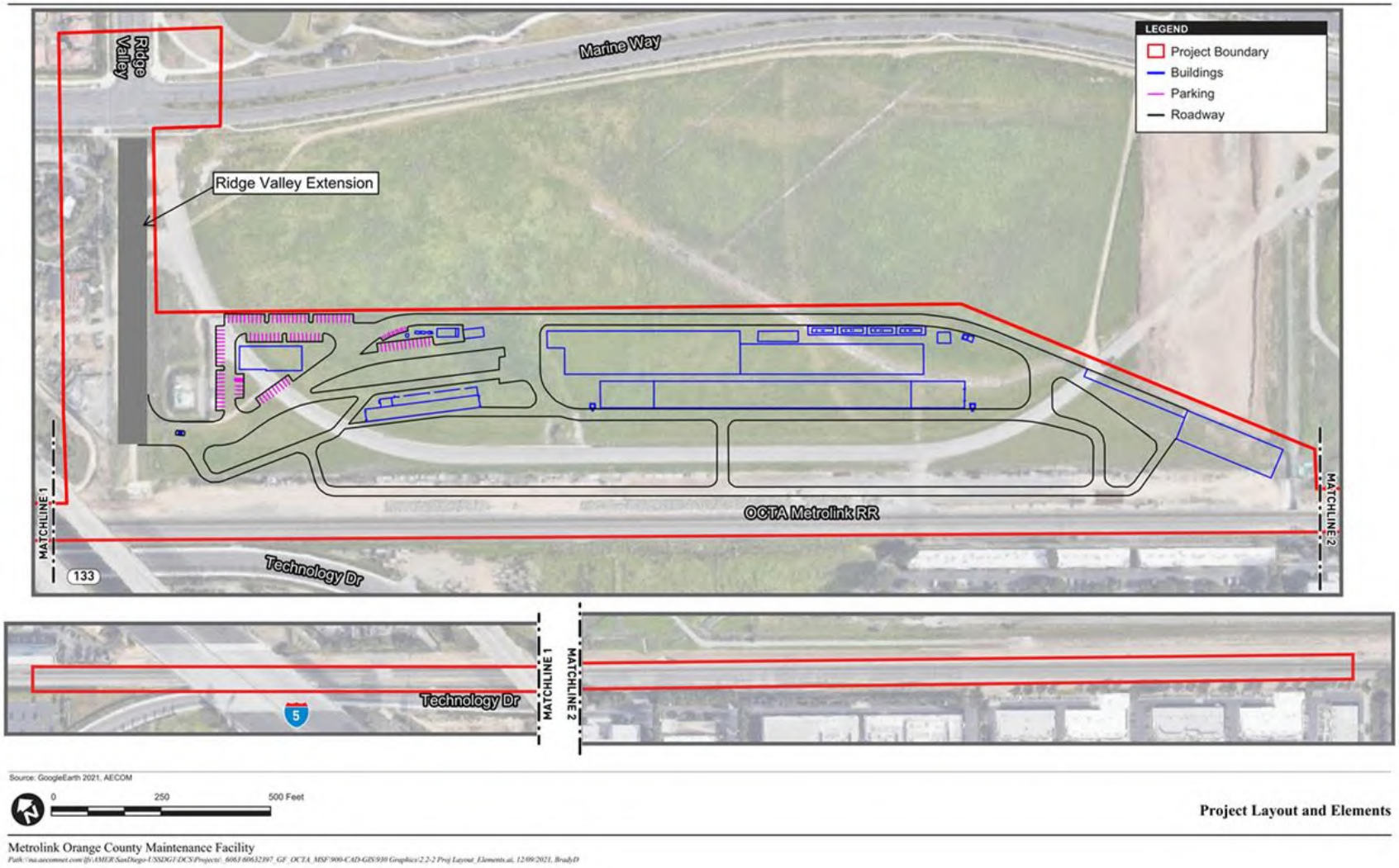
A runaround track would be provided between the service and inspection tracks and storage tracks. Additionally, two temporary stub-ended set out tracks would be provided in the Phase 1 layout that occupies the footprint of the future shop tracks (one at the north and one at the south end of the yard). These set out tracks would be converted to shop access tracks in Phase 2 and, therefore, would no longer be available as set out tracks. A new set out track would then be provided as part of Phase 2.

A transportation building that would be utilized for administrative purposes is also included in Phase 1. This building would house managerial offices, welfare spaces for train crews and on-site personnel. This facility would include restrooms, showers, locker rooms, a break/day room, vending space and a kitchenette. Approximately 120 automobile parking spaces would be provided for staff reporting to the site. Fire department compliant roadways would be developed to permit circulation of the site for Metrolink vehicles as well as delivery trucks (sand and fuel).

Phase 2 completes the full buildout of the Project. It would include development of the maintenance shop building and its future extension that would comprise of a total buildout area of 68,272 square feet (**Error! Reference source not found.**). The shop would have capabilities to perform regular three-month, six-month, and one-year preventive maintenance cycles on trainsets. Phase 2 of the buildout would consist of approximately 28 employees. With the full buildout of Phase 1 and Phase 2, approximately 80 employees are expected to access the Project Site daily, split across three eight-hour shifts.Access to the OCMF would require a roadway extension along Ridge Valley from the intersection of Ridge Valley and Marine Way. The Project includes the southern extension of Ridge Valley Road from Marine Way and associated traffic signal improvements to provide access to the OCMF.

The 11 new east and west lead tracks, as discussed in this section above, would be constructed within the existing railroad corridor between MP 183.0 and MP 184.00 on Metrolink's "Orange" Subdivision to connect the existing mainline railroad to the proposed OCMF rail yard. A new single span concrete bridge over the Bee Canyon Channel (Channel) would be built for the east lead track. A segment of the Channel and utilities that are found to be in conflict would be lowered by approximately 2.5 feet to facilitate the construction of the bridge.

Figure 2.2-1 Project Layout and Elements



Source: ESRI (2021), OCTA (2021)

3 AIR QUALITY ENVIRONMENTAL SETTING

3.1 EXISTING CONDITIONS

Air quality is defined by the concentration of pollutants in relation to their impact on human health. Concentrations of air pollutants are determined by the rate and location of pollutant emissions released by pollution sources, and the atmosphere's ability to transport and dilute such emissions. Natural factors that affect transport and dilution include terrain, wind, and sunlight. Therefore, ambient air quality conditions within the local air basin are influenced by such natural factors as topography, meteorology, and climate, in addition to the amount of air pollutant emissions released by existing air pollutant sources.

Climate, topography, and meteorology influence regional and local ambient air quality. Southern California is characterized as a semiarid climate, although it contains three distinct zones of rainfall that coincide with the coast, mountain, and desert. The Project is located within the City of Irvine, which is within the South Coast Air Basin (SCAB). The SCAB is bounded by the Pacific Ocean to the west, the San Gabriel mountains, San Bernardino mountains, and San Jacinto mountains to the north and east, and the San Diego County line to the south.

The topography and climate of Southern California combine to make the SCAB an area of high air pollution potential. A warm air mass frequently descends over the cool, moist marine layer produced by the interaction between the ocean's surface and the lowest layer of the atmosphere. The warm upper layer forms a cap over the cooler surface layer, which traps the pollutants near the ground. Light winds can further limit ventilation. Additionally, abundant sunlight triggers the photochemical reactions that produce ozone and the majority of particulate matter (SCAQMD, 2017a).

The normal annual precipitation in Orange County, which occurs primarily from October through April, is approximately 13 inches (WRCC, 2003). Normal January temperatures range from an average minimum of 40 degrees Fahrenheit (°F) to an average maximum of 67°F, and August temperatures range from an average minimum of 60°F to an average maximum of 85°F (WRCC, 2003).

3.1.1 Criteria Pollutants

Individual air pollutants at certain concentrations may adversely affect human or animal health, reduce visibility, damage property, and reduce the productivity or vigor of crops and natural vegetation. Six air pollutants have been identified by the U.S. Environmental Protection Agency (EPA) and the California Air Resources Board (CARB) as being of concern on both nationwide and statewide levels: ozone, carbon monoxide (CO), nitrogen dioxide (NO_2), sulfur dioxide (SO_2), lead, and particulate matter (PM). PM is subdivided into two classes based on particle size: PM equal to or less than 10 micrometers in diameter (PM_{10}) and PM equal to or less than 2.5 micrometers in diameter ($PM_{2.5}$). Because the air quality standards for these air pollutants are regulated using human health and environmentally based criteria, they are commonly referred to as "criteria air pollutants."

Ozone. Ozone is the principal component of smog and is formed in the atmosphere through a series of reactions involving reactive organic gases (ROGs) or volatile organic compounds (VOC), and nitrogen oxides

(NO_X) in the presence of sunlight. ROG/VOC and NO_X are called precursors of ozone. NO_X includes various combinations of nitrogen and oxygen, including nitric oxide (NO), NO_2, and others. Significant ozone concentrations are usually produced only in the summer, when atmospheric inversions are greatest, and temperatures are high. ROG/VOC and NO_X emissions are both considered critical in ozone formation.

Individuals exercising outdoors, children, and people with preexisting lung disease, such as asthma and chronic pulmonary lung disease, are considered the most susceptible sub-groups for ozone effects. Short-term exposure (lasting for a few hours) to ozone can result in breathing pattern changes, reduction of breathing capacity, increased susceptibility to infections, inflammation of the lung tissue, and some immunological changes. In recent years, a correlation between elevated ambient ozone levels and increases in daily hospital admission rates, as well as mortality, has also been reported. An increased risk for asthma has been found in children who participate in sports and live in communities with high ozone levels.

Carbon Monoxide. CO is a colorless and odorless gas that, in the urban environment, is associated primarily with the incomplete combustion of fossil fuels in motor vehicles. Relatively high concentrations are typically found near crowded intersections and along heavily used roadways carrying slow-moving traffic. Even under most severe meteorological and traffic conditions, high concentrations of CO are limited to locations within a relatively short distance (300 to 600 feet) of heavily traveled roadways. Vehicle traffic emissions can cause localized CO impacts, and severe vehicle congestion at major signalized intersections can generate elevated CO levels, called “hot spots,” which can be hazardous to human receptors adjacent to the intersections. Individuals with a deficient blood supply to the heart are the most susceptible to the adverse effects of CO exposure. The effects observed include earlier onset of chest pain with exercise, and electrocardiograph changes indicative of decreased oxygen supply to the heart. Inhaled CO has no direct toxic effect on the lungs but exerts its effect on tissues by interfering with oxygen transport. Hence, conditions with an increased demand for oxygen supply can be adversely affected by exposure to CO. Individuals most at risk include fetuses, patients with diseases involving heart and blood vessels, and patients with chronic hypoxemia (oxygen deficiency) as seen at high altitudes.

Nitrogen Dioxide. NO_2 is a product of combustion and is generated in vehicles and in stationary sources, such as power plants and boilers. It is also formed when ozone reacts with NO in the atmosphere. As noted above, NO_2 is part of the NO_X family and is a principal contributor to ozone and smog generation. Population-based studies suggest that an increase in acute respiratory illness, including infections and respiratory symptoms in children, is associated with long-term exposure to NO_2 at levels found in homes with gas stoves, which are higher than ambient levels found in Southern California. Airway contraction and increased resistance to air flow are observed after short-term exposure to NO_2 in healthy subjects. Larger decreases in lung functions are observed in individuals with asthma or chronic obstructive pulmonary disease (e.g., chronic bronchitis, emphysema) than in healthy individuals, indicating a greater susceptibility of these sub-groups.

Sulfur Dioxide. SO_2 is a combustion product, with the primary source being power plants and heavy industries that use coal or oil as fuel. SO_2 is also a product of diesel engine combustion. SO_2 in the atmosphere contributes to the formation of acid rain. SO_2 can irritate lung tissue and increase the risk of acute and chronic respiratory disease. In asthmatics, increased resistance to air flow and a reduction in

breathing capacity leading to severe breathing difficulties are observed after acute exposure to SO_2. In contrast, healthy individuals do not exhibit similar acute responses even after exposure to higher concentrations of SO_2. Some population-based studies indicate that the mortality and morbidity effects associated with fine particles show a similar association with ambient SO_2 levels. In these studies, efforts to separate the effects of SO_2 from those of fine particles have not been successful. It is not clear whether the two pollutants act synergistically, or one pollutant alone is the predominant factor.

Lead. Lead is a highly toxic metal that may cause a range of human health effects. Previously, the lead used in gasoline anti-knock additives represented a major source of lead emissions to the atmosphere from mobile and industrial sources. EPA began working to reduce lead emissions soon after its inception, issuing the first reduction standards in 1973. In 1975, unleaded gasoline was introduced for motor vehicles equipped with catalytic converters. EPA banned the use of leaded gasoline in highway vehicles in December 1995. As a result of EPA's regulatory efforts to remove lead from gasoline, emissions of lead from the transportation sector and levels of lead in the air decreased dramatically. Fetuses, infants, and children are more sensitive than others to the adverse effects of lead exposure. Exposure to low levels of lead can adversely affect the development and function of the central nervous system, leading to learning disorders, distractibility, inability to follow simple commands, and lower intelligence quotient. In adults, increased lead levels are associated with increased blood pressure. Lead poisoning can cause anemia, lethargy, seizures, and death, although it appears that there are no direct effects of lead on the respiratory system.

Particulate Matter. PM is a complex mixture of extremely small particles that consists of dry solid fragments, solid cores with liquid coatings, and small liquid droplets. PM is made up of a number of components, including acids (such as nitrates and sulfates), organic chemicals, metals, soot, and soil or dust particles. Natural sources of PM include windblown dust and ocean spray. The size of PM is directly linked to the potential for causing health problems. EPA is concerned about particles that are 10 micrometers in diameter or smaller, because these particles generally pass through the throat and nose and enter the lungs. Once inhaled, these particles can affect the heart and lungs and cause serious health effects. Health studies have shown a significant association between exposure to PM and premature death. Other important effects include aggravation of respiratory and cardiovascular disease, lung disease, decreased lung function, asthma attacks, and certain cardiovascular problems such as heart attacks and irregular heartbeat (EPA, 2016). Individuals particularly sensitive to fine particle exposure include older adults, people with heart and lung disease, and children. A consistent correlation between elevated PM levels and an increase in mortality rates, respiratory infections, number and severity of asthma attacks, and the number of hospital admissions has been observed in different parts of the United States and various areas around the world. In recent years, some studies have reported an association between long-term exposure to air pollution dominated by fine particles and increased mortality, reduction in lifespan, and an increased mortality from lung cancer. EPA groups PM into two categories, which are described below.

PM_{10}. PM_{10} includes both fine and coarse dust particles; the fine particles are $PM_{2.5}$. Coarse particles, such as those found near roadways and dust-producing industries, are larger than 2.5 micrometers and smaller than 10 micrometers in diameter. Sources of coarse particles include crushing or grinding operations and dust from paved or unpaved roads. Control of PM_{10} is primarily achieved through the control of dust at

construction and industrial sites, the cleaning of paved roads, and the wetting or paving of frequently used unpaved roads.

$PM_{2.5}$. Fine particles, such as those found in smoke and haze, are $PM_{2.5}$. Sources of fine particles include all types of combustion activities (motor vehicles, power plants, wood burning, etc.) and certain industrial processes. $PM_{2.5}$ is also formed through reactions of gases, such as SO_2 and NO_X, in the atmosphere. $PM_{2.5}$ is the major cause of reduced visibility (haze) in California.

3.1.2 Air Quality Standards

Health-based air quality standards have been established for these criteria pollutants by EPA at the national level and by CARB at the state level. These standards were established to protect the public with a margin of safety from adverse health impacts due to exposure to air pollution. California has also established standards for sulfates, visibility-reducing particles, hydrogen sulfide, and vinyl chloride. Table 3.1-1 presents the National Ambient Air Quality Standards (NAAQS) and the California Ambient Air Quality Standards (CAAQS).

Both EPA and CARB use ambient air quality monitoring data to designate areas according to their attainment status for criteria air pollutants. The purpose of these designations is to identify the areas with air quality problems and initiate planning efforts for improvement. The three basic designation categories are nonattainment, attainment, and unclassified. An “attainment” designation for an area signifies that pollutant concentrations did not exceed the established standard. In most cases, areas designated or re-designated as attainment must develop and implement maintenance plans (i.e., an area that was previously in nonattainment but now attains the standard). These areas are designated as “maintenance” areas and are currently under a maintenance plan to ensure continued compliance with the standard.

In contrast to attainment, a “nonattainment” designation indicates that a pollutant concentration has exceeded the established standard. Nonattainment may differ in severity. To identify the severity of the problem and the extent of planning and actions required to meet the standard, nonattainment areas are assigned a classification that is commensurate with the severity of their air quality problem (e.g., moderate, serious, severe, extreme).

Finally, an unclassified designation indicates that insufficient data exist to determine attainment or nonattainment. In addition, the California designations include a subcategory of nonattainment-transitional, which is given to nonattainment areas that are progressing and nearing attainment. As shown in Table 3.1-1, the SCAB is designated as a maintenance area for CO and PM_{10}, as a nonattainment area for ozone and $PM_{2.5}$, and as an unclassifiable or attainment area for NO_2 and SO_2 under the NAAQS. Additionally, the SCAB is designated as a partial nonattainment area for the Los Angeles County portion of the SCAB for near-source monitors for the lead NAAQS. The SCAB is designated as an attainment area for all criteria air pollutants except ozone, PM_{10}, and $PM_{2.5}$ under the CAAQS. The most current monitoring station data and attainment designations for the area surrounding the Project Site are shown in Table 3.1-2.

Table 3.1-3.1-1 NAAQS and CAAQS Attainment Status - South Coast Air Basin

		CAAQS		NAAQS	
Criteria Pollutant	**Averaging Time**	**Averaging Time**	**Designation**	**Averaging Time**	**Designation**
Ozone (O_3)	1-Hour	0.09 ppm	Nonattainment	—	—
	8-Hour	0.070 ppm		0.070 ppm	Nonattainment (Extreme)
PM_{10}	24-Hour	50 µg/m^3	Nonattainment	150 µg/m^3	Attainment (Maintenance)
	Annual	20 µg/m^3		—	—
$PM_{2.5}$	24-Hour	—	Nonattainment	35 µg/m^3	Nonattainment (Serious)
	Annual	12.0 µg/m^3		12.0 µg/m^3	Attainment
CO	1-Hour	20 ppm	Attainment	35 ppm	Attainment (Maintenance)
	8-Hour	9 ppm		9 ppm	
NO_2	1-Hour	0.18 ppm	Attainment	0.10 ppm	Unclassifiable/Attainment
	Annual	0.030 ppm		0.053 ppm	Attainment
SO_2	1-Hour	0.25 ppm (655 µg/m^3)	Attainment	75 ppb	Designations Pending
	24-Hour	0.04 ppm (105 µg/m^3)		0.14 ppm	Unclassifiable/Attainment
	Annual Arithmetic Mean	—		0.03 ppm	Unclassifiable/Attainment
Lead	30-Day Average	1.5 µg/m^3	Attainment	—	—
	Rolling 3-Month Average 24 Hour	—		1.5 µg/m^3	Nonattainment (Partial)
Sulfates	24-Hour	25 µg/m^3	Attainment	No National Standards	
Hydrogen Sulfides	1-Hour	0.03 ppm (42 µg/m^3)	Attainment		
Vinyl Chloride	24-Hour	0.01 ppm (26 µg/m^3)	Attainment		

Notes: NO_2 = nitrogen dioxide; PM_{10} = suspended particulate matter less than 10 micrometers in diameter; $PM_{2.5}$ = fine particulate matter less than 2.5 micrometers in diameter; CO = carbon monoxide; SO_2 = sulfur dioxide; ppm = parts per million; ppb = parts per billion; µg/m^3 = micrograms per cubic meter.
Source: SCAQMD 2016

3.1.3 South Coast Air Basin Existing Air Quality

The South Coast Air Quality Management District (SCAQMD) is responsible for enforcing the rules and regulations protecting air quality in the SCAB. Ambient air pollutant concentrations in the SCAB are measured at air quality monitoring stations operated by CARB and the SCAQMD. The closest SCAQMD air quality monitoring station to the Project is the Mission Viejo monitoring station, located at 26081 Via Pera, Mission Viejo, California, approximately 5 miles southeast of the Project Site. This station monitors ozone, PM_{10}, and $PM_{2.5}$. Air quality monitoring data for CO were obtained from the SCAQMD Historical Data by Year tables for the Saddleback Valley source receptor area. Air quality data for NO_2 was obtained from the Costa Mesa monitoring station, located at 2850 Mesa Verde Drive, Costa Mesa, California, approximately 10 miles west of the Project Site. Table 3.1-2 presents 3 years of the most recent information available, summarizing the exceedances of standards and the highest recorded pollutant. These concentrations represent the existing, or baseline, conditions for the area surrounding the Project Site and are based on the most recent information that is available.

As shown in Table 3.1-2, ambient air concentrations of NO_2 did not exceed the NAAQS or CAAQS in 2017 through 2019. The 1-hour and 8-hour ozone standards were exceeded in 2017 through 2019. PM_{10} and $PM_{2.5}$ concentrations also exceeded the standards between 2017 and 2019.

3.2 TOXIC AIR CONTAMINANTS

In addition to criteria pollutants, both federal and state air quality regulations also focus on toxic air contaminants (TACs). TACs can be separated into carcinogens and noncarcinogens based on the nature of the effects associated with exposure to the pollutant. For regulatory purposes, carcinogens are assumed to have no safe threshold below which health impacts would not occur. Any exposure to a carcinogen poses some risk of contracting cancer. Noncarcinogens differ in that there is generally assumed to be a safe level of exposure below which no negative health impact is believed to occur. These levels are determined on a pollutant-by-pollutant basis.

TACs may be emitted by stationary, area, or mobile sources. Common stationary sources of TAC emissions include gasoline stations, dry cleaners, and diesel backup generators, which are subject to local air district permit requirements. The other, often more significant, sources of TAC emissions are motor vehicles on freeways, high-volume roadways, or other areas with high numbers of diesel particulate matter-emitting activities, such as distribution centers and railyards. Off-road mobile sources are also major contributors of TAC emissions and include construction equipment, ships, and trains.

3.2.1 Diesel Particulate Matter

Particulate exhaust emissions from diesel-fueled engines (diesel PM) were identified as a TAC by CARB in 1998. Federal and state efforts to reduce diesel PM emissions have focused on the use of improved fuels, adding particulate filters to engines, and requiring the production of new-technology engines that emit fewer exhaust particulates.

Table 3.2-1 Ambient Air Quality Summary

Pollutant Standards	2017	2018	2019
Ozone			
State maximum 1-hour concentration (0.09 ppm)	0.103	0.121	0.106
National maximum 8-hour concentration (0.070 ppm)	0.083	0.088	0.087
State maximum 8-hour concentration (0.070 ppm)	0.084	0.088	0.088
CAAQS Exceeded?	Yes	Yes	Yes
NAAQS Exceeded?	Yes	Yes	Yes
Number of Days Standard Exceeded			
CAAQS 1-hour	3	2	3
CAAQS 8- hour /NAAQS 8-hour	27/25	10/9	11/11
Carbon Monoxide (CO) [a]			
National/State Maximum 8-hour concentration (9 ppm/9.0 ppm)	0.9	0.9	0.8
National/State Maximum 1-hour concentration (35 ppm/20 ppm)	1.4	1.2	1.0
NAAQS/CAAQS Exceeded?	No	No	No
Nitrogen Dioxide (NO_2)			
National/State maximum 1-hour concentration (0.18 ppm/100 ppb)	0.045	*	*
National/State Annual Average (0.053 ppm/0.030 ppm)	*	*	*
NAAQS/CAAQS Exceeded?	*	*	*
Number of Days Standard Exceeded			
NAAQS 1-hour	0	0	0
CAAQS 1-hour	0	0	0
Particulate Matter (PM_{10})			
National maximum 24-hour concentration (150 $\mu g/m^3$)	58.2	55.6	45.1
State maximum 24-hour concentration (50 $\mu g/m^3$)	58.2	55.6	44.2
State annual average concentration (20 $\mu g/m^3$)	18.8	19.1	16.7
CAAQS Exceeded?	Yes	Yes	No
NAAQS Exceeded?	No	No	No
Measured Number of Days Standard Exceeded			
NAAQS 24-hour	0	0	0
CAAQS 24-hour	1	1	0
Particulate Matter ($PM_{2.5}$)			
National maximum 24-hour concentration (35 $\mu g/m^3$)	19.5	38.9	20.8
National annual average concentration (12.0 $\mu g/m^3$)	*	*	7.1
State annual average concentration (12 $\mu g/m^3$)	*	*	*
NAAQS Exceeded?	No	Yes	No
Measured Number of Days Standard Exceeded			
NAAQS 24-hour (>35 $\mu g/m^3$)	0	1	0

Notes: $\mu g/m^3$ = micrograms per cubic meter; CAAQS = California Ambient Air Quality Standards; NAAQS = National Ambient Air Quality Standards; ppb = parts per billion; ppm = parts per million

[a] Data obtained from the SCAQMD Historical Data by Year.

*Insufficient data to determine the value.

Source: CARB 2020a; SCAQMD 2020

Diesel engines tend to produce a much higher ratio of fine particulates than other types of internal combustion engines. The fine particles that make up diesel PM tend to penetrate deep into the lungs and the rough surfaces of these particles makes it easy for them to bind with other toxins within the exhaust, thus increasing the hazards of particle inhalation. Long-term exposure to diesel PM is known to lead to chronic, serious health problems, including cardiovascular disease, cardiopulmonary disease, and lung cancer.

In 2015, the SCAQMD published the Multiple Air Toxics Exposure Study IV (MATES IV), a monitoring and evaluation study conducted in the SCAB. The MATES IV consists of a monitoring program, an updated emissions inventory of TACs, and a modeling effort to characterize risk across the SCAB. The study focuses on the carcinogenic risk from exposure to air toxics. The MATES IV estimated population weighted risk in the SCAB is 897 per million, a decrease of about 57 percent compared to the previous study (MATES III). The study also showed that diesel exhaust emissions had declined by about 70 percent, but diesel PM continued to account for about two-thirds of the cancer risk from air toxics (SCAQMD, 2017b). MATES IV also extrapolated excess cancer risk levels throughout the SCAB by modeling specific grids. MATES IV estimates an excess cancer risk of 626 per million for the area surrounding the Project Site (SCAQMD, 2015). SCAQMD has begun the MATES V, which will include an updated emissions inventory of TACs and updated modeling effort to characterize risk across the SCAB.

3.2.2 Asbestos

Asbestos is a term used for several types of naturally occurring fibrous minerals that are a human health hazard when airborne. The most common type of asbestos is chrysotile, but other types such as tremolite and actinolite are also found in California. Asbestos was identified as a hazardous air pollutant by EPA in 1971 and identified as a TAC by CARB in 1986 (EPA, 2019a; Van Gosen, 2011). Subsequently, CARB adopted two Airborne Toxic Control Measures (ATCM) to address some of the health concerns associated with exposure to asbestos: ATCM for Surfacing Applications and ATCM for Construction, Grading, Quarrying, and Surface Mining Operations (discussed in more detail in Section 5.2.3 below).

Asbestos can be released from serpentine and ultramafic rocks when the rock is broken or crushed. At the point of release, the asbestos fibers may become airborne, causing air quality and human health hazards. These rocks have been commonly used for unpaved gravel roads, landscaping, fill projects, and other improvement projects in some localities. Asbestos may be released to the atmosphere due to vehicular traffic on unpaved roads, during grading for development projects, and at quarry operations. All of these activities may have the effect of releasing potentially harmful asbestos into the air. Natural weathering and erosion processes can act on asbestos-bearing rock and make it easier for asbestos fibers to become airborne if such rock is disturbed.

Serpentine may contain chrysotile asbestos, especially near fault zones. Ultramafic rock, a rock closely related to serpentinite, may also contain asbestos minerals. Asbestos can also be associated with other rock types in California, though much less frequently than serpentinite and/or ultramafic rock. Serpentinite and/or ultramafic rock are known to be present in 44 of California's 58 counties. These rocks are particularly abundant in counties of the Sierra Nevada foothills, the Klamath Mountains, and

Coast Ranges. The California Department of Conservation, Division of Mines and Geology has developed a map showing the general location of ultramafic rock in the state. According to the General Location Guide for Ultramafic Rocks in California, Orange County and the Project Site are not identified as areas likely to contain natural occurrences of asbestos (CDMG, 2000; Van Gosen, 2011).

3.3 ODOR

Odors are considered an air quality issue both at the local level (e.g., odor from wastewater treatment) and at the regional level (e.g., smoke from wildfires). Odors are generally regarded as an annoyance rather than a health hazard. However, manifestations of a person's reaction to foul odors can range from psychological (e.g., irritation, anger, or anxiety) to physiological (e.g., circulatory and respiratory effects, nausea, vomiting, and headache).

The ability to detect odors varies considerably among the population and is subjective. Some individuals have the ability to smell minute quantities of specific substances, while others may not have the same sensitivity but may have sensitivities to odors of other substances. In addition, people may have different reactions to the same odor; an odor that is offensive to one person (e.g., from a fast-food restaurant or bakery) may be perfectly acceptable to another. Unfamiliar odors may be more easily detected and likely to cause complaints than familiar ones.

Offensive odors can potentially affect human health in several ways. First, odorant compounds can irritate the eyes, nose, and throat, which can reduce respiratory volume. Second, the ROGs that cause odors can stimulate sensory nerves to cause neurochemical changes that might influence health, for instance, by compromising the immune system. Finally, unpleasant odors can trigger memories or attitudes linked to unpleasant odors, causing cognitive and emotional effects, such as stress.

Several examples of common land use types that generate substantial odors include wastewater treatment plants, landfills, composting/green waste facilities, recycling facilities, petroleum refineries, chemical manufacturing plants, painting/coating operations, rendering plants, and food packaging plants. There are no wastewater treatment plants, landfills, composting facilities, refineries, or chemical plants in the vicinity of the Project Site.

3.4 SENSITIVE RECEPTORS

Some members of the population are especially sensitive to air pollutant emissions and should be given special consideration when evaluating air quality impacts from projects. The SCAQMD considers a sensitive receptor to be a receptor such as residence, hospital, or convalescent facility where it is possible that an individual could remain for 24 hours (SCAQMD, 2008a).

Residential areas are considered sensitive to air pollution because residents (including children and the elderly) tend to be at home for extended periods of time, resulting in sustained exposure to pollutants present. Recreational land uses are considered moderately sensitive to air pollution. Exercise places a high demand on respiratory functions, which can be impaired by air pollution even though exposure periods during exercise are generally short. In addition, noticeable air pollution can detract from the

enjoyment of recreation. Industrial and commercial areas are considered the least sensitive to air pollution because exposure periods are relatively short and intermittent as the majority of the workers tend to stay indoors most of the time.

The Project Site is adjacent to the Great Park which serves outdoor recreational activities for the community. The nearest sensitive receptors to the Project Site are the residences in the senior housing community located approximately 650 feet north of the Project Site on Ridge Valley.

4 GREENHOUSE GAS EMISSIONS ENVIRONMENTAL SETTING

4.1 SCIENTIFIC BASIS OF CLIMATE CHANGE

Certain gases in the earth's atmosphere, classified as greenhouse gases (GHGs), play a critical role in determining the earth's surface temperature. A portion of the solar radiation that enters the earth's atmosphere is absorbed by the earth's surface, and a smaller portion of this radiation is reflected back toward space. This infrared radiation (i.e., thermal heat) is absorbed by GHGs within the earth's atmosphere. As a result, infrared radiation released from the earth that otherwise would have escaped back into space is instead "trapped," resulting in a warming of the atmosphere. This phenomenon, known as the "greenhouse effect," is responsible for maintaining a habitable climate on the earth.

GHGs are present in the atmosphere naturally, are released by natural and anthropogenic sources, and are formed from secondary reactions taking place in the atmosphere. Natural sources of GHGs include the respiration of humans, animals, and plants; decomposition of organic matter; and evaporation from the oceans. Anthropogenic sources include the combustion of fossil fuels, waste treatment, and agricultural processes. The following are GHGs that are widely accepted as the principal contributors to human-induced global climate change:

- Carbon dioxide (CO_2)
- Methane (CH_4)
- Nitrous oxide (N_2O)
- Hydrofluorocarbons (HFCs)
- Perfluorocarbons (PFCs)
- Sulfur hexafluoride (SF_6)

The majority of anthropogenic CO_2 emissions are byproducts of fossil fuel combustion. CH_4 is the main component of natural gas and is associated with agricultural practices and landfills. N_2O is a colorless GHG that results from industrial processes, vehicle emissions, and agricultural practices. HFCs are synthetic chemicals used as a substitute for chlorofluorocarbons in automobile air conditioners and refrigerants. PFCs are produced as a byproduct of various industrial processes associated with aluminum production and the manufacturing of semiconductors. SF_6 is an inorganic, odorless, colorless, nontoxic, nonflammable GHG used for insulation in electric power transmission and distribution equipment, and in semiconductor manufacturing. The primary GHGs that would be emitted during construction and operation of the Project are CO_2, CH_4, and N_2O.

Global warming potential (GWP) is a concept developed to compare the ability of each GHG to trap heat in the atmosphere relative to CO_2. The GWP of a GHG is based on several factors, including the relative

effectiveness of a gas to absorb infrared radiation and length of time (i.e., lifetime) that the gas remains in the atmosphere ("atmospheric lifetime"). The reference gas for GWP is CO_2; therefore, CO_2 has a GWP of 1. The other main GHGs that have been attributed to human activity include CH_4, which has a GWP of 25, and N_2O, which has a GWP of 298 (EPA, 2017a). For example, 1 ton of CH_4 has the same contribution to the greenhouse effect as approximately 25 tons of CO_2. GHGs with lower emissions rates than CO_2 may still contribute to climate change because they are more effective at absorbing outgoing infrared radiation than CO_2 (i.e., high GWP). The concept of CO_2-equivalents (CO_2e) is used to account for the different GWP potentials of GHGs to absorb infrared radiation.

Although the exact lifetime of any particular GHG molecule is dependent on multiple variables, it is understood by scientists who study atmospheric chemistry that more CO_2 is emitted into the atmosphere than is sequestered by ocean uptake, vegetation, and other forms of sequestration. GHG emissions related to human activities have been determined as "extremely likely" to be responsible (indicating 95 percent certainty) for intensifying the greenhouse effect and leading to a trend of unnatural warming of the earth's atmosphere and oceans, with corresponding effects on global circulation patterns and climate (CARB, 2014).

4.2 GHG INVENTORIES

GHG emissions contributing to global climate change are attributable in large part to human activities associated with the transportation, industrial/manufacturing, electric utility, residential, commercial, and agricultural categories. Emissions of CO_2 are byproducts of fossil fuel combustion and CH_4 is the primary component in natural gas and is associated with agricultural practices and landfills. N_2O is also largely attributable to agricultural practices and soil management.

4.2.1 National

EPA prepares the official United States Inventory of Greenhouse Gas Emissions and Sinks to comply with existing commitments under the United Nations Framework Convention on Climate Change (UNFCCC). In 2018, the United States generated 6,676 million metric tons (MMT) CO_2e (EPA, 2020). The transportation sector was the single largest source of GHG emissions in 2018, accounting for 29 percent of total GHG emissions. The transportation sector was followed by the electric power and industry sectors, which account for 27 and 22 percent of the total GHG emissions, respectively (EPA, 2020).

4.2.2 California

CARB performs an annual GHG inventory for emissions and sinks of the six major GHGs. California produced 425 MMT CO_2e in 2018 (CARB, 2020b). Combustion of fossil fuel in the transportation category was the single largest source of California's GHG emissions in 2018, accounting for 40 percent of total GHG emissions in the state. The transportation category was followed by the industrial and electric power (including in-state and out-of-state sources) categories, which account for 21 and 15 percent of the state's total GHG emissions, respectively (CARB, 2020b).

5 AIR QUALITY REGULATORY FRAMEWORK

Air quality in the SCAB is regulated by EPA, CARB, and the SCAQMD. Each of these agencies develops rules, regulations, or policies, and/or goals to attain the directives imposed through legislation. Although EPA regulation may not be superseded, both state and local regulations may be more stringent.

5.1 FEDERAL STANDARDS

EPA's air quality mandates are drawn primarily from the federal Clean Air Act (CAA), which was enacted in 1970 and amended in 1977 and 1990. The CAA requires EPA to establish the NAAQS and requires each state with regions that have not attained the NAAQS to prepare a State Implementation Plan (SIP), detailing how these standards are to be met in each local area. The SIP is a legal agreement between each state and the federal government to commit resources to improving air quality. It serves as the template for conducting regional and project-level air quality analysis. The SIP is not a single document, but a compilation of new and previously submitted attainment plans, emissions reduction programs, district rules, state regulations, and federal controls.

The CAA Amendments also require that states and local air quality agencies develop a Title V Operating Permit Program, which requires all "major sources" of pollutants to obtain Title V permits. The program is designed to ensure compliance with all applicable requirements of the CAA and to enhance EPA's ability to enforce the CAA. Air pollution sources subject to the program must obtain an operating permit; states must develop and implement the program; and EPA must issue permit program regulations, review each state's proposed program, and oversee the state's efforts to implement any approved program.

Before 1994, there were no standards to limit the amount of emissions from off-road equipment. In 1994, EPA established emission standards for hydrocarbons, NO_X, CO, and PM to regulate new pieces of off-road equipment. These emission standards came to be known as Tier 1. Since that time, increasingly more stringent Tier 2, Tier 3, and Tier 4 (interim and final) standards were adopted by EPA, as well as by CARB. Tier 1 emission standards became effective in 1996. The more stringent Tier 2 and Tier 3 emission standards became effective between 2001 and 2008, with the effective date dependent on engine horsepower. Tier 4 interim standards became effective between 2008 and 2012, and Tier 4 final standards became effective in 2014 and 2015. Each adopted emission standard was phased in over time. New engines built in and after 2015 across all horsepower sizes must meet Tier 4 final emission standards. In other words, new manufactured engines cannot exceed the emissions established for Tier 4 final emissions standards.

5.1.1 Locomotive Emissions Standards

In March 2008, EPA adopted a three-part emissions standard program to reduce emissions from diesel locomotives over time. The regulation tightens emission standards for existing remanufactured locomotives and sets exhaust emission standards for newly built locomotives of model years 2011-2014 (Tier 3) and 2015 and beyond (Tier 4). The regulation is expected to reduce PM emissions from

applicable engines by as much as 90% and NO_X emissions by as much as 80 percent when fully implemented.

5.1.2 Code of Federal Regulations 49 Parts 200-299

Metrolink operations are subject to Federal Regulations that dictate the frequency and nature of mechanical inspections. The following rules describe the federal requirements:

- 229.21 Daily Inspections - Requires locomotives to be inspected and tested daily.
- 238.303 Exterior Inspections - Exterior mechanical inspection of passenger equipment each calendar day.
- 238.305 Interior Inspections - Interior mechanical inspection of passenger equipment each calendar day.
- 232.205 Class 1 Brake Test Initial Terminal Inspection – Functional air brake test at location where train is assembled.
- 238.313 Class 1 Air Brake Test – Functional air brake test required each calendar day.

5.2 STATE STANDARDS

CARB is the lead agency responsible for developing the SIP in California. Local air districts and other agencies prepare air quality attainment plans or air quality management plans, and submit them to CARB for review, approval, and incorporation into the applicable SIP.

5.2.1 California Clean Air Act

CARB is also responsible for coordination and oversight of state and local air pollution control programs in California and for implementing the California Clean Air Act (CCAA). The CCAA was adopted in 1988 and requires CARB to establish CAAQS. In most cases, CAAQS are more stringent than NAAQS. Other CARB responsibilities include, but are not limited to, overseeing local air district compliance with state and federal laws; approving local air quality plans; submitting SIPs to EPA; monitoring air quality; determining and updating area designations and maps; and setting emission standards for new mobile sources, consumer products, small utility engines, off-road vehicles, and fuels. CARB maintains air quality monitoring stations throughout the state in conjunction with local air districts. Data collected at these stations are used by CARB to classify air basins as being in attainment or nonattainment with respect to each pollutant and to monitor progress in attaining air quality standards.

The CCAA requires that each area exceeding the CAAQS for ozone, CO, SO_2, and NO_2 develop a plan aimed at achieving those standards. California Health and Safety Code Section 40914 requires air districts to design a plan that achieves an annual reduction in district-wide emissions of 5 percent or more, averaged every consecutive 3-year period. To satisfy this requirement, the local air districts have to develop and implement air pollution reduction measures, which are described in their air quality

attainment plans, and outline strategies for achieving the CAAQS for any criteria pollutants for which the region is classified as nonattainment.

CARB has established emission standards for vehicles sold in California and for various types of equipment. California gasoline specifications are governed by both state and federal agencies. During the past decade, federal and state agencies have imposed numerous requirements on the production and sale of gasoline in California. CARB has also adopted control measures for diesel PM and more stringent emissions standards for various on-road mobile sources of emissions, including transit buses and off-road diesel equipment (e.g., tractors, generators).

5.2.2 Tanner Toxics Act

TACs in California are regulated primarily through the Tanner Air Toxics Act (Chapter 1047, Statutes of 1983) and the Air Toxics Hot Spots Information and Assessment Act (Chapter 1252, Statutes of 1987). Assembly Bill (AB) 1807 sets forth a formal procedure for CARB to designate substances as TACs. Research, public participation, and scientific peer review must occur before CARB can designate a substance as a TAC. The Air Toxics Hot Spots Information and Assessment Act requires that TAC emissions from stationary sources be quantified and compiled into an inventory according to criteria and guidelines developed by CARB, and if directed to do so by the local air district, a health risk assessment (HRA) must be prepared to determine the potential health impacts of such emissions.

The CARB adopted a Diesel Risk Reduction Plan, which recommends control measures to achieve a diesel PM reduction of 85 percent by 2020 from year 2000 levels. Recent regulations and programs include the low-sulfur diesel fuel requirement and more stringent emission standards for heavy-duty diesel trucks and off-road in-use diesel equipment. As emissions are reduced, it is expected that the risks associated with exposure to the emissions will also be reduced.

The CARB has also developed the *Air Quality and Land Use Handbook: A Community Health Perspective* to provide guidance on land use compatibility with sources of TACs (CARB, 2005). These sources include freeways and high-traffic roads, commercial distribution centers, rail yards, refineries, dry cleaners, gasoline stations, and industrial facilities. The handbook is not a law or adopted policy but offers advisory recommendations for the siting of sensitive receptors near uses associated with TACs. The handbook indicates that land use agencies have to balance other considerations, including housing and transportation needs, economic development priorities, and other quality of life issues. The recommendations relevant to the Project include to avoid siting new sensitive land uses within 1,000 feet of a major service and maintenance rail yard. In response to new research demonstrating benefits of compact, infill development along transportation corridors, CARB released a technical supplement, *Technical Advisory: Strategies to Reduce Air Pollution Exposure Near High-Volume Roadways* (Technical Advisory; CARB 2017a), to the 2005 Air Quality and Land Use Handbook. This Technical Advisory was developed to identify strategies that can be implemented to reduce exposure at specific developments or as recommendations for policy and planning documents. It is important to note that it is not intended as guidance for a specific project and does not discuss the feasibility of mitigation measures for the purposes of compliance with the California Environmental Quality Act (CEQA). Some of the strategies

identified in the Technical Advisory include implementation design that promotes air flow and pollutant dispersion along street corridors, solid barriers, vegetation for pollutant dispersion, and indoor high efficiency filtration (CARB, 2017a).

5.2.3 Airborne Toxic Control Measures Related to Address Asbestos Exposure

The EPA requires specific work practices to control the release of asbestos fibers relating to a renovation and/or demolition activity. The EPA delegates enforcement authority to state and local agencies for renovation and/or demolition activities that involve the handling of asbestos. After identifying asbestos as a TAC in 1986, CARB adopted two ATCMs to address some of the health concerns associated with exposure to asbestos: ATCM for Surfacing Applications (adopted in 1990) and ATCM for Construction, Grading, Quarrying, and Surface Mining Operations (adopted in 2001). The two asbestos regulations address minimizing the placement of asbestos-containing materials on unpaved surfaces and requiring work practices to minimize asbestos emissions from such activities where naturally-occurring asbestos is found or is likely to be found. The ATCMs were intended to minimize the release of asbestos fibers during activities involving the handling of asbestos.

5.3 REGIONAL AND LOCAL STANDARDS

In Orange County, the SCAQMD is the agency responsible for protecting public health and welfare through the administration of federal and state air quality laws and policies. Included in the SCAQMD's tasks are monitoring of air pollution, preparation of air quality plans, and promulgation of rules and regulations.

The SCAQMD monitors air quality within the Project Site and the SCAB, which includes Orange County and portions of Los Angeles, Riverside, and San Bernardino Counties. The SCAB is bounded by the Pacific Ocean to the west; the San Gabriel, San Bernardino, and San Jacinto Mountains to the north and east; and the San Diego County line to the south.

Under the CCAA, the SCAQMD is required to develop an air quality attainment plan for nonattainment criteria pollutants within the air district. The most recent air quality plan developed by the SCAQMD is the 2016 Air Quality Management Plan (AQMP). The 2016 AQMP is the legally enforceable blueprint for how the region will meet and maintain the NAAQS and CAAQS. The 2016 AQMP identifies strategies and control measures needed to achieve attainment of the 8-hour ozone standard and federal annual and 24-hour standard for PM2.5 in the SCAB (SCAQMD, 2017a). The future emission forecasts are primarily based on demographic and economic growth projections provided by Southern California Association of Governments (SCAG).

SCAQMD rules relevant to the Project include, but are not limited to:

- Regulation IV: Prohibitions; Rule 401: Visible Emissions. Prohibits the generation of particulate matter emissions that exceed the visible emissions threshold.
- Regulation IV: Prohibitions; Rule 402: Nuisance. Prohibits the discharge, from any source, of such quantities of air contaminants or other materials that cause or have a tendency to cause injury, detriment, nuisance, annoyance to people and/or the public, or damage to any business or property.
- Regulation IV: Prohibitions; Rule 403: Fugitive Dust. Regulates fugitive dust emissions from any commercial construction or demolition activity capable of generating fugitive dust emissions, including active operations, open storage piles, and inactive disturbed areas, as well as track-out and carry-out onto paved roads beyond a project site.
- Regulation XI: Source Specific Standards; Rule 1113: Architectural Coatings. Requires manufacturers, distributors, and end users of architectural and industrial maintenance coatings to reduce VOC emissions from the use of these coatings, primarily by placing limits on the VOC content of various coating categories.
- Regulation XIV: Toxics and Other Non-Criteria Pollutants; Rule 1403: Requires notification and work practice standards to limit asbestos emissions from building demolition and renovation activities, including the removal and associated disturbance of asbestos-containing materials.
- Regulation XIV: Toxics and Other Non-Criteria Pollutants; Rule 1470: Requires all internal combustion engines (ICEs) greater than 50 brake horsepower to obtain a permit to construct from the SCAQMD prior to installation of the engines at a site.

The Project is required to comply with these rules, and conformance would be incorporated into Project specifications and procedures.

6 GREENHOUSE GAS REGULATORY FRAMEWORK

6.1 FEDERAL STANDARDS

EPA is the federal agency responsible for implementing the federal CAA. The Supreme Court of the United States ruled on April 2, 2007, that CO_2 is an air pollutant as defined under the CAA, and that EPA has the authority to regulate emissions of GHGs.

6.1.1 Greenhouse Gas Findings Under the Federal Clean Air Act

On December 7, 2009, EPA signed two distinct findings regarding GHGs under Section 202(a) of the CAA:

- Endangerment Finding: The Administrator finds that the current and projected concentrations of the six key well-mixed greenhouse gases—CO_2, CH_4, N_2O, HFCs, PFCs, and SF_6—in the atmosphere threaten the public health and welfare of current and future generations.
- Cause or Contribute Finding: The Administrator finds that the combined emissions of these well-mixed greenhouse gases from new motor vehicles and new motor vehicle engines contribute to the greenhouse gas pollution which threatens public health and welfare.

Although these findings did not themselves impose any requirements on industries or other entities, this action was a prerequisite to finalizing EPA's *Proposed Rulemaking to Establish Light Duty Vehicle Greenhouse Gas Emission Standards and Corporate Average Fuel Economy Standards* (EPA, 2009). On May 7, 2010, the final *Light-Duty Vehicle Greenhouse Gas Emissions Standards and Corporate Average Fuel Economy Standards* were published in the Federal Register (EPA, 2010). Phase 1 of the emissions standards required model year 2012 through 2016 vehicles to meet an estimated combined average emissions level of 250 grams of CO_2 per mile, which is equivalent to 35.5 miles per gallon if the automobile industry were to meet this CO_2 level solely through fuel economy improvements.

On August 28, 2012, the U.S. Department of Transportation (USDOT) and EPA issued a joint Final Rulemaking requiring additional federal GHG and fuel economy standards for Phase 2 of the emissions standards for model year 2017 through 2025 passenger cars and light-duty trucks. The standards would require these vehicles to meet an estimated combined average emissions level of 163 grams of CO_2 per mile in model year 2025, which is equivalent to 54.5 miles per gallon if the improvements were made solely through fuel efficiency. However, on April 2, 2018, EPA issued a Mid-term Evaluation Final Determination, which finds that the model year 2022 through 2025 emissions standards are not appropriate and should be revised. This Mid-term Evaluation is not a final agency action; rather, this determination led to the rule making of the Safer Affordable Fuel Efficient (SAFE) Vehicles Rule (EPA, 2018).

In addition to the standards for light-duty vehicles, USDOT and EPA adopted complementary standards to reduce GHG emissions and improve the fuel efficiency of heavy-duty trucks and buses on September 15, 2011. The Phase 1 standards together form a comprehensive heavy-duty national program for all on-road vehicles rated at a gross vehicle weight at or above 8,500 pounds for model years 2014 through 2018. The standards were phased in with increasing stringency in each model year from 2014 through 2018. The EPA standards adopted for 2018 represent an average per-vehicle reduction in GHG emissions of 17 percent for diesel vehicles and 12 percent for gasoline vehicles (EPA, 2011). Building on the success of the Phase 1 standards, EPA and the National Highway Traffic Safety Administration finalized Phase 2 standards for medium- and heavy-duty vehicles through model year 2027. The Phase 2 standards are expected to lower CO_2 emissions by approximately 1.1 billion MT. On November 16, 2017, EPA released a proposed rule to repeal the emission standards for heavy-duty glider vehicles, glider engines, and glider kits (EPA, 2017b).

6.1.2 Safer Affordable Fuel Efficient Vehicles Rule

In September 2019, the National Highway Traffic Safety Agency (NHTSA) and the EPA published the SAFE Vehicles Rule Part One: One National Program. The SAFE Part One Rule revokes California's authority and vehicle waiver to set its own emissions standards and set zero emission vehicle mandates in California for passenger cars and light trucks and establish new standards, covering model years 2021 through 2026. In April 2020, the EPA and NHTSA issued the second part of the proposed SAFE Vehicles Rule. This final rule became effective on June 29, 2020. The Final SAFE Rule relaxed the federal GHG emissions and fuel economy standards to increase in stringency at only about 1.5 percent per year from model year 2020 levels over model years 2021–2026. The previously established emission standards and related "augural" fuel economy standards would have achieved about 4 percent per year improvements through MY 2025 (CARB, 2020c). During the period the federal action is in effect, the CARB will administer the affected portions of its program on a voluntary basis. On January 20, 2021, President Joseph Biden signed an Executive Order directing consideration of labor unions, States, and industry views to propose suspension, revision, or rescindment of the SAFE Vehicles Rule (The White House, 2021).

6.1.3 Mandatory Greenhouse Gas Reporting Rule

On September 22, 2009, EPA published the Final Mandatory Greenhouse Gas Reporting Rule (Reporting Rule) in the Federal Register. The Reporting Rule requires reporting of GHG data and other relevant information from fossil fuel and industrial GHG suppliers, vehicle and engine manufacturers, and all facilities that would emit 25,000 MT or more of CO_2e per year. Facility owners are required to submit an annual report with detailed calculations of facility GHG emissions on March 31 for emissions from the previous calendar year. The Reporting Rule also mandates recordkeeping and administrative requirements to enable EPA to verify the annual GHG emissions reports.

6.2 STATE STANDARDS

CARB is the agency responsible for coordination and oversight of state and local air pollution control programs in California and for implementing the CCAA.

6.2.1 Assembly Bill 1493

AB 1493, signed in July 2002, requires CARB to develop and implement regulations to reduce automobile and light truck GHG emissions. These stricter emissions standards were designed to apply to automobiles and light trucks beginning with model year 2009. In June 2009, the EPA Administrator granted a CAA waiver of preemption to California. This waiver allowed California to implement its own GHG emissions standards for motor vehicles beginning with model year 2009. California agencies worked with federal agencies to conduct joint rulemaking to reduce GHG emissions for passenger car model years 2017 through 2025. However, this waiver was revoked and the GHG emission standards were relaxed with the passage of the SAFE Rule, as discussed above.

6.2.2 Executive Order S-3-05

Executive Order (EO) S-3-05, signed in June 2005, proclaimed that California is vulnerable to the impacts of climate change. EO S-3-05 declared that increased temperatures could reduce the Sierra Nevada's snowpack, further exacerbate California's air quality problems, and potentially cause a rise in sea levels. To combat those concerns, the executive order established total GHG emissions targets. Specifically, emissions were to be reduced to 2000 levels by 2010, to 1990 levels by 2020, and to 80 percent below the 1990 levels by 2050. The statewide GHG emissions in 2000 were approximately 466 MMT CO_2e (CARB, 2012). In 2010, overall statewide GHG emissions were approximately 453 MMT CO_2e, exceeding the 2010 goal established by Executive Order S-3-05 (CARB, 2012).

6.2.3 Assembly Bill 32

In 2006, California passed the California Global Warming Solutions Act of 2006 (AB 32; California Health and Safety Code Division 25.5, Sections 38500, et seq.). AB 32 further details and puts into law the mid-term GHG reduction target established in Executive Order S-3-05: reduce GHG emissions to 1990 levels by 2020. AB 32 also identifies CARB as the state agency responsible for the design and implementation of emissions limits, regulations, and other measures to meet the target. AB 32 also established several programs to achieve GHG emission reductions, including the Low Carbon Fuel Standard and the Cap-and-Trade program. As of 2017, the state has reduced emissions below the revised AB 32 limit of 427 MMT CO_2e.[1]

6.2.4 Senate Bill 32

In 2016, the California State Legislature adopted Senate Bill (SB) 32 and its companion bill AB 197, and both were signed by Governor Edmund Brown (California Legislative Information). SB 32 establishes a new climate pollution reduction target of 40 percent below 1990 levels by 2030 (California Legislative Information, 2015-2016).

6.2.5 CARB Climate Change Scoping Plans

In December 2008, CARB adopted its *Climate Change Scoping Plan. A Framework for Change* (Scoping Plan), which contains the main strategies California will implement to achieve the required GHG reductions required by AB 32 (CARB, 2008). The Scoping Plan also includes CARB-recommended GHG reductions for each emissions sector of California's GHG inventory. CARB further acknowledges that decisions about how land is used will have large impacts on the GHG emissions that will result from the transportation, housing, industry, forestry, water, agriculture, electricity, and natural gas emissions sectors.

CARB is required to update the Scoping Plan at least once every 5 years to evaluate progress and develop future inventories that may guide this process. CARB approved *First Update to the Climate Change Scoping Plan: Building on the Framework* in June 2014 (CARB, 2014). The Scoping Plan update

[1] For more detail, please see https://ww2.arb.ca.gov/ghg-2020-limit and https://ww2.arb.ca.gov/ghg-inventory-graphs.

includes a status of the 2008 Scoping Plan measures and other federal, state, and local efforts to reduce GHG emissions in California, and potential actions to further reduce GHG emissions by 2020.

In November 2017, CARB released the 2017 Climate Change Scoping Plan, which establishes a framework of action for California to reduce statewide emissions by 40 percent by 2030, compared to 1990 levels (CARB, 2017b). The 2017 Scoping Plan builds upon the framework established by the 2008 Scoping Plan and the 2014 Scoping Plan Update, while also identifying new, technologically feasible and cost-effective strategies to ensure that California meets its GHG reduction targets.

6.2.6 Executive Order S-1-07

EO S-1-07, which was signed by then California governor Arnold Schwarzenegger in 2007, proclaims that the transportation sector is the main source of GHG emissions in California, at more than 40 percent of statewide emissions. EO S-1-07 establishes a goal that the carbon intensity of transportation fuels sold in California should be reduced by a minimum of 10 percent by 2020. CARB adopted the low carbon fuel standard (LCFS) on April 23, 2009. In November 2015, the Office of Administrative Law approved re-adoption of the LCFS.

6.2.7 Executive Order B-30-15

In April 2015, Governor Edmund Brown issued an EO establishing a statewide GHG reduction goal of 40 percent below 1990 levels by 2030. The emission reduction target acts as an interim goal between the AB 32 goal (i.e., achieve 1990 emission levels by 2020) and Governor Brown's EO S-03-05 goal of reducing statewide emissions 80 percent below 1990 levels by 2050. In addition, the EO aligns California's 2030 GHG reduction goal with the European Union's reduction target (i.e., 40 percent below 1990 levels by 2030) that was adopted in October 2014.

6.2.8 Senate Bill 350

California's Renewables Portfolio Standard (RPS) was established in 2002 under SB 1078 and accelerated in 2006 under SB 107, by requiring that 20 percent of electricity retail sales be served by renewable energy sources by 2010. Subsequent recommendations in California energy policy reports advocated a goal of 33 percent by 2020, and on November 17, 2008, then governor Arnold Schwarzenegger signed EO S-14-08 requiring retail sellers of electricity to serve 33 percent of their load with renewable energy by 2020. In April 2011, SB X1-2 codified EO S-14-08, setting the new RPS targets at 20 percent by the end of 2013, 25 percent by the end of 2016, and 33 percent by the end of 2020 for all electricity retailers. In October 2015, Governor Edmund Brown signed SB 350, which extended the RPS target by requiring retail sellers to procure 50 percent of their electricity from renewable energy resources by 2030. This was followed by SB 100 in 2018, which further increased the RPS target to 60 percent by 2030 along with the requirement that all of the state's electricity come from carbon-free resources by 2045.

6.3 REGIONAL AND LOCAL STANDARDS

CARB acknowledges that local governments have broad influence and, in some cases, exclusive jurisdiction over activities that contribute to significant direct and indirect GHG emissions through their planning and permitting processes, local ordinances, outreach and education efforts, and municipal operations.

6.3.1 Southern California Association of Governments

On September 23, 2020, the SCAG adopted Connect SoCal, the 2020-2045 Regional Transportation Plan/Sustainable Communities Strategies. As a plan with the goal of accelerating the region's progress toward transportation and GHG reduction targets, programs within the Regional Transportation Plan/Sustainable Communities Strategy(RTP/SCS) focus on shifting travel to active transportation modes, expanding the transit network, and efficient movement of goods (SCAG, 2020a).

6.3.2 City of Irvine

On July 9, 2020, City Council voted to develop a City Climate Action Plan. The Climate Action Plan has not been prepared at the time of this analysis.

7 EMISSION ESTIMATES METHODOLOGY

Construction-related and operational activities associated with the Project will include emissions-generating sources. These emissions were estimated in accordance with SCAQMD and CARB guidelines, and as detailed below for construction and operations. Maximum potential emissions for construction and operations were each compared to the SCAQMD's thresholds of significance. The regional thresholds of significance were designed to identify those projects that would result in significant levels of air pollution and to assist the region in attaining the applicable state and federal ambient air quality standards, which were established using health-based criteria to protect the public with a margin of safety from adverse health impacts due to exposure to air pollution. Because regional air quality standards have been established for these criteria pollutants to protect the public with a margin of safety from adverse health impacts due to exposure to air pollution, these thresholds of significance can also be used to assess the Project's emissions and inform the Project's impacts to regional air quality and health risks under CEQA. The SCAQMD's thresholds of significance are shown in Table 9.1-1 in this memo. In addition, the SCAQMD has established localized thresholds of significance.

Project-related criteria air pollutant emissions may have the potential to exceed the CAAQS and NAAQS in the area surrounding the Project Site, even though these pollutant emissions may not be significant enough to create a regional impact to the SCAB. In order to assess local air quality impacts, the SCAQMD has developed Localized Significance Thresholds (LSTs) and supporting LST Methodology to assess the Project-related emissions in the project vicinity (SCAQMD, 2008a). The LST Methodology found that the primary emissions of concern are NO_2, CO, PM_{10}, and $PM_{2.5}$.

The LSTs represent the maximum emissions from a project that will not cause or contribute to an exceedance of the most stringent applicable federal or state ambient air quality standards and are developed based on the ambient concentrations of that pollutant for each source receptor area. Since the LSTs consider the ambient air quality, LSTs can also be used to identify those projects that would result in significant levels of air pollution and impact sensitive receptors.

The LST Methodology provides Look-Up Tables with different thresholds based on the location and size of the project site and distance to the nearest sensitive receptors. The Look-Up Tables provide thresholds for 1, 2, and 5-acre projects sites. Since the Project Site is approximately 21.3 acres, the 5-acre project site threshold was utilized in order to provide a conservative analysis for CO and PM_{10} emissions. Since the region is in nonattainment for ozone and $PM_{2.5}$ and the Project Site is larger than 5 acres, consistent with SCAQMD guidance, project-specific localized dispersion modeling was performed for NO_2 (an ozone precursor) and $PM_{2.5}$. The Project Site is located within Source Receptor Area 19, Saddleback Valley.

As described previously, the nearest sensitive receptors are the residences in the senior housing community located approximately 650 feet (200 meters) north of the Project Site. As such, the applicable LST for PM_{10} was determined assuming a receptor distance of 200 meters. In addition, since it is reasonable to assume that offsite workers located at the nursery to the west of the Project Site and buildings along Technology Drive could be present for periods of one to eight hours, the LST analysis was also performed for these worker receptors for pollutants with shorter averaging times, such as CO. The LST for CO was based on a 5-acre Project Site and 25-meter receptor distance. Since Project-specific localized dispersion modeling was performed for NO_2 and $PM_{2.5}$, the LSTs were based on the SCAQMD ambient air quality thresholds for these criteria pollutants. The applicable LSTs are summarized in Table 9.1-2in this memo.

7.1 CONSTRUCTION

Construction-related activities are temporary, short-term sources of emissions. Sources of construction-related criteria air pollutant and GHG emissions include construction equipment exhaust; construction-related trips by workers, delivery and hauling truck trips; fugitive dust from site preparation activities; and off-gassing from traffic coating and paving activities.

Construction of Phase 1 was assumed to begin in 2023 and last approximately 30 months. Construction of Phase 2 is anticipated to begin in 2025 and last approximately 23 months. Emissions generated by construction activities were modeled using emission factors from the CARB's OFFROAD 2017[2] and

[2] *OFFROAD2017 is CARB's emissions inventory database for off-road diesel engines, used to quantify the amount of pollutants from thousands of engines in equipment used in industrial applications, agriculture, construction, mining, oil drilling, power generation, and many other industries. OFFROAD2017 was used to generate emission factors for the different types of equipment anticipated to be used by the project. To develop the emission factors associated with each piece of off-road construction equipment that would be needed for the project, OFFROAD2017 was first used to generate an emissions inventory for Orange County. Equipment was aggregated to include all model years. This approach allows for the identification of typical characteristics for off-road vehicle equipment in Orange County (since the specific fleet that would be used for the project is unknown). The emissions inventory provided the total pollutant emissions (in tons per day) and equipment activity in Orange*

EMFAC 2017[3] inventory models. Construction emissions from the operation of diesel-fueled off-road equipment were estimated by multiplying construction equipment usage information by the equipment-specific emissions factors, based on aggregate model years and horsepower provided in OFFROAD. Construction equipment usage was provided by the Project engineers and include a range of equipment including, but not limited to, backhoes, concrete saws, dump trucks, excavators, generators, graders, rubber tired dozers, and electric/pneumatic equipment such as nail guns and power wrenches. Additional details on equipment types, counts, and estimated usage per day by construction phase are available in Appendix A.

Emissions from on-site and off-site on-road motor vehicles were estimated using vehicle trips, vehicle miles travelled (VMT), and EMFAC 2017 mobile source emission factors. The emission factors represent the fleet-wide average emission factors in Orange County. On-road emissions estimates also considered PM from break wear, tire wear, and re-entrained roadway dust. On-road motor vehicle usage was based on construction crew size and estimated number of haul truck trips provided by the Project engineers. The construction crew size ranged from approximately 10 to 57 workers per day depending on the individual construction subphases. It was assumed each construction worker would travel to and from the site each day (two one-way trips) and each trip length was assumed to be 14.7 miles based on the California Emissions Estimator Model (CalEEMod) default trip length for workers in Orange County. The analysis also assumed approximately 120,000 cubic yards (CY) of material import would be required, resulting in 7,500 loaded truck trips, during the earthwork subphase during construction of Phase 1. Material import truck trip lengths were assumed to be 20 miles based on the CalEEMod default for haul trucks. In addition, the analysis accounted for concrete truck deliveries based on the anticipated concrete needs as identified by the Project engineers and an assumed concrete truck capacity of 9 CY. The analysis assumed 163 and 204 concrete trucks trips would be required during construction of Phase 1 and Phase 2, respectively. Concrete truck trip lengths were assumed to be 6.9 miles based on the CalEEMod default trip length for vendor trips. Additionally, the analysis assumed three delivery options for track material (i.e., rail, turnouts, ballast, and other track materials) deliveries. One option for delivery of these materials is delivery by haul trucks. It is estimated that approximately 1,224 and 333 truckloads of material would be required during construction of Phase 1 and Phase 2, respectively. The other option includes the use of two welded rail trains. Based on information provided by the Project engineers, the analysis assumed the flash butt welding machine is electric-powered and available in truck-design which was assumed to have a 599-horsepower diesel engine and require two full days of operation. The third material delivery option includes delivery by rail car. The analysis assumed one hour of train travel within the SCAB to deliver materials to the Project Site and an additional hour of idling to

County (in annual horsepower-hours (hp-hrs). Total daily pollutant emissions were then multiplied by 365 (to convert to tons per year), converted to grams, and then divided by total hp-hrs to derive an emissions rate in terms of grams per horsepower hour (g/hp-hr) for each vehicle classification and horsepower bin (e.g., 100 hp to 175 hp). To estimate the total daily mass of criteria air pollutant emissions from a piece of off-road construction equipment, the equipment's emissions factor (g/hp-hr) for each pollutant was multiplied by the equipment's horsepower, engine load factor, and maximum daily runtime hours. To estimate total mass emissions over the duration of construction, the daily mass emissions were multiplied by the maximum duration of use (days).

[3] The EMFAC 2017 factors, as applicable to vehicle categories, were adjusted off-model to account for the impacts of the "Safer Affordable Fuel-Efficient Vehicles Rule Part One: One National Program" adopted by the USEPA and the National Highway Traffic Safety Administration.

unload materials. It was assumed that the local work train delivering the materials would be a Tier-4 locomotive. Additional details regarding trip counts, trip lengths, and phasing are available in Appendix A.

Fugitive dust emissions were estimated using the U.S. EPA Compilation of Air Pollutant Factors (AP 42) and CalEEMod methodology for activities including material loading into haul trucks, vehicle miles traveled, earthwork quantities and activities including graders, scrapers, and dozers leveling land or moving dirt. Fugitive dust emission estimates of PM_{10} and $PM_{2.5}$ include reductions associated with implementation of fugitive dust control practices per SCAQMD Rule 403 (e.g., watering disturbed surface areas at least twice per day). Additional details are available in Appendix A.

The analysis also estimated VOC emissions associated with architectural coatings of the buildings and painting of stripes, handicap symbols, directional arrows, and car space descriptions in parking lots using CalEEMod version 2016.3.2 methodology and the anticipated building and parking lot square footages. The analysis also estimated off-gassing emissions associated with asphalt paving of the parking lot and paved access road using CalEEMod methodology. Additional details are available in Appendix A.

7.2 OPERATIONS

After construction of the Project, operations would generate long-term emissions of criteria air pollutants and GHGs from a variety of sources. Emissions generated by operational activities were modeled for locomotive operations, heavy-duty equipment used on-site (such as cranes and forklifts), emergency generator operations, sand silo refilling and use, fuel tank emissions, natural gas consumption, and on-road vehicle travel for worker, delivery, and haul trips to and from the Project Site. Indirect emissions were also modeled for indirect sources associated with electricity use, water demand, and waste generation. Operation of Phase 1 was assumed to begin in 2026 and emission factors used were based on anticipated equipment and vehicle fleets for this earliest possible operational year.

Locomotive emissions were estimated for on-site activity, which would include idling during service and inspection activities as well travel through the wash bay. Diesel locomotive engine power is controlled by “notched” throttles. Idling, braking, and moving the locomotive is conducted by placing the throttle in one of several available “notch” settings. A locomotive’s duty cycle is a description of how much, on average, the locomotive spends in each notch setting while operating. Emission factors for calculations were based on EPA’s 2009 Emission Factors for Locomotives Technical Highlights (EPA-240-F-09-025) and the conversion factors for CH_4 and N_2O from EPA’s 2018 Emission Factors for Greenhouse Gas Inventories guide. Emission standards are defined per unit of activity (in grams per horsepower-hour) for both Tier 2 and Tier 4 engines that would be serviced by the Project. Based on information provided by OCTA, the current fleet mix includes approximately 27 percent Tier 2 engines and approximately 73 percent Tier 4 engines. Per information provided by OCTA, it is anticipated that all locomotives would be Tier 4 by 2028. Since the first operational year of Phase 1 is anticipated to be 2026, the analysis assumed the fleet mix would be 8 percent Tier 2 and 92 percent Tier 4 locomotives by 2026 (using a linear conversion schedule based on the existing fleet mix and future 100 percent Tier 4 fleet). Emissions were estimated using the estimated on-site idling and operational time per train per day during service

at the Project Site. To estimate annual GHG emissions, daily emissions were annualized assuming 365 operating days per year. Additional details are available in Appendix A.

Train fueling and sanding would also occur on the Project Site. Fuel would be stored in four aboveground storage tanks with 30,000-gallon capacity and one aboveground storage tank with a 10,000-gallon capacity. Fugitive emissions associated with fueling were estimated using TankESP modeling software, based on the projected fuel daily throughput of approximately 13,000 gallons per day. Fugitive dust emissions associated with the sand silos were also estimated. The sand silos are used to store and distribute sand to locomotives as needed. Sand is used to provide traction and prevent wheel slip when moving locomotives. Sand throughput for the Project was estimated based on the throughput for a reference project (Los Angeles Commerce Railyard Maintenance Facility) and scaled based on facility operations. Emissions were estimated using EPA AP 42 Table 11.12-2 methodology. Additional details are available in Appendix A.

Emissions from the operation of diesel-fueled off-road yard equipment were estimated using emission factors from CARB's OFFROAD 2017 emissions database. Emissions were estimated by multiplying estimated daily equipment usage information (the number of each equipment type and hours of daily use) by the equipment-specific emissions factors, based on aggregate model years and horsepower provided in OFFROAD 2017. It was assumed the yard equipment would include four cranes and four forklifts. Emissions associated with limited testing and use of the on-site backup generator were also estimated and accounted for using emission factors and load factor from CalEEMod, and assuming up to 50 hours of use per year. On-road vehicle emissions were modeled using emission factors from the CARB EMFAC 2017[4] emissions inventory database. Emissions from on-road motor vehicles were estimated using vehicle trips per day, estimated trip distances, and EMFAC 2017 mobile source emission factors specific to the range of vehicle categories serving the Project for worker trips, delivery trips (including sand and fuel deliveries), and haul trips. The emission factors represent the fleet-wide average emission factors in Orange County for each vehicle category. On-road emissions estimates also considered particulate matter from break wear, tire wear, and re-entrained roadway dust. Re-entrained roadway dust emissions were estimated using the AP 42 Section 13.2.1 methodology for paved roads. Based on information provided by OCTA, the analysis assumed 40 workers would travel to and from the site each day and that 10 delivery haul trucks and 2 fuel trucks would travel to and from the site to represent a maximum daily emissions scenario. Additional details are available in Appendix A.

The Project would not result in an increase in commuter rail service or additional locomotive train travel in the region. Therefore, regional emissions associated with in-transit locomotive operations were assumed to remain like existing conditions. However, as described in more detail in Section 8.0 below, for the purposes of localized emissions and health risk assessment, emissions associated with on-site idling and train travel within one mile of the proposed Project Site were estimated. As described in Section 2, a maintenance facility located along the Metrolink route through Orange County, such as the

[4] *The EMFAC 2017 factors, as applicable to vehicle categories, were adjusted off-model to account for the impacts of the "Safer Affordable Fuel-Efficient Vehicles Rule Part One: One National Program" adopted by the USEPA and the National Highway Traffic Safety Administration.*

Project, would be the optimal location as it would reduce operating costs by limiting non-revenue moves to the existing SCRRA storage and maintenance facilities in the cities of Los Angeles and San Bernardino. The Project would provide equipment to inspect, clean, and maintain cars and locomotives on a regular and efficient basis. The storage and maintenance activities that would occur operationally at this facility would be a shift in these operations from the existing storage and maintenance facilities to the proposed Project Site. As such, due to the optimal location of the proposed Project Site, the Project is also anticipated to result in reduced locomotive travel in the region and a reduction in the emissions associated with locomotive and rail car travel in the region. It is also anticipated that total regional emissions associated with train idling would decrease at the existing maintenance facilities due to more efficient operations and logistics.

Natural gas would be consumed by on-site building operations. Monthly forecasted natural gas use for the facility was based upon default CalEEMod data for a general office building, and adjusted for the size of the proposed facility; this land use was selected as the most conservative assumption for units of natural gas consumption per 1,000 square feet of land use.

Indirect emissions associated with electricity generation, water use and waste disposal were calculated to estimate GHG emissions. Emission factors for electricity use were based on the utility-specific data for Southern California Edison (the electricity provider) and EPA eGrid data. Although GHG emissions associated with electricity production are anticipated to decline over time due to state regulations and the Renewables Portfolio Standards, emissions were estimated using the most current (2018) emissions factors which is estimated to be approximately 474 pounds per megawatt-hour. Monthly forecasted electricity use for the facility was based upon default CalEEMod data for a general office building and adjusted for the size of the proposed facility; this land use was selected as the most conservative assumption for units of electricity consumption per 1,000 square feet of land use. Estimated waste generation and emission factors for waste disposal were based upon default emissions factors available from the CalEEMod emissions estimating tool for Climate Zone 8. Water demand associated with train washes was estimated for the Project, and typical operational water demand for building operations was added to this using water demand estimates from CalEEMod for a general office building; this land use was selected as the most conservative assumption for units of water demand per 1,000 square feet of land use. Electricity demand associated with water supply, treatment and disposal were based on CalEEMod default data inputs. Using the same emission factors as previously described for Southern California Edison electricity, the indirect emissions associated with water demand were estimated using the Project specific water usage estimates and CalEEMod estimates of electricity consumption per gallon of water use. Additional details are available in Appendix A.

Consistent with CalEEMod methodology, emissions associated with periodic architectural coatings were also accounted for in the operational emissions estimates. The analysis assumed up to 10 percent of building and parking surface areas are repainted annually.

8 HEALTH RISK ASSESSMENT METHODOLOGY

8.1 DISPERSION MODELING

The American Meteorological Society/U.S. EPA Regulatory Model (AERMOD) dispersion model (Version 19191) (EPA, 2019b) was used to estimate pollutant concentrations at specific distances from Project emission sources, in conjunction with representative meteorological data from nearby John Wayne International Airport. AERMOD was applied with the regulatory default options and the urban modeling option (dispersion coefficients) with a population of 3,010,323 (Orange County), consistent with SCAQMD modeling guidance (SCAQMD, 2021a). Information regarding other model inputs are provided in the following sections.

8.1.1 Meteorological Data

AERMOD requires a sequential hourly record of dispersion meteorology representative of the region within which the Project would be located. AERMOD was supplied with 5 years (2012 to 2016) of hourly meteorological data consisting of surface observations from the John Wayne International Airport meteorological station in Santa Ana, the nearest station to the Project Site. Upper air data for this 5-year period was from San Diego, California. SCAQMD provides AERMOD-ready meteorological files on their website (SCAQMD, 2021b) to use for HRAs. This meteorological dataset was processed with the regulatory-approved low wind option (adjusted u-star). A wind rose of the 5 years of data is shown in Figure 8.1-1. The wind rose indicates that the predominant wind direction is onshore, from the southwest.

John Wayne International Airport is located approximately 6.2 miles west from the Project Site. An inspection of aerial imagery and topographic maps indicates there are no significant elevated terrain features between the two sites. Both sites are located at similar distances from the coastline and have higher terrain to the north and east. Therefore, the John Wayne International Airport data is the most representative meteorological dataset available for dispersion modeling.

8.1.2 Terrain and Receptor Data Processing

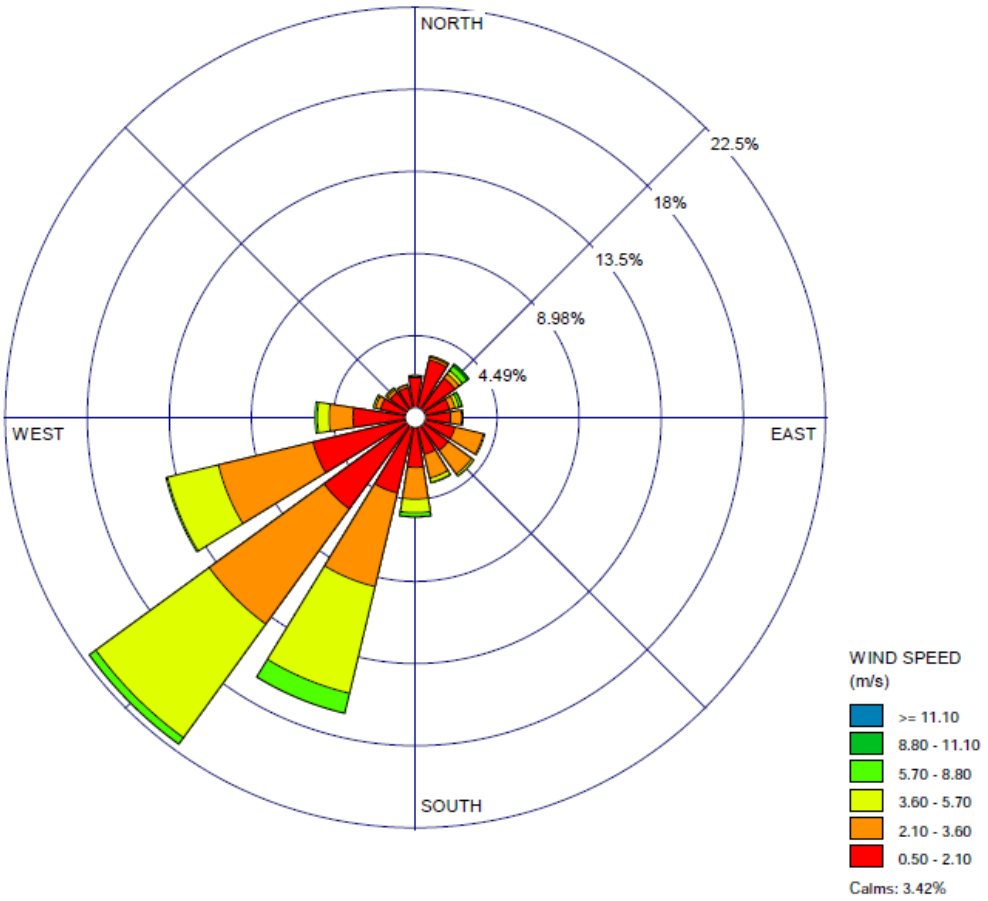
Terrain elevations were obtained from commercially available digital terrain elevations in the National Elevation Dataset (NED) developed by the U.S. Geological Survey (USGS, 2021). The NED data provide terrain elevations with 1-meter vertical resolution and 10-meter (1/3 arc-second) horizontal resolution based on a Universal Transverse Mercator (UTM) coordinate system. The U.S. Geological Survey specifies coordinates in North American Datum 83, UTM Zone 11. EPA's terrain pre-processor, AERMAP (Version 18081), was used to process the NED data and assign elevations to the receptor locations and sources.

As shown in Figure 8.1-2, construction-related pollutant concentrations were estimated for nearby receptors located within 1,000 feet of the Project and 500 feet on either side of roadways to account for Project-related traffic. Receptor spacing within 1,000 feet of the Project and 500 feet of roadways are set at 20-meter intervals. Pollutant concentrations for operations were estimated for nearby receptors

located within 1¼ miles of the Project Site. Figure 8.1-3 shows a map of the nested receptor grid used in assessing impacts from operations. The nested receptor grid used the following interval spacing:

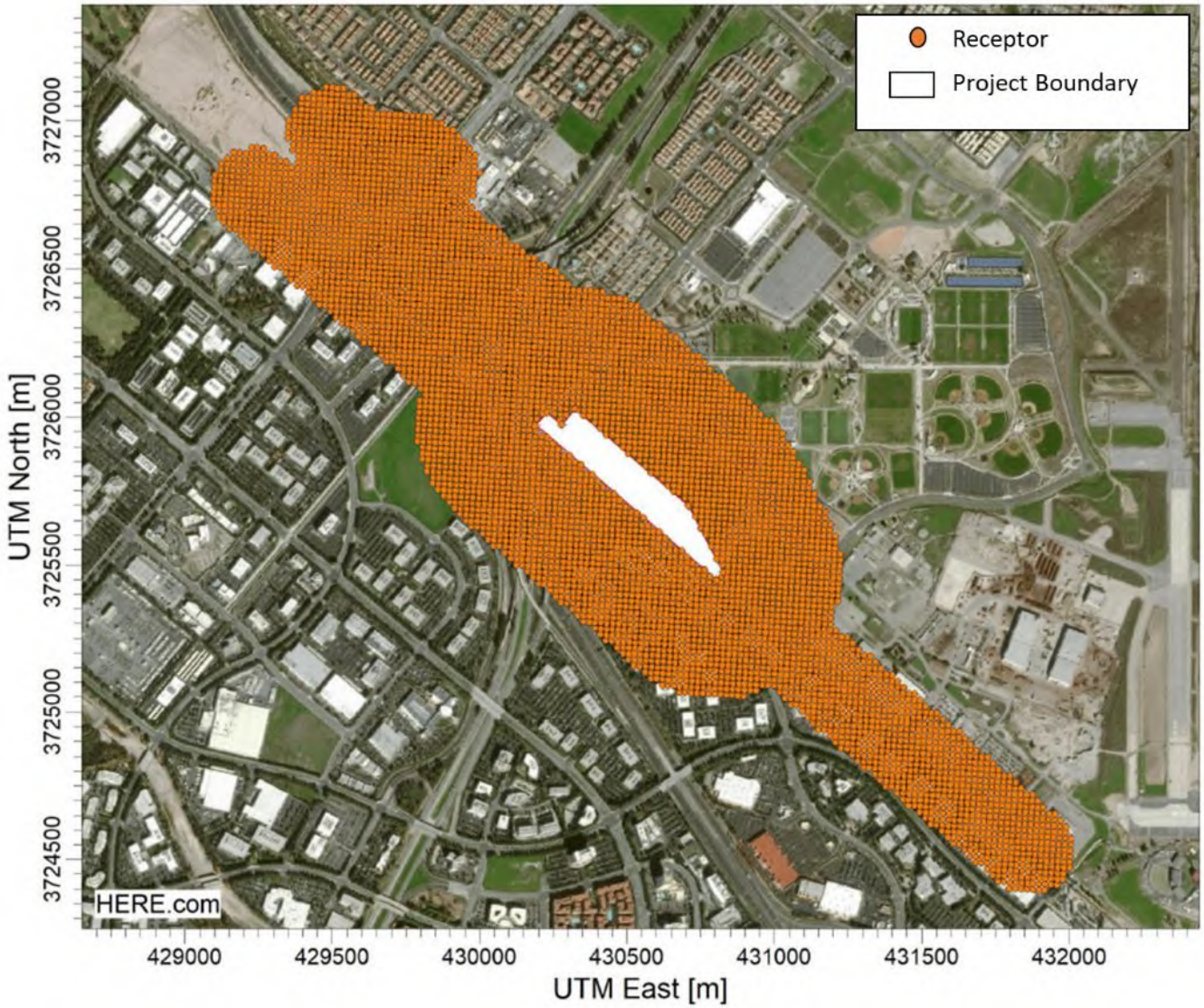
- Receptors within 500 meters of the Project boundary are spaced 20-meters apart,
- Receptors located between 500 meters and 970 meters are at 50-meter intervals, and
- Receptors beyond 970 meters to 1 ¼ mile are spaced 100 meters apart.

Figure 8.1-8.1-1 Wind Rose for John Wayne International Airport 2012-2016



Source: OCTA (2021)

Figure 8.1-8.1-2 HRA Receptor Locations for Construction Impact Analysis



Source: OCTA (2021)

Figure 8.1-8.1-3 HRA Receptor Locations for Operational Impact Analysis

Source: OCTA (2021)

8.1.3 Construction Sources

Off-road construction equipment utilized for on-site Project activities were modeled as multiple adjacent volume sources over the areas of construction-related activity. The locations of the volume sources vary by construction phase (Phase 1 and Phase 2). Phase 1 consists of construction activities in 2023 through first half of 2025. Phase 2 involves construction from July 2025 through June 2027. To account for potential turbulent mixing that can occur with engine exhaust from construction equipment, an initial vertical dimension of 1.4 meters for each volume source was used. Table 8.1-1 lists the volume source parameters used for construction-related activities, consistent with SCAQMD guidance (SCAQMD, 2008a).

Table 8.1-8.1-1 SCAQMD Adjacent Volume Source Parameters

Parameter	Adjacent Volume Sources
Release Height (m)	5.0
Lateral Dimension (m)[1]	20 by 20
Initial Vertical Height (m)	1.4

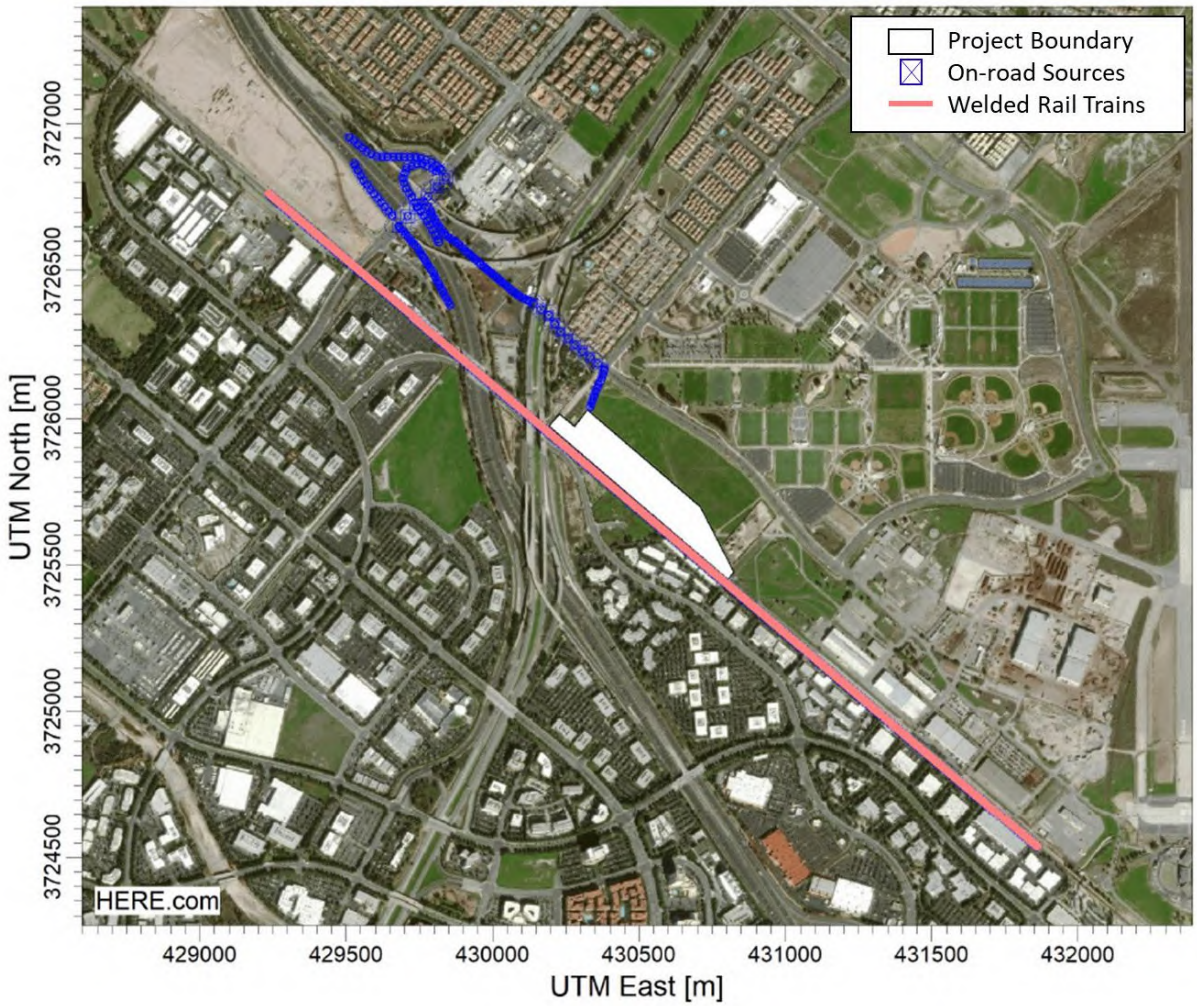
Notes: m = meters.
[1] For projects areas ≥ 5 acres.
Source: SCAQMD 2008a

On-road emissions from construction worker vehicles, haul trucks, material delivery trucks, and Project-related work trucks traveling to and from the Project Site were modeled as adjacent volume sources. The release height of these sources was set to 2 meters and the initial vertical dimension was set to 2.3 meters. The initial lateral dimensions vary depending on roadway width. All construction-related traffic would access the Project Site from Marine Way. As shown in Figure 8.1-4, traffic was modeled from the intersection of Marine Way and Ridge Valley to the on/off ramps of I-5 (with access from Sand Canyon Avenue). On-road traffic within 4,000 feet of the Project Site was included in the model. Modeling parameters for the area and roadway sources are summarized in Appendix B.

As discussed in Section 7.1, track materials delivered on site may arrive by two welded rail trains. These emission sources were modeled as adjacent volume sources along the existing rail line located adjacent to the southern boundary of the Project Site. The volume sources extended out approximately 4,000 feet in either direction from the Project Site. Figure 8.1-4 illustrates the segments of track included in the model for the welded rail trains. A release height of 5 meters and an initial vertical dimension of 1.40 meters were used, based on similar analyses (SJRRC, 2018) for rail sources.

Construction would occur Monday through Friday from 7 a.m. to 5 p.m. (2,607 hours per year); therefore, those hours were modeled in AERMOD using the EMISFACT HRDOW keywords to account for these Project-specific weekdays and hours.

Figure 8.1-8.1-4 On-Road/Rail Construction Emission Sources



Source: OCTA (2021)

8.1.4 Operational Sources

Operational emission sources evaluated as part of the HRA include locomotive operations, heavy-duty equipment used on-site (such as cranes and forklifts), fuel tank emissions, emergency generator, sand silos, and on-road vehicle travel to and from the site. Operation of Phase 1 was assumed to begin in July 2025 and operation of Phase 2 was assumed to begin in January 2028 (at the completion of construction of Phase 2).

Locomotive operations (including in-transit and idling) were modeled as adjacent volume sources along each section of track to be built on the site. Phase 1 includes 11 segments of track with Phase 2 adding another 5 segments for a total of 16 segments by 2028. For exhaust parameters, a similar methodology was used to that presented in the HRA conducted for the Central Maintenance Facility (Metrolink, 2014). This methodology included using EPA's SCREEN3 (EPA, 2013) screening-level dispersion model to estimate plume rise for the locomotives for daytime and nighttime hours. Table 8.1-2 summarizes the inputs to

SCREEN3. Based on the results from SCREEN3, separate daytime and nighttime model parameters for the locomotives were used, as listed in Table 8.1-3.

Table 8.1-8.1-2 Inputs to SCREEN3 for Locomotive Plume Rise Calculations

Parameter	Locomotives (Daytime)[4]	Locomotives (Nighttime)[4]
Release Height (m)[1]	4.6	4.6
Stack Diameter (m) [1]	0.666	0.666
Exit Velocity (m/s)[2]	7.03	7.03
Exit Temperature (K)[2]	422.38	422.38
Average Wind Speed (m/s)[3]	3.59	2.47
Average Air Temperature (K)[3]	294.89	290.64
Stability Class[1]	D	F

Notes: m = meters, m/s = meters per second, K = Kelvin
[1] Values obtained from Metrolink HRA (2014)
[2] Weighted average of idling, brake test, and in-transit velocity or temperature presented in Metrolink HRA. Assumed 10 minutes of idling and 1 hour of additional on-site engine operations (locomotive movement, maintenance, and testing) per train per day.
[3] Based on 2012-2016 meteorology from John Wayne International Airport.
[4] Included building information to account for downwash. Height (4.57 m), width (3 m), and length (20 m), consistent with Metrolink HRA.

Table 8.1-8.1-3 Adjacent Volume Source Parameters for Locomotives in AERMOD

Parameter	Daytime	Nighttime
Release Height (m)	10.64	23.76
Lateral Dimension (m)[1]	9.1	9.1
Initial Vertical Height (m)	13.79	10.84

Notes: m = meters.
[1] Width of track (3 m) plus wake zone (6 m) for a total width of 9.1 meters

Daytime locomotive emissions were modeled from 9 a.m. to 6 p.m. with nighttime emissions occurring from 6 p.m. until 9 a.m. Eighty percent of daily emissions were allocated to occur at night and the remaining 20 percent were assumed to occur during the day, given the majority of on-site activity that is anticipated to occur overnight.

In addition to open track areas, on-site train movement and idling would occur for short periods of time in the train wash or the maintenance buildings. Emissions from these locations were modeled as volume sources located at the height of the roof for each building. The parameters for these emissions sources are provided in Appendix B.

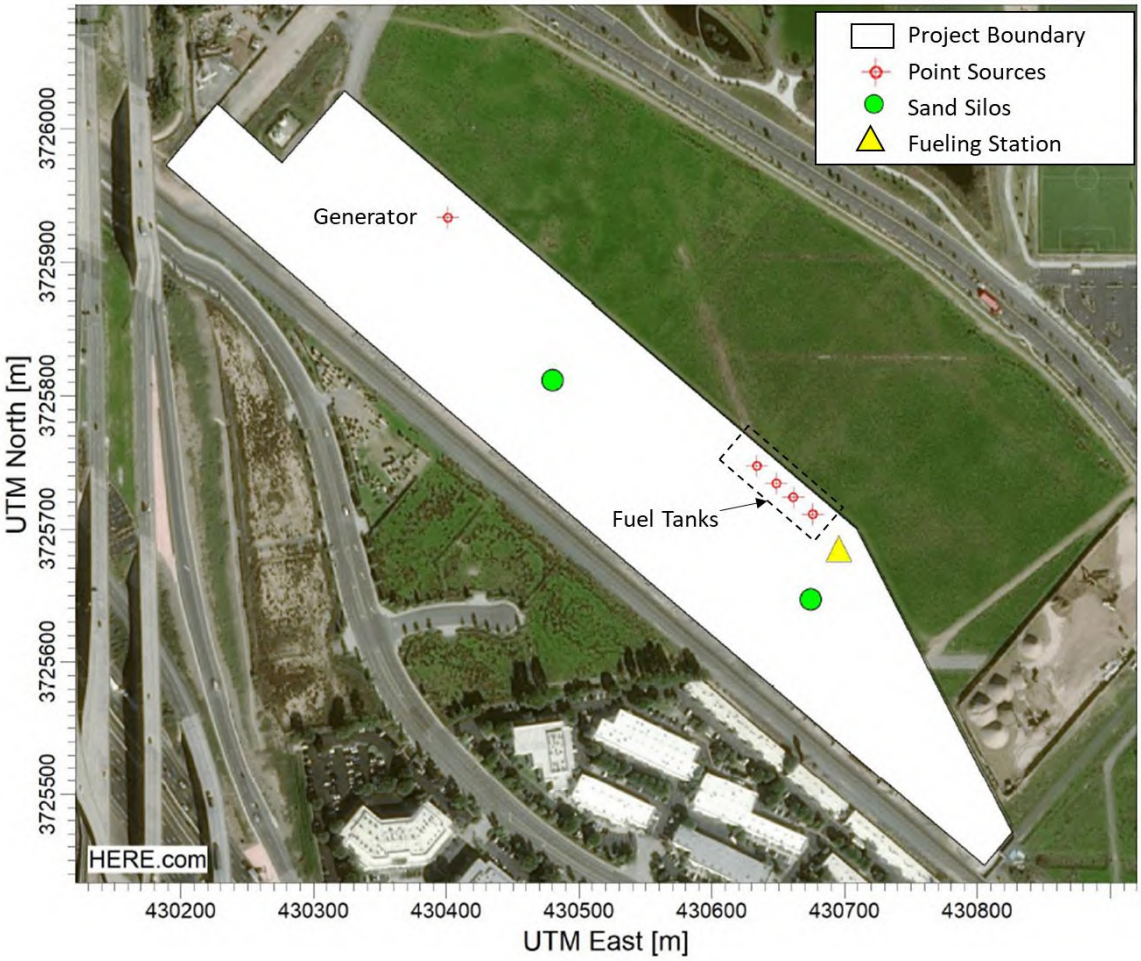
On-road emissions from operational vehicles associated with the Project Site were modeled as adjacent volume sources. The release height of these sources was set to 2 meters and the initial vertical dimension was set to 2.3 meters. The initial lateral dimensions vary depending on roadway width. Project-generated on-road traffic up to 6,500 feet of the Project Site was modeled. Fuel and sand deliveries were also accounted for in the on-road emissions. The on-site delivery routes are shown in Figure 8.1-5 with the on-road sources located within the Project Site. Figure 8.1-5 also illustrates the on-road vehicle routes modeled for Project operations (located off site), which aligns with traffic turn data from Figure 4.2-1 of the Traffic Technical Memorandum (AECOM, 2021). The source parameters are summarized in Appendix B.

Figure 8.1-8.1-5 On-Road Vehicles Routes for Operations

Source: OCTA (2021)

The on-site generator, sand silos, fuel tanks and dispenser were all modeled as stationary sources as shown in Figure 8.1-6. The generator and fuel tanks were modeled as vertical, uncapped point sources. Tank filling and silos were modeled as individual volume sources. Details on the source parameters for these stationary sources included in the model are provided in Appendix B.

Figure 8.1-8.1-6 Stationary Source Locations for Project Operations



Source: OCTA (2021)
Note: Fuel tanks were modeled both as point sources and as volume sources to account for fueling/spillage.

8.2 HEALTH RISK CHARACTERIZATION AND ESTIMATION

Risk characterization integrates exposure information provided by the dispersion modeling with potential health effects associated with specific TACs. This step provides quantitative estimates of potential health risks associated with TACs to which the potential existing off-site receptors of the Project would be exposed. AERMOD was run using unit emissions. Each source was modeled assuming emissions of 1 gram per second (g/s) for point sources, 1 g/s divided by the number of volume sources in a road segment, or 1 g/s divided by the area source in square meters. The unitized AERMOD results for each source are output in micrograms per cubic meter ($\mu g/m^3$) per g/s [$(\mu g/m^3)(g/s)^{-1}$]. Maximum hourly and period-average plot files generated by AERMOD as described above were input to HARP2 with corresponding TAC emission rates for each phase of construction as well as the Project's operational emissions to calculate the Project's concentration contributions. The HARP2 (Version 21081) (CARB, 2005) model was created by CARB and is used to estimate carcinogenic and noncarcinogenic health risks from proposed projects. The HARP2 model uses the equations and algorithms contained in the Office of Environmental Health Hazard Assessment's

(OEHHA) *Air Toxics Hot Spots Program Risk Assessment Guidelines: Guidance Manual for Preparation of Health Risk Assessments* (OEHHA 2015 Risk Assessment Guidelines) to calculate health risks based on input parameters such as emissions, "unit" ground-level concentrations, and toxicological data based on the OEHHA 2015 Risk Assessment Guidelines. These concentrations were then used to estimate the long-term effects of TACs on nearby receptors.

The assessment was performed in accordance with the OEHHA 2015 Risk Assessment Guidelines, CAPCOA Guidance Document: Health Risk Assessments for Proposed Land Use Projects (CAPCOA, 2009), and SCAQMD guidance (Table 9.1-3). Based on the guidance above, the maximum cancer risk associated with the Project's on- and off-site sources was assessed for the following exposure scenarios:

- **MEIR** – Maximally-exposed individual resident (MEIR) based on a 30-year lifetime exposure period. The MEIR assumes an exposure of 24 hours per day, and 350 days per year.
- **MEIW** – Maximally-exposed individual worker (MEIW) based on a 25-year lifetime exposure period. The MEIW assumes an exposure of 8 hours per day, and 245 days per year and a starting age of 16 years.
- **Recreational** – Considering the proximity to recreational facilities, a maximally-exposed individual located at a recreational site (outdoor fields, running/walking paths, training facility, park, etc.) based on a 40-year lifetime exposure. An exposure of 2 hours per day for 245 days and an elevated breathing rate of 1,097 liters per kilogram per day (L/kg/day) were assumed.

Table 8.2-1 summarizes the HARP2 options selected for the HRA.

Table 8.2-1 Summary of HARP2 Options

Option	Cancer – Resident	Cancer – Worker	Cancer – Recreation
Exposure Duration	30 years	25 years	40 years
Exposure Frequency (hours/day, days/year)	24, 350	8, 245	2, 245
Start Age	3rd Trimester	16 years	0 years
Method	RMP using Derived Method	OEHHA Derived Method	RMP using Derived Method

In addition to cancer risk, non-cancer chronic (long-term) and acute (short-term) exposure to TACs were assessed. Since only diesel PM was assessed for the construction modeling, only cancer and chronic risk were evaluated for construction emissions.

8.3 CRITERIA AIR POLLUTANTS LOCALIZED DISPERSION MODELING METHODOLOGY

As shown in Section 10.1 below, construction and operational-related activities would result in emissions of criteria air pollutants, but at levels that would not exceed the SCAQMD localized thresholds of significance. However, considering that the region is in nonattainment for ozone and $PM_{2.5}$ and since the Project Site is larger than 5 acres (mass-rate LSTs developed by SCAQMD are for project sites up to 5 acres, as detailed in Section 7 and presented in Table 9.1-2), criteria pollutant modelling specific to the Project was performed to determine localized impacts for NO_2 (an ozone precursor) and $PM_{2.5}$.

NO_2 and $PM_{2.5}$ emissions were provided as inputs to AERMOD for all project-related operational sources. Similar to the TAC analysis, there were two phases of operations: Phase 1 (2025-2027) and Phase 2 (2028). The model output was then compared against the applicable thresholds listed in Table 9.1-2 below.

9 THRESHOLDS OF SIGNIFICANCE

9.1 AIR QUALITY

Table 9.1-9.1-1 SCAQMD Regional Thresholds of Significance

Pollutant	Daily Emissions lbs/day (Construction)	Daily Emissions lbs/day (Operation)
NO_X	100	55
PM_{10}	150	150
$PM_{2.5}$	55	55
CO	550	550
VOC	75	55
SO_X	150	150
Lead[1]	3	3

Notes: NO_X = nitrogen oxides; PM_{10} = suspended particulate matter less than 10 micrometers in diameter; $PM_{2.5}$ = fine particulate matter less than 2.5 micrometers in diameter; CO = carbon monoxide; VOC = volatile organic compounds; SO_X = sulfur oxides; lbs/day = pounds per day.
[1] This analysis does not directly evaluate lead because little to no quantifiable and foreseeable emissions of these substances would be generated by the Project. Lead emissions have significantly decreased due to the near elimination of leaded fuel use.
Source: SCAQMD 2019

Table 9.1-9.1-2: SCAQMD Localized Thresholds

Threshold [1]	NO_X	CO	PM_{10}	$PM_{2.5}$
Mass-Rate Look Up Tables for LSTs for a 5-Acre Project Site Construction (lbs/day)	197	1,804	74	30
Mass-Rate Look Up Tables for LSTs for a 5-Acre Project Site Operations (lbs/day)	197	1,804	18	8
Operational Ambient Air Quality Standards for Criteria Pollutants	0.18 ppm(338.4 µg/m^3) 0.03 ppm (56.4 µg/m^3)	20 ppm	2.5 µg/m^3	2.5 µg/m^3

Notes: LST = localized significance threshold; NO_X = nitrogen oxides; PM_{10} = suspended particulate matter less than 10 micrometers in diameter; $PM_{2.5}$ = fine particulate matter less than 2.5 micrometers in diameter; CO = carbon monoxide; lbs/day = pounds per day; ppm = parts per million; µg/m^3 = micrograms per cubic meter.
[1] The mass-rate LSTs developed by SCAQMD are for a 5-acre project site. As detailed in Section 8.3 above, due to the region's nonattainment status for ozone and PM2.5 and the Project Site size, criteria pollutant modeling was performed for NO_2 (an ozone precursor) and $PM_{2.5}$.
Source: SCAQMD 2008a, 2019

Table 9.1-9.1-3 SCAQMD Health Risk Assessment Thresholds

TACs	Threshold
Maximum Incremental Cancer Risk	10 in 1 million
Chronic & Acute Hazard Index	1.0

Notes: TAC = toxic air contaminant
Source: SCAQMD 2019

9.2 GREENHOUSE GAS EMISSIONS

The quantity of GHGs that it takes to ultimately result in climate change is not precisely known; however, no single project alone is expected to measurably contribute to a noticeable incremental change in the global average temperature, or to a global, local, or micro climate. Therefore, the geographic scope of consideration for GHG emissions is on a global scale as such emissions contribute, on a cumulative basis, to global climate change. Given the nature of environmental consequences from GHGs and global climate change, CEQA requires that lead agencies evaluate the cumulative impacts of GHGs, even relatively small additions, on a global basis. By their nature, GHG evaluations under CEQA are a cumulative study. (See *Center for Biological Diversity v. California Department of Fish and Wildlife* [2015] 62 Cal.4th 204.)

The CEQA Guidelines encourage but do not require lead agencies to adopt thresholds of significance (CEQA Guidelines, §15064.7). When developing these thresholds, and consistent with the December 2018 CEQA and Climate Change Advisory published by the California Office of Planning and Research (OPR, 2018), the Guidelines allow lead agencies to develop their own significance threshold and/or to consider thresholds of significance adopted or recommended by other public agencies, or recommended by experts, provided that the thresholds are supported by substantial evidence. Individual lead agencies may also undertake a case-by-case approach for the use of significance thresholds for projects consistent with available guidance and current CEQA practice (OPR, 2018).

As the City of Irvine has not established screening thresholds for GHG emissions, the analysis reviewed the applicable significance thresholds developed by the SCAQMD. The SCAQMD has adopted a significance threshold of 10,000 MT of CO_2e per year for industrial (stationary source) projects (SCAQMD, 2008b).

The SCAQMD recommends that construction emissions associated with a project be amortized over the life of the Project (typically assumed to be 30 years). Therefore, this analysis includes a quantification of the total modeled construction-related GHG emissions. Those emissions are then amortized and evaluated over the life of the project (assumed to be 30 years). The Project's type is closest to an industrial project (i.e., doesn't include residential or commercial land uses). The 10,000 MT CO_2e threshold was developed in 2008 and was intended to ensure at least 90 percent of new GHG emissions would be reviewed and assessed for mitigation, thereby contributing to GHG emissions reduction goals of AB 32. However, the Project would begin construction in 2023; thus, construction-related GHG emissions should also be analyzed in the SB 32 statewide framework (which established a 2030 GHG emissions reduction target of 40 percent below 1990 levels). However, the SCAQMD has not adopted a threshold of significance consistent

with SB 32 goals. To provide this additional information to put the Project-generated GHG emissions in the appropriate statewide context, this analysis presumes that a 40 percent reduction in the SCAQMD's existing threshold (resulting in 6,000 MT CO_2e) is necessary to achieve the State's 2030 GHG reduction goal (which is a 40 percent reduction below 1990 GHG emissions levels).

It is not the intent of this CEQA document to cause the adoption of these thresholds as mass emissions limits for this or other projects, but rather to provide this additional information to put the Project-generated GHG emissions in the appropriate statewide context.

10 AIR QUALITY IMPACTS

10.1 CRITERIA AIR POLLUTANTS

10.1.1 Construction Emissions

Tables 10.1-1 and 10.1-2 present the maximum daily emissions associated with Project construction of Phase 1 for comparison to the SCAQMD regional and localized thresholds of significance, respectively.

Table 10.1-10.1-1 Phase 1 Construction-Related Maximum Daily Emissions

Description	VOC	CO	NO_X	SO_X	PM_{10}	$PM_{2.5}$
Phase 1 Maximum Daily Emissions (lbs/day)[1]	38.06	77.07	75.20	0.25	41.47	22.82
SCAQMD Threshold (lbs/day)	75	550	100	100	150	55
Exceeds Threshold?	No	No	No	No	No	No

Notes: VOC = volatile organic compounds; SO_X = sulfur oxides; NO_X = nitrogen oxides; PM_{10} = suspended particulate matter less than 10 micrometers in diameter; $PM_{2.5}$ = fine particulate matter less than 2.5 micrometers in diameter; CO = carbon monoxide; lbs/day = pounds per day.
[1] Phase 1 emissions are based on the overlap of subphases per the anticipated construction schedule. Maximum daily emissions for NOx and SOx occur during the overlap of site utilities/electric, earthwork, foundations, bridge, and roadways/paving construction activities. Maximum daily emissions of VOC and CO occur during the overlap of site utilities/electric, foundations, bridge, roadways/paving, and building construction activities. Maximum daily emissions for PM_{10} and $PM_{2.5}$ occur during the overlap of clear and grub, site utilities/electric, demolition, and earthwork construction activities.

Table 10.1-10.1-2 Phase 1 Localized Construction-Related Maximum Daily Emissions

Description	NO_X	CO	PM_{10}	$PM_{2.5}$
Maximum Daily On-Site Emissions (lbs/day)[1]	63.96	69.49	38.63	21.98
SCAQMD Localized Threshold (lbs/day)	197	1,804	74	30
Exceeds Threshold?	No	No	No	No

Notes: NO_X = nitrogen oxides; PM_{10} = suspended particulate matter less than 10 micrometers in diameter; $PM_{2.5}$ = fine particulate matter less than 2.5 micrometers in diameter; CO = carbon monoxide; lbs/day = pounds per day.
[1] Maximum daily localized emissions account for on-site activities including off-road equipment use, fugitive dust, and on-site on-road vehicle travel. It was assumed that approximately 7% of the total on-road vehicles would occur on site (estimated portion of vehicle emissions occurring on site compared to the CalEEMod average trip length).

As shown in Tables 10.1-1 and 10.1-2, Phase 1 construction activities would not exceed the SCAQMD regional and localized thresholds of significance. Tables 10.1-3 and 10.1-4 summarize the maximum daily emissions associated with Phase 2 construction for comparison to the SCAQMD regional and localized thresholds of significance, respectively.

Table 10.1-10.1-3 Phase 2 Construction-Related Maximum Daily Emissions

Description	VOC	CO	NO_X	SO_X	PM_{10}	$PM_{2.5}$
Phase 2 Maximum Daily Emissions (lbs/day)[1]	80.36	57.92	45.32	0.12	14.22	8.02
SCAQMD Threshold (lbs/day)	75	550	100	100	150	55
Exceeds Threshold?	**Yes**	No	No	No	No	No

Notes: VOC = volatile organic compounds; SO_X = sulfur oxides; NO_X = nitrogen oxides; PM_{10} = suspended particulate matter less than 10 micrometers in diameter; $PM_{2.5}$ = fine particulate matter less than 2.5 micrometers in diameter; CO = carbon monoxide; lbs/day = pounds per day.
[1] Phase 2 emissions are based on the overlap of subphases per the anticipated construction schedule. Maximum daily emissions for all pollutants except PM_{10} and $PM_{2.5}$ occur during the overlap of site utilities/electric, building, trackwork-direct fixation, and major equipment construction activities. Maximum daily emissions for PM_{10} and $PM_{2.5}$ occur during the overlap of site utilities/electric and earthwork construction activities.

Table 10.1-10.1-4 Phase 2 Localized Construction-Related Maximum Daily Emissions

Description	NO_X	CO	PM_{10}	$PM_{2.5}$
Maximum Daily On-Site Emissions (lbs/day)[1]	44.91	51.99	13.32	7.76
SCAQMD Localized Threshold (lbs/day)	197	1,804	74	30
Exceeds Threshold?	No	No	No	No

Notes: NO_X = nitrogen oxides; PM_{10} = suspended particulate matter less than 10 micrometers in diameter; $PM_{2.5}$ = fine particulate matter less than 2.5 micrometers in diameter; CO = carbon monoxide; lbs/day = pounds per day.
[1] Maximum daily localized emissions account for on-site activities including off-road equipment use, fugitive dust, and on-site on-road vehicle travel. It was assumed that approximately 7% of the total on-road vehicles would occur on-site (estimated portion of vehicle emissions occurring on-site compared to the CalEEMod average trip length).

As shown in Tables 10.1-3 and 10.1-4, Phase 2 construction activities would not exceed any of the localized thresholds of significance or regional thresholds of significance for any pollutant except VOC. Therefore, this impact would be potentially significant, and mitigation would be required. Project construction of Phase 2 would overlap with Phase 1 operational activities. Therefore, the maximum daily emissions associated with overlapping activities of Phase 1 operations and Phase 2 construction are summarized in Tables 10.1-7 and 10.1-8 below.

10.1.2 Operational Emissions

Tables 10.1-5 and 10.1-6 present the maximum daily emissions associated with Project operations for comparison to the SCAQMD regional and localized thresholds of significance, respectively. As detailed in Section 7.2 of this Technical Memorandum, on-site idling of trains for storage and maintenance purposes

would not result in a regional increase in emissions, as these activities (and related emissions) currently occur at the existing storage and maintenance facilities, and would simply shift these emissions sources to the proposed Project Site. However, these emissions are considered for the purposes of localized emissions impacts in Table 10.1-6.

Table 10.1-10.1-5 Operational Maximum Daily Increase in Regional Emissions

Description	VOC (lbs/day)	CO (lbs/day)	NO_X (lbs/day)	SO_X (lbs/day)	PM_{10} (lbs/day)	$PM_{2.5}$ (lbs/day)
Yard Equipment	0.83	3.48	2.53	0.01	0.11	0.15
Staff and Truck Vehicles	0.06	2.00	1.58	0.02	2.26	0.01
Architectural Coatings	0.13	-	-	-	-	-
Natural Gas Consumption	0.04	0.32	0.39	0.002	0.03	0.03
Train Fueling	0.41	-	-	-	-	-
Sand Silos	-	-	-	-	0.04	0.06
Total Maximum Daily Increase in Regional Emissions	**1.48**	**5.80**	**4.50**	**0.03**	**2.44**	**0.25**
SCAQMD Threshold	55	550	55	100	150	55
Exceeds Threshold?	No	No	No	No	No	No

Notes: VOC = volatile organic compounds; SO_X = sulfur oxides; NO_X = nitrogen oxides; PM_{10} = suspended particulate matter less than 10 micrometers in diameter; $PM_{2.5}$ = fine particulate matter less than 2.5 micrometers in diameter; CO = carbon monoxide; lbs/day = pounds per day.

Table 10.1-10.1-6 Localized Operational Maximum Daily Emissions

Description	NO_X (lbs/day)	CO (lbs/day)	PM_{10} (lbs/day)	$PM_{2.5}$ (lbs/day)
On-Site Locomotive Operations (Maintenance and Testing)	98.30	101.85	1.98	1.92
Yard Equipment	2.53	3.48	0.11	0.15
Staff and Truck Vehicles[1]	0.11	0.14	0.16	<0.01
Natural Gas Consumption	0.39	0.32	0.03	0.03
Sand Silos	-	-	0.04	0.06
Total Maximum Daily Localized Emissions (lbs/day)	**101.34**	**105.80**	**2.32**	**2.16**
SCAQMD Localized Threshold	197	1,804	18	8
Exceeds Threshold?	No	No	No	No

Notes: NO_X = nitrogen oxides; PM_{10} = suspended particulate matter less than 10 micrometers in diameter; $PM_{2.5}$ = fine particulate matter less than 2.5 micrometers in diameter; CO = carbon monoxide; lbs/day = pounds per day.

[1] Maximum daily localized emissions account for on-site activities including on-site locomotive operations, on-site off-road equipment use (e.g., forklifts, cranes), and on-road vehicle travel. It was assumed that approximately 7% of the total on-road vehicles would occur on site (estimated portion of vehicle emissions occurring on site compared to the CalEEMod average trip length).

As shown in Tables 10.1-5 and 10.1-6, Project operational emissions would not exceed the SCAQMD regional and localized thresholds of significance. As described previously, since construction of Phase 2 may overlap with operation of Phase 1, the overlapping emissions are summarized in Tables 10.1-7 and 10.1-8. Consistent with SCAQMD guidance, these overlapping emissions are compared to the SCAQMD thresholds of significance applicable to operations. As explained previously, on-site idling of trains for storage and maintenance purposes would not result in a regional increase in emissions, as these activities (and related emissions) currently occur at the existing storage and maintenance facilities, and would simply shift these emissions sources to the proposed Project Site. However, note that these emissions are considered for the purposes of localized emissions impacts in Table 10.1-8.

Table 10.1-10.1-7 Overlapping Construction and Operational Maximum Daily Increase in Regional Emissions

Description	VOC (lbs/day)	CO (lbs/day)	NO_X (lbs/day)	SO_X (lbs/day)	PM_{10} (lbs/day)	$PM_{2.5}$ (lbs/day)
Phase 2 Construction Emissions	80.36	57.92	45.32	0.12	14.22	8.02
Yard Equipment	0.83	3.48	2.53	0.01	0.11	0.15
Staff and Truck Vehicles	0.06	2.00	1.58	0.02	2.28	0.60
Architectural Coatings	0.13	-	-	-	-	-
Natural Gas Consumption	0.04	0.32	0.39	0.00	0.03	0.03
Train Fueling	0.41	-	-	-	-	-
Sand Silos	-	-	-	-	0.04	0.06
Total Maximum Daily Increase in Regional Emissions (lbs/day)	**81.83**	**63.72**	**49.82**	**0.15**	**16.66**	**8.27**
SCAQMD Threshold	55	550	55	100	150	55
Exceeds Threshold?	**Yes**	No	No	No	No	No

Notes: VOC = volatile organic compounds; SO_X = sulfur oxides; NO_X = nitrogen oxides; PM_{10} = suspended particulate matter less than 10 micrometers in diameter; $PM_{2.5}$ = fine particulate matter less than 2.5 micrometers in diameter; CO = carbon monoxide; lbs/day = pounds per day.

Table 10.1-10.1-8 Overlapping Construction and Operational Localized Operational Maximum Daily Emissions

Description	NO_X	CO	PM_{10}	$PM_{2.5}$
Phase 2 Localized Construction Emissions	44.91	51.99	13.32	7.76
On-Site Locomotive Operations (Maintenance and Testing)	98.30	101.85	1.98	1.92
Yard Equipment	2.53	3.48	0.11	0.15
Staff and Truck Vehicles[1]	0.11	0.14	0.17	0.04
Natural Gas Consumption	0.39	0.32	0.03	0.03
Sand Silos	-	-	0.04	0.06
Total Maximum Daily Localized Emissions (lbs/day)	**146.25**	**157.79**	**15.64**	**9.92**
SCAQMD Localized Threshold	197	1,804	18	8
Exceeds Threshold?	No	No	No	Yes[2]

Notes: NO_X = nitrogen oxides; PM_{10} = suspended particulate matter less than 10 micrometers in diameter; $PM_{2.5}$ = fine particulate matter less than 2.5 micrometers in diameter; CO = carbon monoxide; lbs/day = pounds per day.

[1] Maximum daily localized emissions account for on-site activities including on-site locomotive operations, on-site off-road equipment use (e.g., forklifts, cranes), and on-road vehicle travel. It was assumed that approximately 7% of the total on-road vehicles would occur on site (estimated portion of vehicle emissions occurring on site compared to the CalEEMod average trip length).

[2]As described in Table 9.1-2, the mass-rate LSTs are based on a 5-acre project site and thus, exceedance of this threshold does not represent a significant impact. Project-specific dispersion modeling was performed for $PM_{2.5}$ for comparison to the SCAQMD's ambient air quality thresholds as described below and shown in Table 10.1-9.

As described above, due to the Project size, the exceedance of the mass-rate screening LST for $PM_{2.5}$, and the region's nonattainment status for ozone and $PM_{2.5}$, Project-specific dispersion modeling was performed for NO_2 and $PM_{2.5}$ for comparison to the SCAQMD's ambient air quality thresholds. The results of the criteria pollutant modeling analysis for 1-hour and annual NO_2 and 24-hour $PM_{2.5}$ are summarized in Table 10.1-9 for both phases of operations (2025-2027 and 2028[5]). As shown in Table 10.1-9, the maximum modeled concentration at the point of maximum exposure (PMI) for both pollutants and averaging periods modeled were less than their respective SCAQMD ambient air quality thresholds. Therefore, this impact would be less than significant.

[5] *Phase 2 of construction would be completed at the end of 2027 and result in additional operational emissions sources beyond Phase 1. Furthermore, all trains serviced at the facility are assumed to be Tier 4 by 2028. Based on these changes, the dispersion analysis was conducted for the initial operational period from July 2025 through end of 2027, followed by years of operation from 2028 and later.*

Table 10.1-10.1-9 NO_2 and $PM_{2.5}$ Localized Dispersion Modeling Results

Criteria Pollutant	Averaging Period	Rank	Maximum Modeled Concentration (µg/m³)[1]		SCAQMD Threshold (µg/m³)	Exceeds Threshold?
			2025-2027[2]	2028+[3]		
NO_2	1-hour	1st	103.1	102.3	338.4	No
	Annual	1st	5.7	3.8	56.4	No
$PM_{2.5}$	24-hour	8th	1.3	1.2	2.5	No

Notes:
NO_2 = nitrogen dioxide; $PM_{2.5}$ = fine particulate matter less than 2.5 micrometers in diameter; µg/m³ = micrograms per meter cubed; SCAQMD = South Coast Air Quality Management District.
[1] The point of maximum exposure (unoccupied land near OCTA boundary, to the north).
[2] Period when train fleet mix includes both Tier 2 and Tier 4 locomotive engines.
[3] Period when trains are all Tier 4.

As shown in Table 10.1-7, VOC emissions during construction of Phase 2 would exceed the SCAQMD threshold of significance. Overlapping activities associated with construction and operation of the Project would not exceed the SCAQMD regional thresholds of significance for any of the other pollutants. Therefore, VOC emissions associated with construction of the Project are potentially significant. As shown in Tables 10.1-8 and 10.1-9, localized emissions associated with the overlapping activities would not exceed the SCAQMD localized thresholds of significance and ambient air quality thresholds.

10.2 TOXIC AIR CONTAMINANTS AND HEALTH RISK ASSESSMENT RESULTS

10.2.1 Construction

The greatest potential for TAC emissions during construction would be related to diesel PM emissions associated with heavy-duty equipment operations. According to OEHHA methodology, health effects from carcinogenic TACs are usually described in terms of individual cancer risk, which is based on a 30-year exposure duration (or residency time) to TACs as the basis for public notification and risk reduction audits and plans.

CARB has adopted the In-Use Off-Road Diesel-Fueled Fleets Regulation and ATCMs applicable to off-road diesel equipment and portable diesel engines. The In-Use Off-Road Diesel-Fueled Fleets Regulation require diesel engines to comply with emission limits on a fleet-average basis. The purpose of ATCMs is to reduce emissions of TAC emissions, including diesel PM, from engines subject to the rule. CARB has also adopted an ATCM that limits diesel-fueled commercial motor vehicles idling. The rule restricts vehicles from idling for more than 5 minutes at any location with exceptions for idling that may be necessary in the operation of the vehicle. All off-road diesel equipment, on-road heavy-duty diesel trucks, and portable diesel equipment used for the Project would be subject to CARB's regulations and ATCMs.

A quantified HRA was performed to evaluate the Project's construction-related TAC emissions on existing nearby off-site sensitive receptors. Table 10.2-1 summarizes the results of the construction-related health

risks. The maximum incremental cancer risk exposure during the 4.5-year period of construction is less than 0.5 in a million. The chronic hazard index is also well below the SCAQMD threshold of 1.0. Therefore, sensitive receptors would not be exposed to substantial TAC concentrations during construction of the Project and this impact would be less than significant.

Table 10.2-1: Summary of Construction-Related Health Risks

Construction Period	Project Construction Incremental Cancer Risk (in a million)	Chronic Hazard Index
2023	0.20	2.24E-04
2024	0.18	2.21E-04
2025	0.01	8.48E-05
2026	0.01	5.14E-05
2027	0.004	3.07E-05
Total Project Construction (4.5 years)	**0.40**	**0.001**
SCAQMD Threshold	10	1.0
Exceeds Threshold?	No	No

Note: SCAQMD = South Coast Air Quality Management District

As described above in Section 3.2, asbestos is also a listed TAC; however, the Project Site is not located in an area known to contain naturally occurring asbestos. Further, demolition activities associated with Project construction are minimal and limited to an abandoned road, stormwater drains, and underground bunker with a network of pipelines, valves, and associated vents that are currently not in use. Prior to Project Site demolition activities, building materials must be carefully assessed for the presence of asbestos-containing materials (ACM), and removal of this material, where necessary, must comply with state and federal regulations, including SCAQMD Rule 1403. SCAQMD Rule 1403 specifies work practices with the goal of minimizing asbestos emissions during building demolition activities, including the removal and associated disturbance of ACMs. The requirements for demolition and renovation activities include asbestos surveying; notification; ACM removal procedures and time schedules; ACM handling and cleanup procedures; and storage, disposal, and landfill disposal requirements for asbestos-containing waste materials. If ACM are found during construction, the Project would comply with the requirements of SCAQMD Rule 1403. Therefore, exposure to asbestos during construction would be less than significant.

10.2.2 Operation

As discussed previously, following construction of the Project, operations would generate long-term emissions, including TACs, from a variety of sources. Diesel PM would be the dominant TAC generated at the Project Site. Sources of diesel PM at the Project Site include: locomotive usage (used during fueling, servicing, inspection, brake testing, train washing, load testing, yard switching, idling, and train movement throughout the yard), on-site equipment (emergency generator, cranes, and forklifts used for maintenance activities), refueling, and on-road trucks (fuel and vendor delivery trucks). The majority of the diesel PM emissions would be generated along the tracks, maintenance building, fueling/sanding pit, and the service

and inspection facility which are located at distances of approximately 1,100 feet from the nearest residential receptors. As discussed in Section 5.2.2, the CARB recommends a 1,000-foot buffer between sensitive receptors and major service and maintenance rail yards based on a study which found that the area of highest impact is within 1,000 feet of the yard (CARB, 2005); the next highest impact was found to be between a half to one mile of the maintenance rail yards. As described previously, the nearest sensitive receptors are the residences in the senior housing community located approximately 650 feet (200 meters) north of the Project Site. The closest recreational fields and walking/running paths to the Project Site are located approximately 700 feet from maintenance buildings. The nearest worker receptors are located at the nursery to the west of the Project Site and buildings along Technology Drive. As such, a quantified HRA was performed to evaluate the Project's operational TAC emissions on existing nearby off-site receptors, including the nearby residences, recreational facilities, and adjacent workers located at the buildings along Technology Drive and at the nearby nursery.

The results of the HRA for operations are summarized in Table 10.2-1. The operational period would begin in July 2025, upon the completion of Phase 1 construction. Phase 2 of construction would be completed at the end of 2027 and result in additional operational emissions sources. Furthermore, all trains serviced at the facility are assumed to be Tier 4 by 2028. Based on these changes, the HRA for operations includes an initial operational period from July 2025 through end of 2027, followed by years of operation from 2028 and later. The total of these two operational periods are compared against the SCAQMD threshold of 10 in a million.

Maximum modeled excess cancer exposure was estimated for residential, worker, and recreation receptors within the modeled domain. The closest residential receptor was at the intersection of Marine Way and Ridge Valley, which is part of a 55 and older housing community. The closest residential receptor that was not part of this community was located at Ridge Valley and Pinehurst. The location of the maximum worker receptor is to the west of the Project at a nursery. The closest recreation area is the OCGP, located to the north of the Project Site on the other side of Marine Way.

As shown in Tables 10.2-2 and Table 10.2-3, the maximum incremental cancer risk, and chronic and acute hazard index, respectively, for the maximally exposed individual resident and maximally exposed individual worker would not exceed the SCAQMD thresholds of significance. Therefore, receptors would not be exposed to substantial pollutant concentrations of TACs during operations and this impact would be less than significant.

Figure 10.2-1 illustrates the locations of the PMI, MEIR, MEIW and MEI Recreation (maximally exposed individual at recreation area) for the maximum incremental cancer risk associated with operations of the Project. Figure 10.2-2 through Figure 10.2-4 provide maps of the cancer risk zones using contour plots.

Table 10.2-2: Summary of Excess Cancer Risks

Receptor	Years of Age	Maximum Modeled Excess Cancer Risk (in a million)			SCAQMD Threshold	Exceeds Threshold?
		2025-2027[1]	2028+[2]	Total		
$MEIR_{<50}$	3rd Trimester – 30 (30 years)	5.85	3.40	9.25	10	No
$MEIR_{\geq 50}$	50 - 80 (30 years)	0.24	1.45	1.68	10	No
MEIW	16 – 41 (25 years)	0.94	4.37	5.31	10	No
MEI Recreation	0 – 39 (40 years)	1.29	2.05	3.33	10	No

Notes: $MEIR_{<50}$ = maximally exposed individual resident in non-55+ age restricted communities; $MEIR_{\geq 50}$ = maximally exposed individual resident in 55+ age restricted communities; MEIW = maximally exposed individual worker; MEI Recreation = maximally exposed individual at recreation area; SCAQMD = South Coast Air Quality Management District.
[1] Period when train fleet mix includes both Tier 2 and Tier 4 locomotive engines.
[2] Period when trains are all Tier 4.

Table 10.2-3: Summary of Chronic and Acute Risks

Risk	Years of Age	Maximum Modeled Risk			SCAQMD Threshold	Exceeds Threshold?
		2025-2027[1]	2028+[2]	Total		
Chronic	PMI	0.05	0.01	0.06	1.0	No
Acute		0.0006	0.0004	0.001	1.0	No

Notes: PMI = point of maximum exposure (unoccupied land near OCTA boundary, to the north); SCAQMD = South Coast Air Quality Management District.
[1] Period when train fleet mix includes both Tier 2 and Tier 4 locomotive engines.
[2] Period when trains are all Tier 4.

Figure 10.2-1: Location of PMI, MEIR, MEIW and MEI Recreation for Cancer Risk

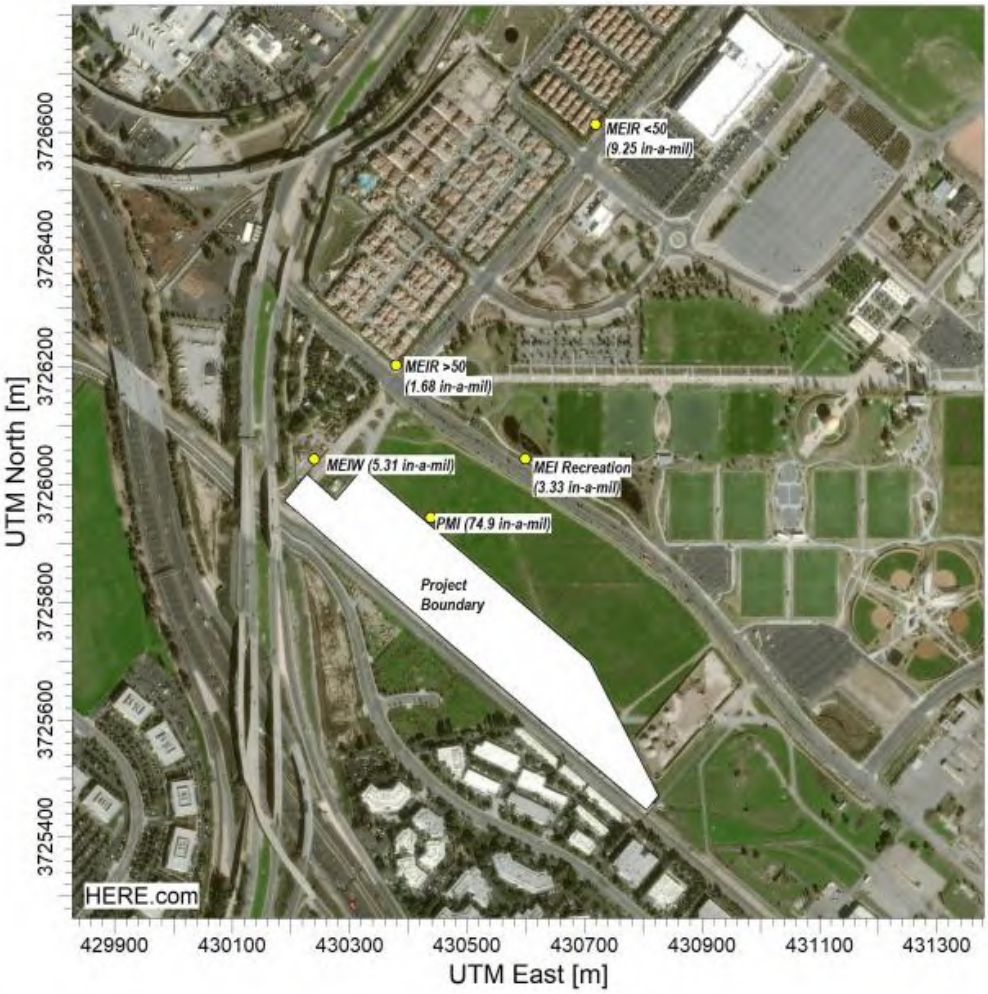
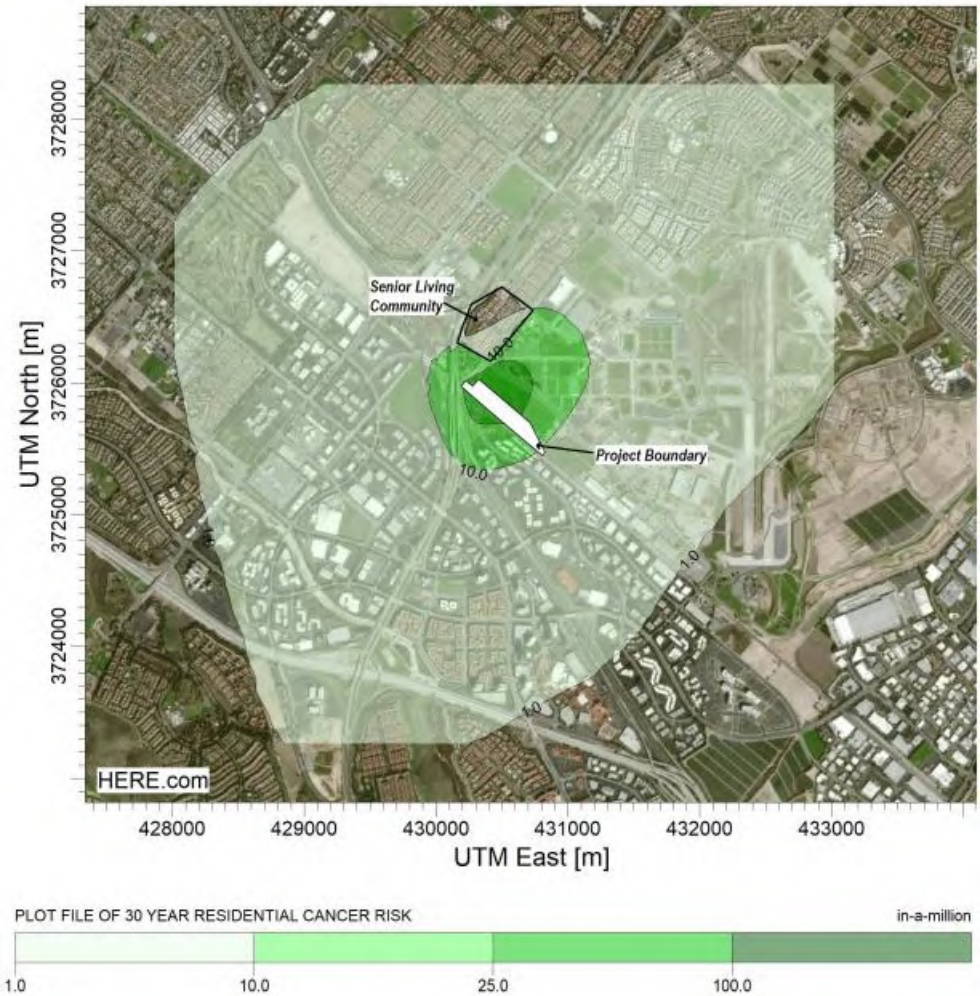


Figure 10.2-2: Contour Map of 30-Year Residential Cancer Risk



Notes: Receptors within Senior Living Community use starting age of 50-years old. All other receptors use starting age of 3rd trimester.

Figure 10.2-3: Contour Map of 25-Year Worker Cancer Risk

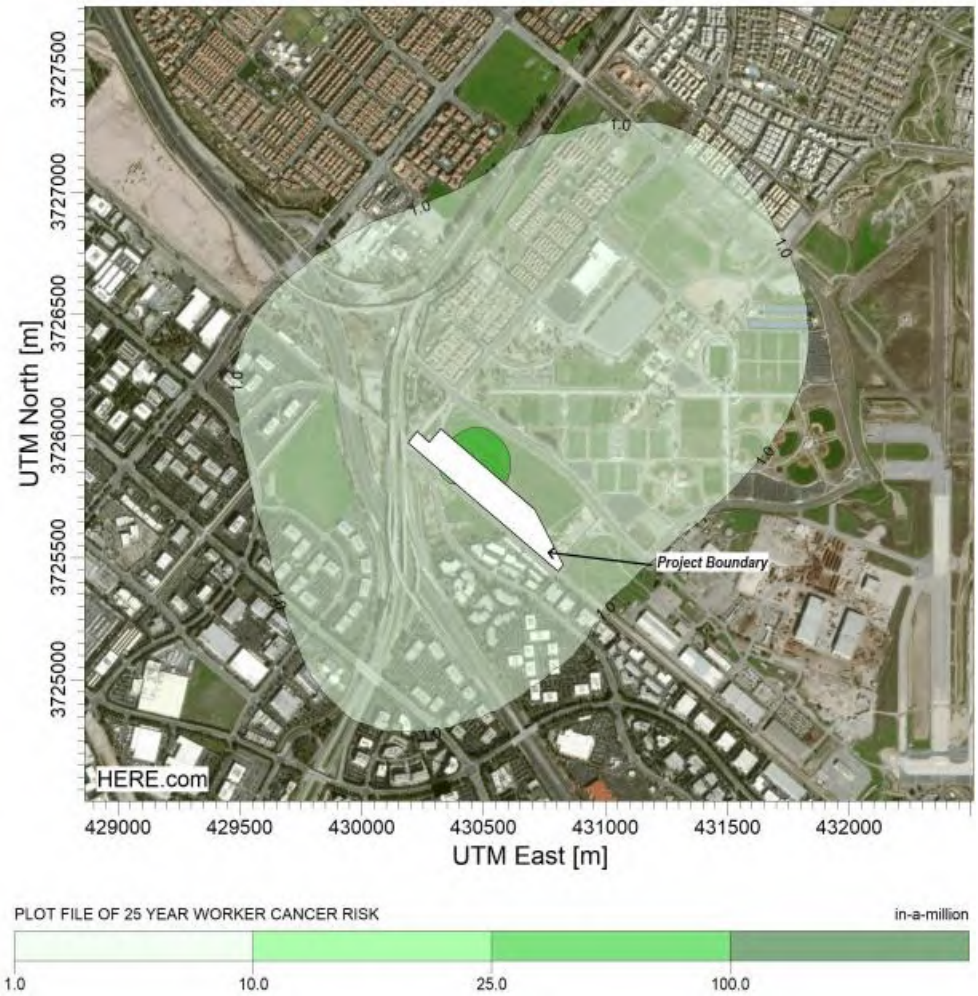
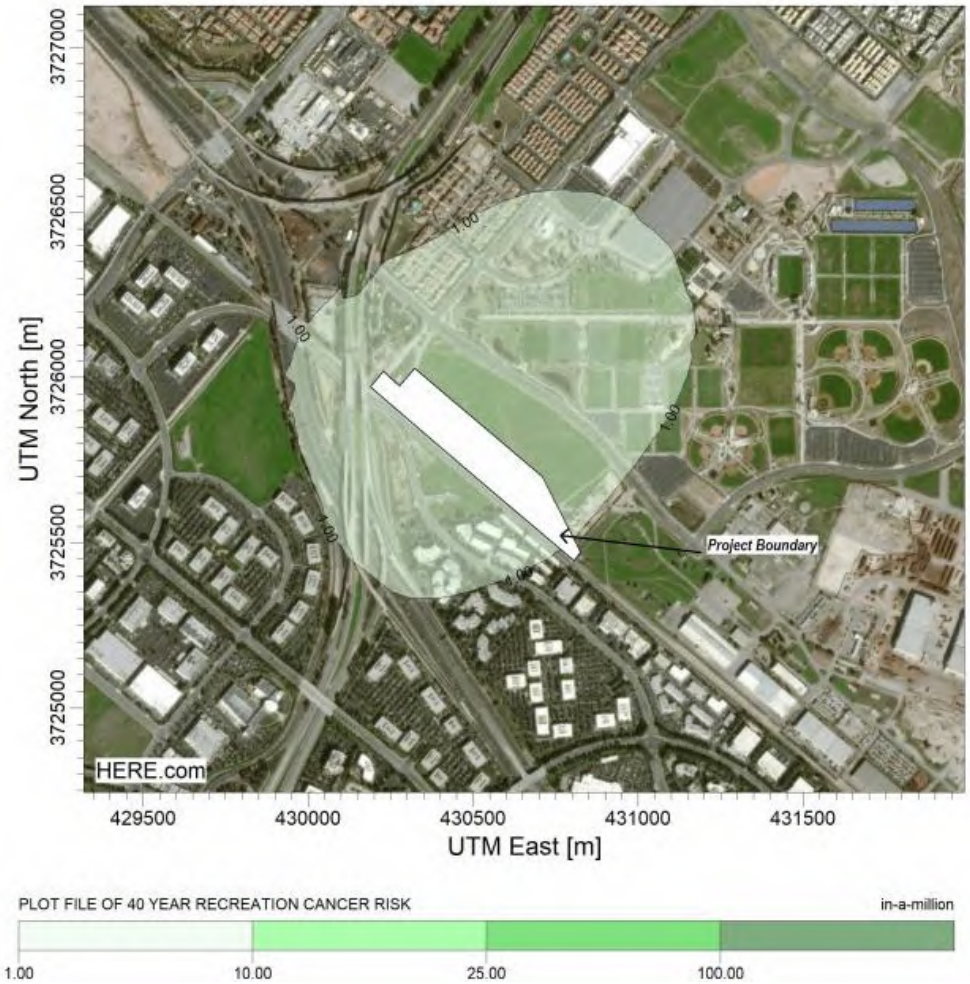


Figure 10.2-4: Contour Map of 40-Year Recreational Cancer Risk



10.3 CUMULATIVE EFFECTS

By its very nature, air pollution is largely a cumulative impact. The nonattainment status of regional pollutants is a result of past and present development within the SCAB, and this regional impact is cumulative rather than being attributable to any one source. A project's emissions may be individually limited, but cumulatively considerable when taken in combination with past, present, and future development projects. The thresholds identified in Table 9.1-1 are designed to identify those projects that would result in significant levels of air pollution and to assist the region in attaining the applicable state and federal ambient air quality standards. Projects that would not exceed the thresholds of significance would not contribute a considerable amount of criteria air pollutant emissions to the region's emissions profile and would not impede attainment and maintenance of ambient air quality standards.

As shown in Table 10.1-1, the maximum daily emissions associated with construction of Phase 1 would not exceed the SCAQMD regional thresholds of significance. However, since construction of Phase 2 would result in a potentially significant impact due to the exceedance of the VOC threshold, Project construction

may result in a cumulative impact. The SCAB is classified as a nonattainment area for ozone, and VOC is a precursor pollutant to ozone. As such, the Project may contribute to a considerable amount of criteria air pollutant emissions to the region's emissions profile.

As shown in Table 10.1-5, operational emissions are not anticipated to result in any exceedances of the SCAQMD thresholds of significance. However, as shown in Table 10.1-7, the overlapping activities of Phase 2 construction and operation may result in a potentially cumulative impact for VOC emissions. Therefore, mitigation would be required.

10.4 ODORS

The occurrence and severity of other emissions, such as those leading to odor impacts, depend on numerous factors, including the nature, frequency, and intensity of the source; wind speed and direction; and the presence of sensitive receptors. While offensive odors rarely cause any physical harm, they still can be very unpleasant, leading to considerable distress and often generating citizen complaints to local governments and regulatory agencies. Projects with the potential to frequently expose individuals to objectionable odors are deemed to have a significant impact. Typical facilities that generate odors include wastewater treatment facilities, sanitary landfills, composting facilities, petroleum refineries, chemical manufacturing plants, and food processing facilities.

Construction activities associated with the Project could result in short-term odor emissions from diesel exhaust associated with construction equipment. The Project would utilize typical construction techniques, and the odors would be typical of most construction sites and temporary in nature.

Project operations would not include any land uses identified by the CARB as being associated with the generation of objectionable odors. However, the locomotive rail operations on the tracks that access the maintenance facility and locomotive idling and refueling activities may increase the potential for generation of odors from locomotive diesel fuel combustion. However, these odors would be intermittent and of short duration. Any odors resulting from diesel fuel combustion along rail alignment would be intermittent and short-term and not considered a significant odor-generating source (CARB, 2005).

11 GREENHOUSE GAS EMISSIONS IMPACTS

GHG emissions generated during construction and operation of the Project are summarized in Table 11-1. As detailed in Section 7.2 of this Technical Memorandum, on-site idling of trains for storage and maintenance purposes would not result in a regional increase in emissions, as these activities (and related emissions) currently occur at the existing storage and maintenance facilities, and would simply shift these emissions sources to the proposed Project Site. Thus, these emissions are not included in Table 11-1.

Table 10.4-1: Annual GHG Emissions

Source	GHG Emissions (MT CO_2e/year)
Total Construction	2,185
Amortized Construction [1]	73
Yard Equipment	98
Staff and Truck Vehicles	0.13
Natural Gas Consumption	85
Electricity Consumption	329
Water and Wastewater Consumption	24
Solid Waste Generation	279
Operations Subtotal [2]	815
Total (Construction and Operations)	**888**
SCAQMD Threshold	10,000
SCAQMD Threshold (Adjusted for SB 32)	6,000
Exceeds Threshold?	**No**

Notes: MT CO_2e = metric tons carbon dioxide equivalent. GHG = greenhouse gas; SCAQMD = South Coast Air Quality Management District.
[1] Assumed amortization period is 30 years, based on the typically assumed project lifetime (SCAQMD 2008b), which recommends amortizing GHG emissions from construction activities over a project's operational lifetime.

As shown in Table 11-1, GHG emissions would not exceed SCAQMD's adopted significance threshold of 10,000 MT CO_2e per year nor the adjusted SB 32 threshold of 6,000 MT CO_2e per year. Therefore, this impact would be less than cumulatively considerable.

12 MITIGATION MEASURES

12.1 AIR QUALITY MITIGATION MEASURES

As described in Section 10.1.2, Phase 2 construction activities exceed the SCAQMD threshold of significance for VOC emissions. The exceedance of the VOC threshold is primarily related to architectural coating activities of the maintenance building. As such, implementation of Mitigation Measure AQ-1 would be required to reduce VOC emissions below the threshold of significance.

MM-AQ-1. Utilize low VOC paint for architectural coating activities during Phase 2 construction. To reduce VOC emissions during construction, the Project contractor shall utilize water-based or low VOC interior and exterior paints. The VOC content of the architectural coatings shall comply with the VOC content limits in SCAQMD Rule 1113 or not exceed 100 grams per liter, whichever is lower. To ensure that low VOC paint will be used during Project construction, this requirement will be included in applicable bid documents, purchase orders, and contracts. Successful contractor(s) must demonstrate the ability to supply the compliant architectural coatings for use prior to any coating activities. A copy of each proposed architectural coating Material Safety Data Sheet and VOC content shall be

available upon request. Alternatively, the contractor may utilize tilt-up concrete buildings that do not require the use of architectural coatings.

Section 13 below summarizes the Project's impacts after implementation of Mitigation Measure AQ-1.

12.2 GREENHOUSE GAS MITIGATION MEASURES

Impacts related to GHG emissions are less than cumulatively considerable. As such, Mitigation Measures are not proposed.

13 IMPACTS AFTER MITIGATION MEASURES

13.1 AIR QUALITY IMPACTS AFTER MITIGATION

Table 13.1-1 demonstrates the maximum daily emissions associated with construction of Phase 2 with implementation of Mitigation Measure AQ-1.

Table 13.1-13.1-1: Phase 2 Mitigated Construction-Related Maximum Daily Emissions

Description	VOC	CO	NO_X	SO_X	PM_{10}	$PM_{2.5}$
Phase 2 Maximum Daily Emissions (lbs/day)[1]	35.78	57.92	45.32	0.12	14.22	8.02
SCAQMD Threshold (lbs/day)	75	550	100	100	150	55
Exceeds Threshold?	No	No	No	No	No	No

Notes: VOC = volatile organic compounds; SO_X = sulfur oxides; NO_X = nitrogen oxides; PM_{10} = suspended particulate matter less than 10 micrometers in diameter; $PM_{2.5}$ = fine particulate matter less than 2.5 micrometers in diameter; CO = carbon monoxide; lbs/day = pounds per day; SCAQMD = South Coast Air Quality Management District.
[1] Phase 2 emissions are based on the overlap of subphases per the anticipated construction schedule. Maximum daily emissions for all pollutants occur during the overlap of site utilities/electric, building, trackwork-direct fixation, and major equipment construction activities.

As shown in Table 13.1-1, with implementation of Mitigation Measure AQ-1, emissions of VOC would no longer exceed the SCAQMD threshold of significance. Since construction of Phase 2 of the Project would overlap with operational activities of Phase 1, overlapping emissions were also identified to be potentially significant.

Table 13.1-13.1-2: Overlapping Mitigated Construction and Operational Maximum Daily Increase in Regional Emissions

Description	VOC (lbs/day)	CO (lbs/day)	NO_X (lbs/day)	SO_X (lbs/day)	PM_{10} (lbs/day)	$PM_{2.5}$ (lbs/day)
Mitigated Phase 2 Construction Emissions	35.78	57.92	45.32	0.12	14.22	8.02
Yard Equipment	0.83	3.48	2.53	0.01	0.11	0.15
Staff and Truck Vehicles	0.06	2.00	1.58	0.02	2.26	0.01
Architectural Coatings	0.13	-	-	-	-	-
Natural Gas Consumption	0.04	0.32	0.39	0.00	0.03	0.03
Train Fueling	0.41	-	-	-	-	-
Sand Silos	-	-	-	-	0.04	0.06
Total Maximum Daily Increase in Regional Emissions (lbs/day)	**37.25**	**63.72**	**49.82**	**0.15**	**16.66**	**8.27**
SCAQMD Threshold	55	550	55	100	150	55
Exceeds Threshold?	**No**	No	No	No	No	No

Notes: VOC = volatile organic compounds; SO_X = sulfur oxides; NO_X = nitrogen oxides; PM_{10} = suspended particulate matter less than 10 micrometers in diameter; $PM_{2.5}$ = fine particulate matter less than 2.5 micrometers in diameter; CO = carbon monoxide; lbs/day = pounds per day; SCAQMD = South Coast Air Quality Management District.

As shown in Table 13.1-2, with implementation of Mitigation Measure AQ-1, the maximum daily emissions associated with overlapping activities of Phase 1 operations and Phase 2 construction would also not exceed the SCAQMD threshold of significance. Therefore, this impact would be less than significant with mitigation.

In addition, with implementation of Mitigation Measure AQ-1, the Project is also not anticipated to result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment. Further, one of the Project objectives is to provide equipment to inspect, clean, and maintain existing cars and locomotives on a regular and efficient basis. The storage and maintenance activities that would occur operationally at this facility would be a shift in these operations from the existing storage and maintenance facilities to the proposed Project Site. As such, due to the optimal location of the proposed Project Site, the Project is also anticipated to result in reduced locomotive travel in the region and a reduction in the emissions associated with locomotive and rail car travel in the region.

13.2 GREENHOUSE GAS EMISSIONS IMPACTS AFTER MITIGATION

Impacts related to GHG emissions are less than cumulatively considerable. As such, mitigation measures are not proposed.

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Appendix B Attachments
Air Quality and Greenhouse Gases
Technical Memorandum

Metrolink Orange County Maintenance Facility

Prepared for:

Orange County Transportation Authority

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Orange, CA 92868

And

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June 2022

Attachment A

Construction and Operational Emission Estimates

Orange County Maintenance Facility - Construction Emissions Summary

Phase 1 - Daily Maximum Off-Road Emissions (lbs/day)						
Phases	ROG	CO	NOx	SOx	PM_{10}	$PM_{2.5}$
Survey, Clear and Grub	1.54	12.00	13.12	0.03	0.54	0.49
Clear and Grub, Site Util/Electric, Demo, Earthwork	6.53	69.20	53.72	0.13	2.17	1.99
Site Util/Electric, Earthwork, Foundations, Bridge, Roadways/Paving	7.30	61.31	63.08	0.15	2.52	2.32
Site Util/Electric, Foundations, Bridge, Roadways/Paving, Buildings	7.84	68.90	63.63	0.16	2.55	2.34
Site Util/Electric, Buildings, Trackwork-Ballasted, Major Equip	6.55	59.15	52.32	0.14	2.05	1.89
Site Util/Electric, Buildings, Trackwork-DF, Major Equip	5.97	52.56	46.05	0.11	1.87	1.72

Trackwork-Ballasted Phase includes emissions associated with the maximum emissions of either the welded rail train or rail delivery options

Phase 1 - Daily Maximum On-Road Emissions (lbs/day)						
Phases	ROG	CO	NOx	SOx	PM_{10}	$PM_{2.5}$
Survey, Clear and Grub	0.02	0.72	0.05	0.00	0.23	0.06
Clear and Grub, Site Util/Electric, Demo, Earthwork	0.18	3.82	11.75	0.09	3.05	0.90
Site Util/Electric, Earthwork, Foundations, Bridge, Roadways/Paving	0.27	6.87	12.12	0.10	4.04	1.17
Site Util/Electric, Foundations, Bridge, Roadways/Paving, Buildings	0.26	8.17	0.72	0.03	2.61	0.72
Site Util/Electric, Buildings, Trackwork-Ballasted, Major Equip	0.24	7.53	0.87	0.03	2.45	0.67
Site Util/Electric, Buildings, Trackwork-DF, Major Equip	0.20	6.40	0.44	0.02	2.03	0.56

Phase 1 - Maximum Daily Emissions (lbs/day)						
Phases	ROG	CO	NOx	SOx	PM_{10}	$PM_{2.5}$
Survey, Clear and Grub	1.56	12.71	13.17	0.03	6.79	3.88
Clear and Grub, Site Util/Electric, Demo, Earthwork	6.70	73.02	65.47	0.22	41.47	22.82
Site Util/Electric, Earthwork, Foundations, Bridge, Roadways/Paving	7.95	68.17	75.20	0.25	39.79	21.76
Site Util/Electric, Foundations, Bridge, Roadways/Paving, Buildings	38.06	77.07	64.35	0.18	14.19	8.04
Site Util/Electric, Buildings, Trackwork-Ballasted, Major Equip	36.37	66.68	53.19	0.16	10.52	5.88
Site Util/Electric, Buildings, Trackwork-DF, Major Equip	35.75	58.96	46.49	0.13	9.93	5.60
Maximum Daily Emissions	38.06	77.07	75.20	0.25	41.47	22.82
SCAQMD Threshold	75	550	100	150	150	55

Phase 1 - Maximum Daily On-Site Emissions (lbs/day)						
Phases	ROG	CO	NOx	SOx	PM_{10}	$PM_{2.5}$
Survey, Clear and Grub	1.54	12.05	13.12	0.03	6.58	3.82
Clear and Grub, Site Util/Electric, Demo, Earthwork	6.54	69.48	54.58	0.13	38.63	21.98
Site Util/Electric, Earthwork, Foundations, Bridge, Roadways/Paving	7.70	61.80	63.96	0.16	36.05	20.68
Site Util/Electric, Foundations, Bridge, Roadways/Paving, Buildings	37.82	69.49	63.68	0.16	11.77	2.39
Site Util/Electric, Buildings, Trackwork-Ballasted, Major Equip	36.15	59.69	52.38	0.16	8.25	5.26
Site Util/Electric, Buildings, Trackwork-DF, Major Equip	35.56	53.03	46.09	0.13	8.04	7.79
Maximum Daily Emissions	37.82	69.49	63.96	0.16	38.63	21.98

Percent on-road emisions on/around project site: 7%

Daily Fugitive Dust Emissions (lbs/day)		
Phase	PM_{10}	$PM_{2.5}$
Clear and Grub	6.022	3.319
Site Utilities	6.022	3.319
Earthwork	24.196	13.290
Roadway Paving	3.011	1.659

Daily VOC Emissions (lbs/day) - Phase 1	
Phase	VOC
Buildings (Interior and Exterior)	29.51
Paved Areas (Painting)	0.07
Paved Areas (Asphalt Paving Off-Gassing)	0.382

GHG Emissions - Phase 1	
Project Component	MT CO2e
Off-Road Emissions	761
On-Road Emissions	943
Total GHG Emissions	1,704

Phase 2 - Daily Maximum Off-Road Emissions (lbs/day)						
Phases	ROG	CO	NOx	SOx	PM_{10}	$PM_{2.5}$
Survey	0.07	0.47	0.51	0.00	0.02	0.02
Site Util/Electric, Demo	3.55	46.70	25.71	0.07	1.04	0.95
Site Util/Electric, Earthwork	3.20	28.58	27.51	0.06	1.20	1.10
Earthwork, Foundations	1.82	16.84	17.25	0.04	0.78	0.71
Foundations, Roadway/Paving	2.11	18.22	18.26	0.05	0.73	0.67
Buildings, Trackwork-Ballasted, Major Equip	3.98	39.92	34.48	0.09	1.29	1.19
Site Util/Electric, Buildings, Trackwork-DF, Major Equip	5.85	51.53	44.88	0.10	1.84	1.69
Major Equip, Commissioning	0.76	6.13	6.05	0.01	0.29	0.26

Phase 2 - Daily Maximum On-Road Emissions (lbs/day)						
Phases	ROG	CO	NOx	SOx	PM_{10}	$PM_{2.5}$
Survey	0.01	0.17	0.01	0.00	0.05	0.01
Site Util/Electric, Demo	0.04	1.43	0.10	0.00	0.46	0.13
Site Util/Electric, Earthwork	0.07	1.95	2.34	0.02	0.97	0.28
Earthwork, Foundations	0.09	2.41	2.77	0.02	1.16	0.33
Foundations, Roadway/Paving	0.07	2.18	0.55	0.01	0.73	0.20
Buildings, Trackwork-Ballasted, Major Equip	0.21	6.63	0.58	0.02	2.13	0.58
Site Util/Electric, Buildings, Trackwork-DF, Major Equip	0.20	6.40	0.44	0.02	2.03	0.56
Major Equip, Commissioning	0.06	1.99	0.14	0.01	0.63	0.17

Phase 2 - Maximum Daily Emissions (lbs/day)						
Phases	ROG	CO	NOx	SOx	PM_{10}	$PM_{2.5}$
Survey	0.08	0.64	0.53	0.00	0.07	0.03
Site Util/Electric, Demo	3.59	48.13	25.81	0.07	7.52	4.40
Site Util/Electric, Earthwork	3.28	30.52	29.85	0.08	14.22	8.02
Earthwork, Foundations	1.91	19.25	20.01	0.06	7.96	4.36
Foundations, Roadway/Paving	2.18	20.40	18.81	0.06	4.47	2.53
Buildings, Trackwork-Ballasted, Major Equip	78.50	46.55	35.05	0.11	3.41	1.78
Site Util/Electric, Buildings, Trackwork-DF, Major Equip	80.36	57.92	45.32	0.12	9.89	5.57
Major Equip, Commissioning	0.82	8.11	6.18	0.02	0.92	0.44
Maximum Daily Emissions	80.36	57.92	45.32	0.12	14.22	8.02
SCAQMD Threshold	75	550	100	150	150	55

Phase 2 - Maximum Daily On-Site Emissions (lbs/day)						
Phases	ROG	CO	NOx	SOx	PM_{10}	$PM_{2.5}$
Survey	0.07	0.48	0.51	0.00	0.02	0.02
Site Util/Electric, Demo	3.55	46.80	25.72	0.07	7.10	4.28
Site Util/Electric, Earthwork	3.21	28.72	27.68	0.06	13.32	7.76
Earthwork, Foundations	1.83	17.01	17.45	0.04	6.88	4.06
Foundations, Roadway/Paving	2.12	18.38	18.30	0.05	3.79	2.35
Buildings, Trackwork-Ballasted, Major Equip	78.31	40.40	34.52	0.09	1.44	1.23
Site Util/Electric, Buildings, Trackwork-DF, Major Equip	80.18	51.99	44.91	0.10	8.01	5.05
Major Equip, Commissioning	0.76	6.27	6.06	0.01	0.33	0.27
Maximum Daily Emissions	80.18	51.99	44.91	0.10	13.32	7.76

Percent on-road emisions on/around project site: 7%

Daily Fugitive Dust Emissions (lbs/day)		
Phase	PM_{10}	$PM_{2.5}$
Site Utilities	6.0221	3.3185
Earthwork	6.0221	3.3185
Roadway Paving	3.0110	1.6593

Unmitigated Daily VOC Emissions (lbs/day) - Phase 2	
Phase	VOC
Buildings (Interior and Exterior)	74.31
Paved Areas (Painting)	-
Paved Areas (Asphalt Paving Off-Gassing)	-

GHG Emissions - Phase 2	
Project Component	MT CO2e
Off-Road Emissions	207
On-Road Emissions	274
Total GHG Emissions	481

Phase 2 - MItigated Maximum Daily Emissions (lbs/day)						
Phases	ROG	CO	NOx	SOx	PM_{10}	$PM_{2.5}$
Survey	0.08	0.64	0.53	0.00	0.07	0.03
Site Util/Electric, Demo	3.59	48.13	25.81	0.07	7.52	4.40
Site Util/Electric, Earthwork	3.28	30.52	29.85	0.08	14.22	8.02
Earthwork, Foundations	1.91	19.25	20.01	0.06	7.96	4.36
Foundations, Roadway/Paving	2.18	20.40	18.81	0.06	4.47	2.53
Buildings, Trackwork-Ballasted, Major Equip	33.91	46.55	35.05	0.11	3.41	1.78
Site Util/Electric, Buildings, Trackwork-DF, Major Equip	35.78	57.92	45.32	0.12	9.89	5.57
Major Equip, Commissioning	0.82	8.11	6.18	0.02	0.92	0.44
Maximum Daily Emissions	35.78	57.92	45.32	0.12	14.22	8.02

Mitigated Daily VOC Emissions (lbs/day) - Phase 2	
Phase	VOC
Buildings (Interior and Exterior)	29.73

ORANGE COUNTY MAINTENANCE FACILITY - Phase 1 Construction Schedule
Phase 1

	Jan-23	Feb-23	Mar-23	Apr-23	May-23	Jun-23	Jul-23	Aug-23	Sep-23	Oct-23	Nov-23	Dec-23	Jan-24	Feb-24	Mar-24	Apr-24	May-24	Jun-24	Jul-24	Aug-24	Sep-24	Oct-24	Nov-24	Dec-24	Jan-25	Feb-25	Mar-25	Apr-25	May-25	Jun-25
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
Survey	x	x																												
Clear and grub		x	x	x																										
Site Util/Electric			x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x				
Demo			x	x	x																									
Earthwork				x	x	x	x	x	x																					
Foundations								x	x	x	x																			
Roadways/Paving									x	x	x	x																		
Buildings										x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x		
Bridge						x	x	x	x	x	x																			
Trackwork-Ballasted															x	x	x	x	x	x	x	x	x	x						
Trackwork -DF																									x	x	x			
Major equip																							x	x	x	x	x	x		
Commisioning																													x	x

ORANGE COUNTY MAINTENANCE FACILITY - PHASE 2 Construction Schedule
Phase 2

	Jul-25	Aug-25	Sep-25	Oct-25	Nov-25	Dec-25	Jan-26	Feb-26	Mar-26	Apr-26	May-26	Jun-26	Jul-26	Aug-26	Sep-26	Oct-26	Nov-26	Dec-26	Jan-27	Feb-27	Mar-27	Apr-27	May-27	Jun-27	Jul-27	Aug-27	Sep-27	Oct-27	Nov-27
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29
Survey	x																												
Site Util/Electric		x	x																	x	x								
Demo		x																											
Earthwork			x	x																									
Foundations				x	x																								
Roadways/Paving					x	x																							
Buildings							x	x	x	x	x	x	x	x	x	x	x	x	x	x	x								
Trackwork-Ballasted															x	x	x	x											
Trackwork -DF																			x	x	x								
Major equip																		x	x	x	x	x	x						
Commisioning																						x	x						

Off-Road Construction Emissions - Phase 1

Construction Year[1]

2023									Emissions Factors (g/bhp-hr)							Emission Factor (g/gal)				Emissions (lbs/day)						metric tons/phase			
Project Phase/Equipment	Notes		Number	Hours per Day	Total Days[1]	Horsepower	Total Runtime Hours	Load Factor [2]	ROG	CO	NOx	SOx	PM_{10}	$PM_{2.5}$	CO_2	CH_4	N_2O	gal/hp-hr	Total Gallons	ROG	CO	NO_X	SO_X	PM_{10}	$PM_{2.5}$	CO_2	CH_4	N_2O	CO_2e
Survey					42															*0.19*	*1.25*	*1.37*	*0.01*	*0.05*	*0.05*	*10.41*	*0.00*	*0.00*	*10.42*
Impact hammer	electric/hand-held	Other Construction Equipment	1	0	0	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Power drill	electric/hand-held	Other Construction Equipment	1	0	0	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Tool truck		Off-Highway Trucks	1	8	42	402	336	0.38	0.07	0.46	0.51	0.00	0.02	0.02	201.86	0.57	0.26	0.000345	47	0.19	1.25	1.37	0.01	0.05	0.05	10.41	0.00	0.00	10.42
Clear and Grub					63															*1.35*	*10.74*	*11.75*	*0.02*	*0.49*	*0.45*	*7.10*	*0.00*	*0.00*	*7.23*
Brush cutter /Brush hog	assumes skid steer attachment (ht	Skid Steer Loaders	1	8	6	65	50	0.37	0.06	1.20	0.75	0.00	0.03	0.02	194.50	0.57	0.26	0.00	4	0.02	0.51	0.32	0.00	0.01	0.01	0.23	0.00	0.00	0.24
Chain saw	assumes diesel	Concrete/Industrial Saws	1	8	3	81	25	0.73	0.37	3.19	2.78	0.01	0.10	0.09	414.36	0.57	0.26	0.34	697	0.38	3.33	2.90	0.01	0.10	0.09	0.62	0.00	0.00	0.68
D5 Dozer		Rubber Tired Dozers	1	8	13	247	101	0.40	0.18	1.04	1.95	0.00	0.09	0.08	209.04	0.57	0.26	0.03	626	0.31	1.81	3.40	0.00	0.15	0.14	2.08	0.00	0.00	2.14
Excavator-Track hoe		Excavators	1	4	3	158	13	0.38	0.07	1.18	0.56	0.00	0.03	0.03	201.69	0.57	0.26	0.00	2	0.04	0.63	0.30	0.00	0.01	0.01	0.15	0.00	0.00	0.15
Front end loader (rubber)		Rubber Tired Loaders	1	4	32	203	126	0.36	0.08	0.43	0.73	0.00	0.02	0.02	190.49	0.57	0.26	0.00	10	0.05	0.28	0.47	0.00	0.02	0.01	1.76	0.00	0.00	1.76
Prentice / Log Loader	http://s7d2.scene7.com/is/conten	Tractors/Loaders/Backhoes	1	2	3	160	6	0.37	0.07	1.14	0.56	0.00	0.03	0.03	193.81	0.57	0.26	0.00	1	0.02	0.30	0.15	0.00	0.01	0.01	0.07	0.00	0.00	0.07
Stump Grinder	http://www.banditchippers.com/t	Other Construction Equipment	1	4	3	74	13	0.42	0.30	1.74	2.93	0.00	0.21	0.19	215.79	0.57	0.26	0.07	64	0.08	0.47	0.80	0.00	0.06	0.05	0.08	0.00	0.00	0.09
Tractor trailer		Off-Highway Trucks	1	8	6	402	50	0.38	0.07	0.46	0.51	0.00	0.02	0.02	201.86	0.57	0.26	0.00	7	0.19	1.25	1.37	0.01	0.05	0.05	1.56	0.00	0.00	1.56
Tree shear	assumes attachment to skid steer	Skid Steer Loaders	1	8	1	65	5	0.37	0.06	1.20	0.75	0.00	0.03	0.02	194.50	0.57	0.26	0.00	0	0.02	0.51	0.32	0.00	0.01	0.01	0.02	0.00	0.00	0.02
Tri-axle Dump Trucks		Off-Highway Trucks	2	4	3	402	10	0.38	0.07	0.46	0.51	0.00	0.02	0.02	201.86	0.57	0.26	0.00	1	0.19	1.25	1.37	0.01	0.05	0.05	0.31	0.00	0.00	0.31
Wood chipper	https://www.stumpcutters.com/w	Other Construction Equipment	1	3	6	116	19	0.42	0.11	1.31	1.13	0.00	0.06	0.05	218.42	0.57	0.26	0.01	19	0.04	0.42	0.36	0.00	0.02	0.02	0.20	0.00	0.00	0.20
Site Utilities		.			504															*2.27*	*19.53*	*18.19*	*0.05*	*0.73*	*0.68*	*366.28*	*0.01*	*0.01*	*368.26*
Abrasive/demo saw	assumes diesel	Concrete/Industrial Saws	1	2	50	81	101	0.73	0.37	3.19	2.78	0.01	0.10	0.09	414.36	0.57	0.26	0.34	2787	0.10	0.83	0.73	0.00	0.03	0.02	2.47	0.00	0.00	2.73
Backhoe		Tractors/Loaders/Backhoes	1	8	403	97	3226	0.37	0.08	1.29	0.85	0.00	0.04	0.04	195.21	0.57	0.26	0.00	62	0.05	0.81	0.54	0.00	0.03	0.02	22.60	0.00	0.00	22.60
Bucket Truck		Off-Highway Trucks	1	8	126	402	1008	0.38	0.07	0.46	0.51	0.00	0.02	0.02	201.86	0.57	0.26	0.00	140	0.19	1.25	1.37	0.01	0.05	0.05	31.24	0.00	0.00	31.25
Compressor		Air Compressors	1	8	252	78	2016	0.48	0.30	2.35	1.90	0.00	0.07	0.07	272.77	0.57	0.26	0.01	1192	0.20	1.55	1.25	0.00	0.05	0.05	20.59	0.00	0.00	20.70
Concrete mixer		Cement and Mortar Mixers	1	4	50	9	202	0.56	0.31	1.82	2.35	0.00	0.09	0.08	318.42	0.57	0.26	0.10	184	0.01	0.08	0.10	0.00	0.00	0.00	0.32	0.00	0.00	0.34
Concrete pump		Pumps	1	5	202	84	1008	0.74	0.03	1.01	0.53	0.00	0.03	0.03	159.70	0.57	0.26	0.01	853	0.02	0.69	0.36	0.00	0.02	0.02	10.01	0.00	0.00	10.08
Concrete saw		Concrete/Industrial Saws	1	8	50	81	403	0.73	0.37	3.19	2.78	0.01	0.10	0.09	414.36	0.57	0.26	0.34	11147	0.38	3.33	2.90	0.01	0.10	0.09	9.88	0.01	0.00	10.90
Concrete truck		Off-Highway Trucks	1	5	202	402	1008	0.38	0.07	0.46	0.51	0.00	0.02	0.02	201.86	0.57	0.26	0.00	140	0.12	0.78	0.86	0.00	0.03	0.03	31.24	0.00	0.00	31.25
Concrete vibrator	https://www.indiamart.com/prod	Other Construction Equipment	1	5	202	5.5	1008	0.42	0.34	2.02	2.59	0.01	0.10	0.09	352.40	0.57	0.26	0.05	297	0.01	0.05	0.07	0.00	0.00	0.00	0.81	0.00	0.00	0.84
Excavator-Track hoe		Excavators	1	8	252	158	2016	0.38	0.07	1.18	0.56	0.00	0.03	0.03	201.69	0.57	0.26	0.00	332	0.07	1.25	0.60	0.00	0.03	0.03	24.53	0.00	0.00	24.56
Front end loader (rubber)		Tractors/Loaders/Backhoes	1	8	252	97	2016	0.37	0.08	1.29	0.85	0.00	0.04	0.04	195.21	0.57	0.26	0.00	39	0.05	0.81	0.54	0.00	0.03	0.02	14.12	0.00	0.00	14.13
Generator		Generator Sets	1	8	302	84	2419	0.74	0.06	1.17	0.48	0.00	0.04	0.04	420.53	0.57	0.26	0.01	1317	0.06	1.29	0.53	0.00	0.04	0.04	63.24	0.00	0.00	63.36
Gradall		Graders	1	8	126	187	1008	0.41	0.12	0.53	1.32	0.00	0.04	0.04	215.93	0.57	0.26	0.00	179	0.16	0.71	1.78	0.00	0.06	0.05	16.63	0.00	0.00	16.65
Grinder	https://www.essexequipment.con	Other Construction Equipment	1	2	252	11	504	0.42	0.34	2.02	2.59	0.01	0.10	0.09	352.40	0.57	0.26	0.05	297	0.01	0.04	0.05	0.00	0.00	0.00	0.81	0.00	0.00	0.84
Horizontal Boring /Jacking machine		Bore/Drill Rigs	1	8	25	221	202	0.50	0.06	0.53	0.60	0.00	0.02	0.02	263.10	0.57	0.26	0.02	821	0.12	1.04	1.17	0.00	0.04	0.03	5.89	0.00	0.00	5.97
Roller-vibratory		Rollers	1	2	101	80	202	0.38	0.10	1.28	1.09	0.00	0.06	0.05	198.12	0.57	0.26	0.00	51	0.01	0.17	0.14	0.00	0.01	0.01	1.20	0.00	0.00	1.20
Tractor trailer		Off-Highway Trucks	1	2	403	402	806	0.38	0.07	0.46	0.51	0.00	0.02	0.02	201.86	0.57	0.26	0.00	112	0.05	0.31	0.34	0.00	0.01	0.01	24.99	0.00	0.00	25.00
Trenching machine (Ditch witch)		Trenchers	1	4	151	78	605	0.50	0.24	1.86	2.26	0.00	0.16	0.14	265.84	0.57	0.26	0.03	1204	0.08	0.64	0.78	0.00	0.05	0.05	6.30	0.00	0.00	6.41
Tri-axle Dump Trucks		Off-Highway Trucks	2	8	252	402	2016	0.38	0.07	0.46	0.51	0.00	0.02	0.02	201.86	0.57	0.26	0.00	280	0.38	2.50	2.74	0.01	0.10	0.09	62.48	0.00	0.00	62.50
Vacuum excavator truck		Off-Highway Trucks	1	4	50	402	202	0.38	0.07	0.46	0.51	0.00	0.02	0.02	201.86	0.57	0.26	0.00	28	0.10	0.63	0.69	0.00	0.02	0.02	6.25	0.00	0.00	6.25
Welder		Welders	1	8	252	46	2016	0.45	0.26	2.06	1.74	0.00	0.07	0.06	255.73	0.57	0.26	0.00	134	0.09	0.75	0.64	0.00	0.02	0.02	10.67	0.00	0.00	10.68
Demolition					63															*1.40*	*28.21*	*8.70*	*0.02*	*0.35*	*0.31*	*26.21*	*0.01*	*0.00*	*27.28*
Abrasive/demo saw		Concrete/Industrial Saws	1	4	13	81	50	0.73	0.37	3.19	2.78	0.01	0.10	0.09	414.36	0.57	0.26	0.34	1393	0.19	1.66	1.45	0.00	0.05	0.05	1.23	0.00	0.00	1.36
Asphalt/Concrete crusher		Crushing/Proc. Equipment	1	6	21	85	125	0.78	0.53	21.52	1.66	0.01	0.05	0.03	655.82	0.57	0.26	0.94	9927	0.46	18.88	1.46	0.01	0.04	0.03	5.42	0.01	0.00	6.33
Backhoe		Tractors/Loaders/Backhoes	1	8	21	97	166	0.37	0.08	1.29	0.85	0.00	0.04	0.04	195.21	0.57	0.26	0.00	3	0.05	0.81	0.54	0.00	0.03	0.02	1.17	0.00	0.00	1.17
Compressor		Air Compressors	1	8	32	78	252	0.48	0.30	2.35	1.90	0.00	0.07	0.07	272.77	0.57	0.26	0.01	149	0.20	1.55	1.25	0.00	0.05	0.05	2.57	0.00	0.00	2.59
Excavator-Track hoe		Excavators	1	8	32	158	252	0.38	0.07	1.18	0.56	0.00	0.03	0.03	201.69	0.57	0.26	0.00	42	0.07	1.25	0.60	0.00	0.03	0.03	3.07	0.00	0.00	3.07
Front end loader (rubber)		Rubber Tired Loaders	1	4	50	203	202	0.36	0.08	0.43	0.73	0.00	0.02	0.02	190.49	0.57	0.26	0.00	16	0.05	0.28	0.47	0.00	0.02	0.01	2.82	0.00	0.00	2.82
Generator		Generator Sets	1	8	32	84	252	0.74	0.06	1.17	0.48	0.00	0.04	0.04	159.70	0.57	0.26	0.00	37	0.06	1.29	0.53	0.00	0.04	0.04	2.50	0.00	0.00	2.50
Grinder	https://www.essexequipment.con	Other Construction Equipment	1	2	13	11	25	0.42	0.34	2.02	2.59	0.01	0.10	0.09	352.40	0.57	0.26	0.05	15	0.01	0.04	0.05	0.00	0.00	0.00	0.04	0.00	0.00	0.04
Hoe Ram	attachment to tractor, backhoe	Tractors/Loaders/Backhoes	1	8	9	97	76	0.37	0.08	1.29	0.85	0.00	0.04	0.04	195.21	0.57	0.26	0.00	1	0.05	0.81	0.54	0.00	0.03	0.02	0.53	0.00	0.00	0.53
Jack hammers	https://www.edisons.com.au/bau	Other Construction Equipment	2	5	9	3.5	47	0.42	0.34	2.02	2.59	0.01	0.10	0.09	352.40	0.57	0.26	0.05	9	0.01	0.06	0.08	0.00	0.00	0.00	0.02	0.00	0.00	0.03
Tractor trailer		Off-Highway Trucks	1	2	47	402	95	0.38	0.07	0.46	0.51	0.00	0.02	0.02	201.86	0.57	0.26	0.00	13	0.05	0.31	0.34	0.00	0.01	0.01	2.93	0.00	0.00	2.93
Tri-axle Dump Trucks		Off-Highway Trucks	2	4	32	402	126	0.38	0.07	0.46	0.51	0.00	0.02	0.02	201.86	0.57	0.26	0.00	17	0.19	1.25	1.37	0.01	0.05	0.05	3.90	0.00	0.00	3.91
Earthwork					126															*1.51*	*10.72*	*15.10*	*0.03*	*0.60*	*0.55*	*48.43*	*0.00*	*0.00*	*48.74*
D5 Dozer		Rubber Tired Dozers	1	8	63	247	504	0.40	0.18	1.04	1.95	0.00	0.09	0.08	209.04	0.57	0.26	0.03	3131	0.31	1.81	3.40	0.00	0.15	0.14	10.41	0.00	0.00	10.70
Excavator-Track hoe		Excavators	1	8	13	158	101	0.38	0.07	1.18	0.56	0.00	0.03	0.03	201.69	0.57	0.26	0.00	17	0.07	1.25	0.60	0.00	0.03	0.03	1.23	0.00	0.00	1.23
Front end loader (rubber)		Rubber Tired Loaders	1	5	101	203	504	0.36	0.08	0.43	0.73	0.00	0.02	0.02	190.49	0.57	0.26	0.00	40	0.06	0.35	0.59	0.00	0.02	0.02	7.05	0.00	0.00	7.05
Gradall		Graders	1	8	42	187	333	0.41	0.12	0.53	1.32	0.00	0.04	0.04	215.93	0.57	0.26	0.00	59	0.16	0.71	1.78	0.00	0.06	0.05	5.49	0.00	0.00	5.49
Pan		Scrapers	1	8	6	367	50	0.48	0.11	0.85	1.19	0.00	0.05	0.04	255.22	0.57	0.26	0.00	7	0.36	2.65	3.73	0.01	0.14	0.13	2.28	0.00	0.00	2.28
Road Grader		Graders	1	8	6	187	50	0.41	0.12	0.53	1.32	0.00	0.04	0.04	215.93	0.57	0.26	0.00	9	0.16	0.71	1.78	0.00	0.06	0.05	0.83	0.00	0.00	0.83
Roller-sheepsfoot		Rollers	1	8	25	80	202	0.38	0.10	1.28	1.09	0.00	0.06	0.05	198.12	0.57	0.26	0.00	51	0.05	0.68	0.58	0.00	0.03	0.03	1.20	0.00	0.00	1.20
Roller-vibratory		Rollers	1	8	25	80	202	0.38	0.10	1.28	1.09	0.00	0.06	0.05	198.12	0.57	0.26	0.00	51	0.05	0.68	0.58	0.00	0.03	0.03	1.20	0.00	0.00	1.20
Tri-axle Dump Trucks		Off-Highway Trucks	2	6	101	402	605	0.38	0.07	0.46	0.51	0.00	0.02	0.02	201.86	0.57	0.26	0.00	84	0.29	1.88	2.06	0.01	0.07	0.07	18.74	0.00	0.00	18.75
Foundations					84															*0.77*	*6.75*	*6.75*	*0.02*	*0.27*	*0.25*	*28.19*	*0.01*	*0.00*	*29.32*
Backhoe		Tractors/Loaders/Backhoes	1	8	67	97	538	0.37	0.08	1.29	0.85	0.00	0.04	0.04	195.21	0.57	0.26	0.00	10	0.05	0.81	0.54	0.00	0.03	0.02	3.77	0.00	0.00	3.77
Concrete mixer		Cement and Mortar Mixers	1	8	8	9	67	0.56	0.31	1.82	2.35	0.00	0.09	0.08	318.42	0.57	0.26	0.10	61	0.03	0.16	0.21	0.00	0.01	0.01	0.11	0.00	0.00	0.11
Concrete pump		Pumps	1	4	42	84	168	0.74	0.03	1.01	0.53	0.00	0.03	0.03	159.70	0.57	0.26	0.01	142	0.02	0.55	0.29	0.00	0.02	0.02	1.67	0.00	0.00	1.68
Concrete truck		Off-Highway Trucks	1	4	42	402	168	0.38	0.07	0.46	0.51	0.00	0.02	0.02	201.86	0.57	0.26	0.00	23	0.10	0.63	0.69	0.00	0.02	0.02	5.21	0.00	0.00	5.21
Concrete vibrator	https://www.indiamart.com/prod	Other Construction Equipment	1	4	42	5.5	168	0.42	0.34	2.02	2.59	0.01	0.10	0.09	352.40	0.57	0.26	0.05	49	0.01	0.04	0.05	0.00	0.00	0.00	0.14	0.00	0.00	0.14
Crane		Cranes	1	8	8	231	67	0.29	0.09	0.52	1.00	0.00	0.04	0.04	151.96	0.57	0.26	0.00	27	0.11	0.61	1.17	0.00	0.05	0.05	0.68	0.00	0.00	0.68
Excavator-Track hoe		Excavators	1	8	21	158	168	0.38	0.07	1.18	0.56	0.00	0.03	0.03	201.69	0.57	0.26	0.00	28	0.07	1.25	0.60	0.00	0.03	0.03	2.04	0.00	0.00	2.05
Front end loader (rubber)		Rubber Tired Loaders	1	8	67	203	538	0.36	0.08	0.43	0.73	0.00	0.02	0.02	190.49	0.57	0.26	0.00	43	0.10	0.56	0.95	0.00	0.03	0.03	7.52	0.00	0.00	7.53
Pile driver		Bore/Drill Rigs	1	6	8	221	50	0.50	0.06	0.53	0.60	0.00	0.02	0.02	263.10	0.57	0.26	0.02	205	0.09	0.78	0.88	0.00	0.03	0.03	1.47	0.00	0.00	1.49
Roller-vibratory-walk behind	https://www.doosanportablepow	Rollers	1	2	25	6	50	0.38	1.51	4.14	2.87	0.00	0.39	0.36	220.05	0.57	0.26	38.63	11681	0.01	0.04	0.03	0.00	0.00	0.00	0.02	0.01	0.00	1.10
Tractor Trailer		Off-Highway Trucks	1	2	42	402	84	0.38	0.07	0.46	0.51	0.00	0.02	0.02	201.86	0.57	0.26	0.00	12	0.05	0.31	0.34	0.00	0.01	0.01	2.60	0.00	0.00	2.60
Tri-axle Dump Trucks		Off-Highway Trucks	2	2	42	402	84	0.38	0.07	0.46	0.51	0.00	0.02	0.02	201.86	0.57	0.26	0.00	12	0.10	0.63	0.69	0.00	0.02	0.02	2.60	0.00	0.00	2.60
Welder		Welders	1	4	17	46	67	0.45	0.26	2.06	1.74	0.00	0.07	0.06	255.73	0.57	0.26	0.00	4	0.05	0.38	0.32	0.00	0.01	0.01	0.36	0.00	0.00	0.36
Roadway Paving					84															*1.34*	*11.47*	*11.51*	*0.03*	*0.46*	*0.42*	*17.62*	*0.00*	*0.00*	*17.70*
Asphalt Pavers		Pavers	2	6	13	130	81	0.42	0.08	1.25	0.83	0.00	0.04	0.04	219.72	0.57	0.26	0.01	98	0.12	1.78	1.18	0.00	0.06	0.05	0.96	0.00	0.00	0.97
Backhoe		Tractors/Loaders/Backhoes	1	8	42	97	336	0.37	0.08	1.29	0.85	0.00	0.04	0.04	195.21	0.57	0.26	0.00	6	0.05	0.81	0.54	0.00	0.03	0.02	2.35	0.00	0.00	2.35
Concrete trucks		Off-Highway Trucks	2	4	17	402	67	0.38	0.07	0.46	0.51	0.00	0.02	0.02	201.86	0.57	0.26	0.00	9	0.19	1.25	1.37	0.01	0.05	0.05	2.08	0.00	0.00	2.08
Concrete vibrator	https://www.indiamart.com/prod	Other Construction Equipment	1	4	17	5.5	67	0.42	0.34	2.02	2.59	0.01	0.10	0.09	352.40	0.57	0.26	0.05	20	0.01	0.04	0.05	0.00	0.00	0.00	0.05	0.00	0.00	0.06
Core drill machine (testing)		Bore/Drill Rigs	1	4	2	221	7	0.50	0.06	0.53	0.60	0.00	0.02	0.02	263.10	0.57	0.26	0.02	27	0.06	0.52	0.59	0.00	0.02	0.02	0.20	0.00	0.00	0.20
Demo/Concrete saws		Concrete/Industrial Saws	2	4	4	81	17	0.73	0.37	3.19	2.78	0.01	0.10	0.09	414.36	0.57	0.26	0.34	464	0.38	3.33	2.90	0.01	0.10	0.09	0.41	0.00	0.00	0.45
Dozer		Rubber Tired Dozers	1	4	8	247	34	0.40	0.18	1.04	1.95	0.00	0.09	0.08	209.04	0.57	0.26	0.03	209	0.16	0.90	1.70	0.00	0.08	0.07	0.69	0.00	0.00	0.71
Front end loader (rubber)		Rubber Tired Loaders	1	8	25	203	202	0.36	0.08	0.43	0.73	0.00	0.02	0.02	190.49	0.57	0.26	0.00	16	0.10	0.56	0.95	0.00	0.03	0.03	2.82	0.00	0.00	2.82
Roller-smooth drum		Rollers	1	8	25	80	202	0.38	0.10	1.28	1.09	0.00	0.06	0.05	198.12	0.57	0.26	0.00	51	0.05	0.68	0.58	0.00	0.03	0.03	1.20	0.00	0.00	1.20
Rollers-vibratory		Rollers	1	4	25	80	101	0.38	0.10	1.28	1.09	0.00	0.06	0.05	198.12	0.57	0.26	0.00	25	0.03	0.34	0.29	0.00	0.02	0.01	0.60	0.00	0.00	0.60
Tri-axle Dump Trucks		Off-Highway Trucks	2	4	50	402	202	0.38	0.07	0.46	0.51	0.00	0.02	0.02	201.86	0.57	0.26	0.00	28	0.19	1.25	1.37	0.01	0.05	0.05	6.25	0.00	0.00	6.25
Building					399															*2.06*	*18.31*	*15.65*	*0.03*	*0.62*	*0.57*	*88.45*	*0.01*	*0.01*	*90.39*
Abrasive/demo saw		Concrete/Industrial Saws	1	2	20	81	40	0.73	0.37	3.19	2.78	0.01	0.10	0.09	414.36	0.57	0.26	0.34	1103	0.10	0.83	0.73	0.00	0.03	0.02	0.98	0.00	0.00	1.08
Backhoe		Tractors/Loaders/Backhoes	1	8	200	97	1596	0.37	0.08	1.29	0.85	0.00	0.04	0.04	195.21	0.57	0.26	0.00	31	0.05	0.81	0.54	0.00	0.03	0.02	11.18	0.00	0.00	11.18
Circular saws		Concrete/Industrial Saws	2	4	120	81	479	0.73	0.37	3.19	2.78	0.01	0.10	0.09	414.36	0.57	0.26	0.34	13237	0.38	3.33	2.90	0.01	0.10	0.09	11.73	0.01	0.00	12.95
Compressor		Air Compressors	1	8	200	78	1596	0.48	0.30	2.35	1.90	0.00	0.07	0.07	272.77	0.57	0.26	0.01	944	0.20	1.55	1.25	0.00	0.05	0.05	16.30	0.00	0.00	16.39
Concrete finisher		Paving Equipment	1	4	80	132	319	0.36	0.08	1.10	0.75	0.00	0.04	0.04	187.02	0.57	0.26	0.02	676	0.03	0.46	0.31	0.00	0.02	0.01	2.80	0.00	0.00	2.86
Concrete pump		Pumps	1	4	20	84	80	0.74	0.03	1.01	0.53	0.00	0.03	0.03	159.70	0.57	0.26	0.01	68	0.02	0.55	0.29	0.00	0.02	0.02	0.79	0.00	0.00	0.80
Concrete saw		Concrete/Industrial Saws	1	8	8	81	64	0.73	0.37	3.19	2.78	0.01	0.10	0.09	414.36	0.57	0.26	0.34	1765	0.38	3.33	2.90	0.01	0.10	0.09	1.56	0.00	0.00	1.73
Concrete truck		Off-Highway Trucks	1	4	20	402	80	0.38	0.07	0.46	0.51	0.00	0.02	0.02	201.86	0.57	0.26	0.00	11	0.10	0.63	0.69	0.00	0.02	0.02	2.47	0.00	0.00	2.47
Concrete vibrator	https://www.indiamart.com/prod	Other Construction Equipment	1	4	20	5.5	80	0.42	0.34	2.02	2.59	0.01	0.10	0.09	352.40	0.57	0.26	0.05	23	0.01	0.04	0.05	0.00	0.00	0.00	0.06	0.00	0.00	0.07
Crane		Cranes	1	6	8	231	48	0.29	0.09	0.52	1.00	0.00	0.04	0.04	151.96	0.57	0.26	0.00	20	0.08	0.46	0.88	0.00	0.04	0.03	0.48	0.00	0.00	0.49
Front end loader (rubber)		Rubber Tired Loaders	1	4	200	203	798	0.36	0.08	0.43	0.73	0.00	0.02	0.02	190.49	0.57	0.26	0.00	63	0.05	0.28	0.47	0.00	0.02	0.01	11.16	0.00	0.00	11.17
Generator		Generator Sets	1	8	200	84	1596	0.74	0.06	1.17	0.48	0.00	0.04	0.04	159.70	0.57	0.26	0.00	235	0.06	1.29	0.53	0.00	0.04	0.04	15.84	0.00	0.00	15.86
Grinder	https://www.essexequipment.con	Other Construction Equipment	1	4	80	11	319	0.42	0.34	2.02	2.59	0.01	0.10	0.09	352.40	0.57	0.26	0.05	188	0.01	0.08	0.10	0.00	0.00	0.00	0.51	0.00	0.00	0.53
Jack hammers	https://www.edisons.com.au/bau	Other Construction Equipment	2	4	8	3.5	32	0.42	0.34	2.02	2.59	0.01	0.10	0.09	352.40	0.57	0.26	0.05	6	0.01	0.05	0.07	0.00	0.00	0.00	0.02	0.00	0.00	0.02
Lull		Forklifts	1	4	120	89	479	0.20	0.06	0.73	0.60	0.00	0.04	0.03	105.95	0.57	0.26	0.00	4	0.01	0.12	0.09	0.00	0.01	0.01	0.91	0.00	0.00	0.91
Mortar mixer		Cement and Mortar Mixers	1	4	120	9	479	0.56	0.31	1.82	2.35	0.00	0.09	0.08	318.42	0.57	0.26	0.10	438	0.01	0.08	0.10	0.00	0.00	0.00	0.77	0.00	0.00	0.81
Nail guns	electric/hand-held	Other Construction Equipment	2	4	80	0	319	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.57	0.26	0.00	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paint sprayers	assumes powered by air compress	Air Compressors	2	8	8	78	64	0.48	0.30	2.35	1.90	0.00	0.07	0.07	272.77	0.57	0.26	0.01	38	0.39	3.10	2.51	0.00	0.10	0.09	0.65	0.00	0.00	0.66
Table saw		Concrete/Industrial Saws	1	2	40	81	80	0.73	0.37	3.19	2.78	0.01	0.10	0.09	414.36	0.57	0.26	0.34	2206	0.10	0.83	0.73	0.00	0.03	0.02	1.96	0.00	0.00	2.16
Tractor trailer		Off-Highway Trucks	1	2	120	402	239	0.38	0.07	0.46	0.51	0.00	0.02	0.02	201.86	0.57	0.26	0.00	33	0.05	0.31	0.34	0.00	0.01	0.01	7.42	0.00	0.00	7.42
Welder		Welders	1	2	80	46	160	0.45	0.26	2.06	1.74	0.00	0.07	0.06	255.73	0.57	0.26	0.00	11	0.02	0.19	0.16	0.00	0.01	0.01	0.84	0.00	0.00	0.85
Bridge(assume precast)					126															*1.40*	*12.84*	*11.54*	*0.03*	*0.46*	*0.42*	*37.88*	*0.00*	*0.00*	*38.22*
Abrasive/demo saw		Concrete/Industrial Saws	1	4	6	81	25	0.73	0.37	3.19	2.78	0.01	0.10	0.09	414.36	0.57	0.26	0.34	697	0.19	1.66	1.45	0.00	0.05	0.05	0.62	0.00	0.00	0.68
Backhoe		Tractors/Loaders/Backhoes	1	8	63	97	504	0.37	0.08	1.29	0.85	0.00	0.04	0.04	195.21	0.57	0.26	0.00	10	0.05	0.81	0.54	0.00	0.03	0.02	3.53	0.00	0.00	3.53
Circular saws		Concrete/Industrial Saws	2	2	25	81	50	0.73	0.37	3.19	2.78	0.01	0.10	0.09	414.36	0.57	0.26	0.34	1393	0.19	1.66	1.45	0.00	0.05	0.05	1.23	0.00	0.00	1.36
Compressor		Air Compressors	1	6	63	78	378	0.48	0.30	2.35	1.90	0.00	0.07	0.07	272.77	0.57	0.26	0.01	224	0.15	1.16	0.94	0.00	0.04	0.03	3.86	0.00	0.00	3.88
Concrete drill	assumes powered by air compress	Air Compressors	1	4	6	78	25	0.48	0.30	2.35	1.90	0.00	0.07	0.07	272.77	0.57	0.26	0.01	15	0.10	0.78	0.63	0.00	0.02	0.02	0.26	0.00	0.00	0.26
Concrete finisher		Paving Equipment	1	4	13	132	50	0.36	0.08	1.10	0.75	0.00	0.04	0.04	187.02	0.57	0.26	0.02	107	0.03	0.46	0.31	0.00	0.02	0.01	0.44	0.00	0.00	0.45
Concrete mixer		Cement and Mortar Mixers	1	4	13	9	50	0.56	0.31	1.82	2.35	0.00	0.09	0.08	318.42	0.57	0.26	0.10	46	0.01	0.08	0.10	0.00	0.00	0.00	0.08	0.00	0.00	0.09
Concrete pump		Pumps	1	4	25	84	101	0.74	0.03	1.01	0.53	0.00	0.03	0.03	159.70	0.57	0.26	0.01	85	0.02	0.55	0.29	0.00	0.02	0.02	1.00	0.00	0.00	1.01
Concrete saw		Concrete/Industrial Saws	1	0	0	81	0	0.73	0.37	3.19	2.78	0.01	0.10	0.09	414.36	0.57	0.26	0.34	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Concrete truck		Off-Highway Trucks	1	4	25	402	101	0.38	0.07	0.46	0.51	0.00	0.02	0.02	201.86	0.57	0.26	0.00	14	0.10	0.63	0.69	0.00	0.02	0.02	3.12	0.00	0.00	3.13
Concrete vibrator	https://www.indiamart.com/prod	Other Construction Equipment	1	4	25	5.5	101	0.42	0.34	2.02	2.59	0.01	0.10	0.09	352.40	0.57	0.26	0.05	30	0.01	0.04	0.05	0.00	0.00	0.00	0.08	0.00	0.00	0.08
Crane		Cranes	1	8	25	231	202	0.29	0.09	0.52	1.00	0.00	0.04	0.04	151.96	0.57	0.26	0.00	82	0.11	0.61	1.17	0.00	0.05	0.05	2.04	0.00	0.00	2.05
Excavator		Excavators	1	8	25	158	202	0.38	0.07	1.18	0.56	0.00	0.03	0.03	201.69	0.57	0.26	0.00	33	0.07	1.25	0.60	0.00	0.03	0.03	2.45	0.00	0.00	2.46
Front end loader (rubber)		Rubber Tired Loaders	1	8	50	203	403	0.36	0.08	0.43	0.73	0.00	0.02	0.02	190.49	0.57	0.26	0.00	32	0.10	0.56	0.95	0.00	0.03	0.03	5.64	0.00	0.00	5.64
Generator		Generator Sets	1	4	101	84	403	0.74	0.06	1.17	0.48	0.00	0.04	0.04	159.70	0.57	0.26	0.00	59	0.03	0.64	0.27	0.00	0.02	0.02	4.00	0.00	0.00	4.01
Grinder	https://www.essexequipment.con	Other Construction Equipment	1	8	25	11	202	0.42	0.34	2.02	2.59	0.01	0.10	0.09	352.40	0.57	0.26	0.05	119	0.03	0.16	0.21	0.00	0.01	0.01	0.32	0.00	0.00	0.34
Jack hammers	https://www.edisons.com.au/bau	Other Construction Equipment	2	2	6	3.5	13	0.42	0.34	2.02	2.59	0.01	0.10	0.09	352.40	0.57	0.26	0.05	2	0.00	0.03	0.03	0.00	0.00	0.00	0.01	0.00	0.00	0.01
Nail guns	electric/hand-held	Other Construction Equipment	2	4	25	0	101	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.57	0.26	0.00	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Pile Driver		Bore/Drill Rigs	1	8	19	221	151	0.50	0.06	0.53	0.60	0.00	0.02	0.02	263.10	0.57	0.26	0.02	616	0.12	1.04	1.17	0.00	0.04	0.03	4.42	0.00	0.00	4.47
Tractor trailer		Off-Highway Trucks	1	2	63	402	126	0.38	0.07	0.46	0.51	0.00	0.02	0.02	201.86	0.57	0.26	0.00	17	0.05	0.31	0.34	0.00	0.01	0.01	3.90	0.00	0.00	3.91
Vibratory Plate tamper		Plate Compactors	1	2	38	8	76	0.43	0.24	1.49	1.78	0.00	0.07	0.06	244.37	0.57	0.26	0.09	53	0.00	0.02	0.03	0.00	0.00	0.00	0.06	0.00	0.00	0.07
Welder		Welders	1	4	38	46	151	0.45	0.26	2.06	1.74	0.00	0.07	0.06	255.73	0.57	0.26	0.00	10	0.05	0.38	0.32	0.00	0.01	0.01	0.80	0.00	0.00	0.80
Trackwork- Ballasted- (top of sub ballast up)					210															*1.10*	*9.19*	*8.71*	*0.02*	*0.37*	*0.34*	*81.18*	*0.00*	*0.00*	*81.78*
Air Compressor		Air Compressors	1	8	168	78	1344	0.48	0.30	2.35	1.90	0.00	0.07	0.07	272.77	0.57	0.26	0.01	795	0.20	1.55	1.25	0.00	0.05	0.05	13.73	0.00	0.00	13.80
Backhoe		Tractors/Loaders/Backhoes	1	8	168	97	1344	0.37	0.08	1.29	0.85	0.00	0.04	0.04	195.21	0.57	0.26	0.00	26	0.05	0.81	0.54	0.00	0.03	0.02	9.42	0.00	0.00	9.42
Ballast cars (dump)	assumes no separate engine	Other Material Handling Equipment	2	6	42	0	252	0.40	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.57	0.26	0.00	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Ballast Compactor		Plate Compactors	1	4	42	8	168	0.43	0.24	1.49	1.78	0.00	0.07	0.06	244.37	0.57	0.26	0.09	117	0.01	0.05	0.05	0.00	0.00	0.00	0.14	0.00	0.00	0.15
Ballast Regulator	https://www.progressrail.com/en/	Other General Industrial Equipment	1	4	42	250	168	0.34	0.07	0.40	0.67	0.00	0.02	0.02	180.73	0.57	0.26	0.00	187	0.05	0.30	0.51	0.00	0.02	0.01	2.59	0.00	0.00	2.61
Front end loader (rubber)		Rubber Tired Loaders	1	4	168	203	672	0.36	0.08	0.43	0.73	0.00	0.02	0.02	190.49	0.57	0.26	0.00	53	0.05	0.28	0.47	0.00	0.02	0.01	9.40	0.00	0.00	9.41
Generator		Generator Sets	1	4	52.5	84	210	0.74	0.06	1.17	0.48	0.00	0.04	0.04	159.70	0.57	0.26	0.00	31	0.03	0.64	0.27	0.00	0.02	0.02	2.08	0.00	0.00	2.09
Power wrench	assumes powered by air compress	Air Compressors	1	4	21	78	84	0.48	0.30	2.35	1.90	0.00	0.07	0.07	272.77	0.57	0.26	0.01	50	0.10	0.78	0.63	0.00	0.02	0.02	0.86	0.00	0.00	0.86
Prentice Loader (hi rail log loader)	http://s7d2.scene7.com/is/conten	Tractors/Loaders/Backhoes	1	4	63	160	252	0.37	0.07	1.14	0.56	0.00	0.03	0.03	193.81	0.57	0.26	0.00	45	0.04	0.59	0.29	0.00	0.01	0.01	2.89	0.00	0.00	2.90
Rail drill	assumes powered by air compress	Other Construction Equipment	1	2	42	78	84	0.42	0.30	2.35	1.90	0.00	0.07	0.07	272.77	0.57	0.26	0.01	50	0.04	0.34	0.27	0.00	0.01	0.01	0.74	0.00	0.00	0.75
Rail Profile Grinder	https://www.pandrol.com/us/pro	Other Construction Equipment	1	4	21	6.4	84	0.42	0.34	2.02	2.59	0.01	0.10	0.09	352.40	0.57	0.26	0.05	29	0.01	0.05	0.06	0.00	0.00	0.00	0.08	0.00	0.00	0.08
Rail saw		Concrete/Industrial Saws	1	1	157.5	81	158	0.73	0.37	3.19	2.78	0.01	0.10	0.09	414.36	0.57	0.26	0.34	4354	0.05	0.42	0.36	0.00	0.01	0.01	3.86	0.00	0.00	4.26
Rail Train **	modeled in deliveries tab	Other General Industrial Equipment	1	8	10.5	0	84	0.34											0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Ral heater/vibrator	assumes to be powered by air con	Air Compressors	1	2	126	78	252	0.48	0.30	2.35	1.90	0.00	0.07	0.07	272.77	0.57	0.26	0.01	149	0.05	0.39	0.31	0.00	0.01	0.01	2.57	0.00	0.00	2.59
Speedswing (360 on track crane)		Cranes	1	8	168	231	1344	0.29	0.09	0.52	1.00	0.00	0.04	0.04	151.96	0.57	0.26	0.00	549	0.11	0.61	1.17	0.00	0.05	0.05	13.59	0.00	0.00	13.64
Spiking gun*	assumes to not be used per notes	Other Construction Equipment	0	0	126	171	0	0.42	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.57	0.26	0.00	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Tamper/Liner	assumes max 100 hp	Other Construction Equipment	1	6	42	100	252	0.42	0.16	1.49	1.47	0.00	0.10	0.09	219.44	0.57	0.26	0.01	130	0.09	0.82	0.81	0.00	0.05	0.05	2.30	0.00	0.00	2.31
Tie Drill	electric/hand-held	Other Construction Equipment	1	6	126	0	756	0.42	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.57	0.26	0.00	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Tractor Trailer		Off-Highway Trucks	1	2	21	402	42	0.38	0.07	0.46	0.51	0.00	0.02	0.02	201.86	0.57	0.26	0.00	6	0.05	0.31	0.34	0.00	0.01	0.01	1.30	0.00	0.00	1.30
Tri Axle dump trucks		Off-Highway Trucks	2	4	126	402	504	0.38	0.07	0.46	0.51	0.00	0.02	0.02	201.86	0.57	0.26	0.00	70	0.19	1.25	1.37	0.01	0.05	0.05	15.62	0.00	0.00	15.63
Trackwork- Direct Fixation					63															*1.09*	*9.92*	*8.17*	*0.02*	*0.34*	*0.32*	*15.63*	*0.00*	*0.00*	*15.91*
Air Compressor		Air Compressors	1	8	32	78	252	0.48	0.30	2.35	1.90	0.00	0.07	0.07	272.77	0.57	0.26	0.01	149	0.20	1.55	1.25	0.00	0.05	0.05	2.57	0.00	0.00	2.59
Backhoe		Tractors/Loaders/Backhoes	1	8	13	97	101	0.37	0.08	1.29	0.85	0.00	0.04	0.04	195.21	0.57	0.26	0.00	2	0.05	0.81	0.54	0.00	0.03	0.02	0.71	0.00	0.00	0.71
Circular / Table saw		Concrete/Industrial Saws	1	2	6	81	13	0.73	0.37	3.19	2.78	0.01	0.10	0.09	414.36	0.57	0.26	0.34	348	0.10	0.83	0.73	0.00	0.03	0.02	0.31	0.00	0.00	0.34
Concrete drill	assumes powered by air compress	Air Compressors	1	4	32	78	126	0.48	0.30	2.35	1.90	0.00	0.07	0.07	272.77	0.57	0.26	0.01	75	0.10	0.78	0.63	0.00	0.02	0.02	1.29	0.00	0.00	1.29
Concrete grinder	https://hupshenghardware.com/p	Other Construction Equipment	1	2	32	6	63	0.42	0.34	2.02	2.59	0.01	0.10	0.09	352.40	0.57	0.26	0.05	20	0.00	0.02	0.03	0.00	0.00	0.00	0.06	0.00	0.00	0.06
Concrete mixer		Cement and Mortar Mixers	1	4	32	9	126	0.56	0.31	1.82	2.35	0.00	0.09	0.08	318.42	0.57	0.26	0.10	115	0.01	0.08	0.10	0.00	0.00	0.00	0.20	0.00	0.00	0.21
Concrete pump		Pumps	1	2	6	84	13	0.74	0.03	1.01	0.53	0.00	0.03	0.03	159.70	0.57	0.26	0.01	11	0.01	0.28	0.15	0.00	0.01	0.01	0.13	0.00	0.00	0.13
Concrete truck		Off-Highway Trucks	1	2	6	402	13	0.38	0.07	0.46	0.51	0.00	0.02	0.02	201.86	0.57	0.26	0.00	2	0.05	0.31	0.34	0.00	0.01	0.01	0.39	0.00	0.00	0.39
Concrete vibrator	https://www.indiamart.com/prod	Other Construction Equipment	1	2	6	5.5	13	0.42	0.34	2.02	2.59	0.01	0.10	0.09	352.40	0.57	0.26	0.05	4	0.00	0.02	0.03	0.00	0.00	0.00	0.01	0.00	0.00	0.01
Front end loader (rubber)		Rubber Tired Loaders	1	4	32	203	126	0.36	0.08	0.43	0.73	0.00	0.02	0.02	190.49	0.57	0.26	0.00	10	0.05	0.28	0.47	0.00	0.02	0.01	1.76	0.00	0.00	1.76
Generator		Generator Sets	1	8	32	84	252	0.74	0.06	1.17	0.48	0.00	0.04	0.04	159.70	0.57	0.26	0.00	37	0.06	1.29	0.53	0.00	0.04	0.04	2.50	0.00	0.00	2.50
Nail guns (air)	assumes powered by air compress	Air Compressors	1	2	6	78	13	0.48	0.30	2.35	1.90	0.00	0.07	0.07	272.77	0.57	0.26	0.01	7	0.05	0.39	0.31	0.00	0.01	0.01	0.13	0.00	0.00	0.13
Power wrench	assumes powered by air compress	Air Compressors	1	2	3	78	6	0.48	0.30	2.35	1.90	0.00	0.07	0.07	272.77	0.57	0.26	0.01	4	0.05	0.39	0.31	0.00	0.01	0.01	0.06	0.00	0.00	0.06
Prentice Loader (hi rail log loader)	http://s7d2.scene7.com/is/conten	Tractors/Loaders/Backhoes	1	2	32	160	63	0.37	0.07	1.14	0.56	0.00	0.03	0.03	193.81	0.57	0.26	0.00	11	0.02	0.30	0.15	0.00	0.01	0.01	0.72	0.00	0.00	0.72
Pressure washer	http://www.ultimatewasher.com/	Other Construction Equipment	1	1	32	10	32	0.42	0.16	0.97	1.31	0.00	0.06	0.05	170.09	0.57	0.26	0.22	70	0.00	0.01	0.01	0.00	0.00	0.00	0.02	0.00	0.00	0.03
Rail drill	assumes powered by air compress	Other Construction Equipment	1	2	38	78	76	0.42	0.30	2.35	1.90	0.00	0.07	0.07	272.77	0.57	0.26	0.00	0	0.04	0.34	0.27	0.00	0.01	0.01	0.67	0.00	0.00	0.67
Rail Profile Grinder	https://www.pandrol.com/us/pro	Other Construction Equipment	1	2	38	6.4	76	0.42	0.34	2.02	2.59	0.01	0.10	0.09	352.40	0.57	0.26	0.05	26	0.00	0.02	0.03	0.00	0.00	0.00	0.07	0.00	0.00	0.07
Rail saw		Concrete/Industrial Saws	1	2	38	81	76	0.73	0.37	3.19	2.78	0.01	0.10	0.09	414.36	0.57	0.26	0.34	2090	0.10	0.83	0.73	0.00	0.03	0.02	1.85	0.00	0.00	2.04
Ral heater/vibrator	assumes to be powered by air con	Air Compressors	1	4	13	78	50	0.48	0.30	2.35	1.90	0.00	0.07	0.07	272.77	0.57	0.26	0.01	30	0.10	0.78	0.63	0.00	0.02	0.02	0.51	0.00	0.00	0.52
Speedswing (360 on track crane)		Cranes	1	4	32	231	126	0.29	0.09	0.52	1.00	0.00	0.04	0.04	151.96	0.57	0.26	0.00	52	0.05	0.30	0.59	0.00	0.02	0.02	1.27	0.00	0.00	1.28
Tractor Trailer		Off-Highway Trucks	1	2	6	402	13	0.38	0.07	0.46	0.51	0.00	0.02	0.02	201.86	0.57	0.26	0.00	2	0.05	0.31	0.34	0.00	0.01	0.01	0.39	0.00	0.00	0.39
Major Equipment					126															*0.55*	*4.81*	*4.06*	*0.01*	*0.17*	*0.16*	*7.51*	*0.00*	*0.00*	*7.52*
Concrete drill	assumes powered by air compress	Air Compressors	1	3	13	78	38	0.48	0.30	2.35	1.90	0.00	0.07	0.07	272.77	0.57	0.26	0.01	22	0.07	0.58	0.47	0.00	0.02	0.02	0.39	0.00	0.00	0.39
Concrete grinder	https://hupshenghardware.com/p	Other Construction Equipment	1	3	13	6	38	0.42	0.34	2.02	2.59	0.01	0.10	0.09	352.40	0.57	0.26	0.05	12	0.01	0.03	0.04	0.00	0.00	0.00	0.03	0.00	0.00	0.03
Crane		Cranes	1	4	13	231	50	0.29	0.09	0.52	1.00	0.00	0.04	0.04	151.96	0.57	0.26	0.00	21	0.05	0.30	0.59	0.00	0.02	0.02	0.51	0.00	0.00	0.51
Fork lift		Forklifts	1	4	63	89	252	0.20	0.06	0.73	0.60	0.00	0.04	0.03	105.95	0.57	0.26	0.00	2	0.01	0.12	0.09	0.00	0.01	0.01	0.48	0.00	0.00	0.48
Front end loader		Tractors/Loaders/Backhoes	1	4	63	97	252	0.37	0.08	1.29	0.85	0.00	0.04	0.04	195.21	0.57	0.26	0.00	5	0.03	0.41	0.27	0.00	0.01	0.01	1.77	0.00	0.00	1.77
Generator		Generator Sets	1	4	76	84	302	0.74	0.06	1.17	0.48	0.00	0.04	0.04	159.70	0.57	0.26	0.00	45	0.03	0.64	0.27	0.00	0.02	0.02	3.00	0.00	0.00	3.01
Impact guns	assumes powered by air compress	Air Compressors	2	4	6	78	25	0.48	0.30	2.35	1.90	0.00	0.07	0.07	272.77	0.57	0.26	0.01	15	0.20	1.55	1.25	0.00	0.05	0.05	0.26	0.00	0.00	0.26
Steel drill	assumes to be powered by air con	Air Compressors	1	4	6	78	25	0.48	0.30	2.35	1.90	0.00	0.07	0.07	272.77	0.57	0.26	0.01	15	0.10	0.78	0.63	0.00	0.02	0.02	0.26	0.00	0.00	0.26
Steel grinder	https://www.essexequipment.con	Other Construction Equipment	1	4	6	11	25	0.42	0.34	2.02	2.59	0.01	0.10	0.09	352.40	0.57	0.26	0.05	15	0.01	0.08	0.10	0.00	0.00	0.00	0.04	0.00	0.00	0.04
Tractor Trailer		Off-Highway Trucks	1	2	13	402	25	0.38	0.07	0.46	0.51	0.00	0.02	0.02	201.86	0.57	0.26	0.00	3	0.05	0.31	0.34	0.00	0.01	0.01	0.78	0.00	0.00	0.78
Commissioning					42															*0.21*	*1.32*	*1.99*	*0.00*	*0.11*	*0.10*	*5.23*	*0.00*	*0.00*	*5.27*
Car Wash	Assumes no diesel engine	Air Compressors	0	8	42	78	336	0.48	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.57	0.26	0.00	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Drop Table	Assumes no diesel engine	Forklifts	0	8	42	89	336	0.20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.57	0.26	0.00	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Overhead Crane		Cranes	1	8	42	231	336	0.29	0.09	0.52	1.00	0.00	0.04	0.04	151.96	0.57	0.26	0.00	137	0.11	0.61	1.17	0.00	0.05	0.05	3.40	0.00	0.00	3.41
Wheel Truing Machine		Other General Industrial Equipment	1	8	42	88	336	0.34	0.19	1.34	1.55	0.00	0.12	0.11	181.11	0.57	0.26	0.01	365	0.10	0.71	0.82	0.00	0.06	0.06	1.83	0.00	0.00	1.86

	ROG	CO	NO_X	SO_X	PM_{10}	$PM_{2.5}$
Maximum Daily Scenarios - Off-Road Equipment Emissions	lbs/day					
Survey, Clear and Grub	1.54	12.00	13.12	0.03	0.54	0.49
Clear and Grub, Site Util/Electric, Demo, Earthwork	6.53	69.20	53.72	0.13	2.17	1.99
Site Util/Electric, Earthwork, Foundations, Bridge, Roadways/Paving	7.30	61.31	63.08	0.15	2.52	2.32
Site Util/Electric, Foundations, Bridge, Roadways/Paving, Buildings	7.84	68.90	63.63	0.16	2.55	2.34
Site Util/Electric, Buildings, Trackwork-Ballasted, Major Equip	5.98	51.83	46.60	0.11	1.90	1.75
Site Util/Electric, Buildings, Trackwork-DF, Major Equip	5.97	52.56	46.05	0.11	1.87	1.72

On-Road Construction Emissions - Phase 1

Project Component/On-Road Vehicles	Days	Daily Trips	Trip Distance (One-way)	Total VMT	Emissions Factors (g/mi for RunEx, BW, TW and g/trip for StartEx)																			
					ROG RunEx	ROG StartEx	CO RunEx	CO StartEX	NOx RunEx	NOx StartEx	SOx RunEx	SOx StartEx	PM_{10} RunEx	PM_{10} StartEx	PM_{10} BW, TW	$PM_{2.5}$ RunEx	$PM_{2.5}$ StartEx	$PM_{2.5}$ BW, TW	CO_2 RunEx	CO_2 StartEx	CH_4 RunEx	CH_4 StartEx	N_2O RunEx	N_2O StartEx
Survey																								
Concrete Trucks	42	-	6.9	-	0.0191	0.0000	0.1675	0.0000	2.0777	4.4297	0.0127	0.0000	0.0144	0.0000	0.3216	0.0137	0.0000	0.0904	1341.5330	0.0000	0.0009	0.0000	0.2109	0.0000
Haul Trucks	42	-	20.0	-	0.0136	0.0000	0.1484	0.0000	1.6143	3.5926	0.0125	0.0000	0.0113	0.0000	0.3216	0.0108	0.0000	0.0904	1324.3272	0.0000	0.0006	0.0000	0.2082	0.0000
Workers	42	6	14.7	88	0.0107	0.2346	0.6991	2.2343	0.0444	0.2026	0.0028	0.0006	0.0016	0.0018	0.2686	0.0014	0.0016	0.0727	285.0792	59.6848	0.0028	0.0520	0.0051	0.0261
Clear and Grub																								
Concrete Trucks	63	-	6.9	-	0.0191	0.0000	0.1675	0.0000	2.0777	4.4297	0.0127	0.0000	0.0144	0.0000	0.3216	0.0137	0.0000	0.0904	1341.5330	0.0000	0.0009	0.0000	0.2109	0.0000
Haul Trucks	63	-	20.0	-	0.0136	0.0000	0.1484	0.0000	1.6143	3.5926	0.0125	0.0000	0.0113	0.0000	0.3216	0.0108	0.0000	0.0904	1324.3272	0.0000	0.0006	0.0000	0.2082	0.0000
Workers	63	20	14.7	294	0.0107	0.2346	0.6991	2.2343	0.0444	0.2026	0.0028	0.0006	0.0016	0.0018	0.2686	0.0014	0.0016	0.0727	285.0792	59.6848	0.0028	0.0520	0.0051	0.0261
Site Utilities																								
Concrete Trucks	504	-	6.9	-	0.0191	0.0000	0.1675	0.0000	2.0777	4.4297	0.0127	0.0000	0.0144	0.0000	0.3216	0.0137	0.0000	0.0904	1341.5330	0.0000	0.0009	0.0000	0.2109	0.0000
Haul Trucks	504	-	20.0	-	0.0136	0.0000	0.1484	0.0000	1.6143	3.5926	0.0125	0.0000	0.0113	0.0000	0.3216	0.0108	0.0000	0.0904	1324.3272	0.0000	0.0006	0.0000	0.2082	0.0000
Workers	504	32	14.7	470	0.0107	0.2346	0.6991	2.2343	0.0444	0.2026	0.0028	0.0006	0.0016	0.0018	0.2686	0.0014	0.0016	0.0727	285.0792	59.6848	0.0028	0.0520	0.0051	0.0261
Demolition																								
Concrete Trucks	63	-	6.9	-	0.0191	0.0000	0.1675	0.0000	2.0777	4.4297	0.0127	0.0000	0.0144	0.0000	0.3216	0.0137	0.0000	0.0904	1341.5330	0.0000	0.0009	0.0000	0.2109	0.0000
Haul Trucks	63	-	20.0	-	0.0136	0.0000	0.1484	0.0000	1.6143	3.5926	0.0125	0.0000	0.0113	0.0000	0.3216	0.0108	0.0000	0.0904	1324.3272	0.0000	0.0006	0.0000	0.2082	0.0000
Workers	63	20	14.7	294	0.0107	0.2346	0.6991	2.2343	0.0444	0.2026	0.0028	0.0006	0.0016	0.0018	0.2686	0.0014	0.0016	0.0727	285.0792	59.6848	0.0028	0.0520	0.0051	0.0261
Earthwork																								
Concrete Trucks	126	-	6.9	-	0.0191	0.0000	0.1675	0.0000	2.0777	4.4297	0.0127	0.0000	0.0144	0.0000	0.3216	0.0137	0.0000	0.0904	1341.5330	0.0000	0.0009	0.0000	0.2109	0.0000
Haul Trucks	126	119	20.0	2,381	0.0136	0.0000	0.1484	0.0000	1.6143	3.5926	0.0125	0.0000	0.0113	0.0000	0.3216	0.0108	0.0000	0.0904	1324.3272	0.0000	0.0006	0.0000	0.2082	0.0000
Haul Trucks - Ballast Delivery (Occurs over 80 days months 4 through 6 and 9)	80	27	20.0	540	0.0136	0.0000	0.1484	0.0000	1.6143	3.5926	0.0125	0.0000	0.0113	0.0000	0.3216	0.0108	0.0000	0.0904	1324.3272	0.0000	0.0006	0.0000	0.2082	0.0000
Workers	126	32	14.7	470	0.0107	0.2346	0.6991	2.2343	0.0444	0.2026	0.0028	0.0006	0.0016	0.0018	0.2686	0.0014	0.0016	0.0727	285.0792	59.6848	0.0028	0.0520	0.0051	0.0261
Foundations																								
Concrete Trucks (conservatively included during foundations phase [shorter than building phase])	84	4	6.9	27	0.0191	0.0000	0.1675	0.0000	2.0777	4.4297	0.0127	0.0000	0.0144	0.0000	0.3216	0.0137	0.0000	0.0904	1341.5330	0.0000	0.0009	0.0000	0.2109	0.0000
Haul Trucks	84	-	20.0	-	0.0136	0.0000	0.1484	0.0000	1.6143	3.5926	0.0125	0.0000	0.0113	0.0000	0.3216	0.0108	0.0000	0.0904	1324.3272	0.0000	0.0006	0.0000	0.2082	0.0000
Workers	84	48	14.7	706	0.0107	0.2346	0.6991	2.2343	0.0444	0.2026	0.0028	0.0006	0.0016	0.0018	0.2686	0.0014	0.0016	0.0727	285.0792	59.6848	0.0028	0.0520	0.0051	0.0261
Roadway Paving																								
Concrete Trucks	84	-	6.9	-	0.0191	0.0000	0.1675	0.0000	2.0777	4.4297	0.0127	0.0000	0.0144	0.0000	0.3216	0.0137	0.0000	0.0904	1341.5330	0.0000	0.0009	0.0000	0.2109	0.0000
Haul Trucks	84	-	20.0	-	0.0136	0.0000	0.1484	0.0000	1.6143	3.5926	0.0125	0.0000	0.0113	0.0000	0.3216	0.0108	0.0000	0.0904	1324.3272	0.0000	0.0006	0.0000	0.2082	0.0000
Workers	84	30	14.7	441	0.0107	0.2346	0.6991	2.2343	0.0444	0.2026	0.0028	0.0006	0.0016	0.0018	0.2686	0.0014	0.0016	0.0727	285.0792	59.6848	0.0028	0.0520	0.0051	0.0261
Building																								
Concrete Trucks	399		6.9	-	0.0191	0.0000	0.1675	0.0000	2.0777	4.4297	0.0127	0.0000	0.0144	0.0000	0.3216	0.0137	0.0000	0.0904	1341.5330	0.0000	0.0009	0.0000	0.2109	0.0000
Haul Trucks	399		20.0	-	0.0136	0.0000	0.1484	0.0000	1.6143	3.5926	0.0125	0.0000	0.0113	0.0000	0.3216	0.0108	0.0000	0.0904	1324.3272	0.0000	0.0006	0.0000	0.2082	0.0000
Workers	399	114	14.7	1,676	0.0107	0.2346	0.6991	2.2343	0.0444	0.2026	0.0028	0.0006	0.0016	0.0018	0.2686	0.0014	0.0016	0.0727	285.0792	59.6848	0.0028	0.0520	0.0051	0.0261
Bridge(assume precast)																								
Concrete Trucks	126	-	6.9	-	0.0191	0.0000	0.1675	0.0000	2.0777	4.4297	0.0127	0.0000	0.0144	0.0000	0.3216	0.0137	0.0000	0.0904	1341.5330	0.0000	0.0009	0.0000	0.2109	0.0000
Haul Trucks	126	-	20.0	-	0.0136	0.0000	0.1484	0.0000	1.6143	3.5926	0.0125	0.0000	0.0113	0.0000	0.3216	0.0108	0.0000	0.0904	1324.3272	0.0000	0.0006	0.0000	0.2082	0.0000
Workers	126	72	14.7	1,058	0.0107	0.2346	0.6991	2.2343	0.0444	0.2026	0.0028	0.0006	0.0016	0.0018	0.2686	0.0014	0.0016	0.0727	285.0792	59.6848	0.0028	0.0520	0.0051	0.0261
Trackwork- Ballasted- (top of sub ballast up)																								
Concrete Trucks	210	-	6.9	-	0.0191	0.0000	0.1675	0.0000	2.0777	4.4297	0.0127	0.0000	0.0144	0.0000	0.3216	0.0137	0.0000	0.0904	1341.5330	0.0000	0.0009	0.0000	0.2109	0.0000
Haul Trucks	63	5	20.0	91	0.0136	0.0000	0.1484	0.0000	1.6143	3.5926	0.0125	0.0000	0.0113	0.0000	0.3216	0.0108	0.0000	0.0904	1324.3272	0.0000	0.0006	0.0000	0.2082	0.0000
Workers	210	60	14.7	882	0.0107	0.2346	0.6991	2.2343	0.0444	0.2026	0.0028	0.0006	0.0016	0.0018	0.2686	0.0014	0.0016	0.0727	285.0792	59.6848	0.0028	0.0520	0.0051	0.0261
Trackwork- Direct Fixation																								
Concrete Trucks	63	-	6.9	-	0.0191	0.0000	0.1675	0.0000	2.0777	4.4297	0.0127	0.0000	0.0144	0.0000	0.3216	0.0137	0.0000	0.0904	1341.5330	0.0000	0.0009	0.0000	0.2109	0.0000
Haul Trucks	63	-	20.0	-	0.0136	0.0000	0.1484	0.0000	1.6143	3.5926	0.0125	0.0000	0.0113	0.0000	0.3216	0.0108	0.0000	0.0904	1324.3272	0.0000	0.0006	0.0000	0.2082	0.0000
Workers	63	20	14.7	294	0.0107	0.2346	0.6991	2.2343	0.0444	0.2026	0.0028	0.0006	0.0016	0.0018	0.2686	0.0014	0.0016	0.0727	285.0792	59.6848	0.0028	0.0520	0.0051	0.0261
Major Equipment																								
Concrete Trucks	126	-	6.9	-	0.0191	0.0000	0.1675	0.0000	2.0777	4.4297	0.0127	0.0000	0.0144	0.0000	0.3216	0.0137	0.0000	0.0904	1341.5330	0.0000	0.0009	0.0000	0.2109	0.0000
Haul Trucks	126	-	20.0	-	0.0136	0.0000	0.1484	0.0000	1.6143	3.5926	0.0125	0.0000	0.0113	0.0000	0.3216	0.0108	0.0000	0.0904	1324.3272	0.0000	0.0006	0.0000	0.2082	0.0000
Workers	126	66	14.7	970	0.0107	0.2346	0.6991	2.2343	0.0444	0.2026	0.0028	0.0006	0.0016	0.0018	0.2686	0.0014	0.0016	0.0727	285.0792	59.6848	0.0028	0.0520	0.0051	0.0261
Commissioning																								
Concrete Trucks	42	-	6.9	-	0.0191	0.0000	0.1675	0.0000	2.0777	4.4297	0.0127	0.0000	0.0144	0.0000	0.3216	0.0137	0.0000	0.0904	1341.5330	0.0000	0.0009	0.0000	0.2109	0.0000
Haul Trucks	42	-	20.0	-	0.0136	0.0000	0.1484	0.0000	1.6143	3.5926	0.0125	0.0000	0.0113	0.0000	0.3216	0.0108	0.0000	0.0904	1324.3272	0.0000	0.0006	0.0000	0.2082	0.0000
Workers	42	6	14.7	88	0.0107	0.2346	0.6991	2.2343	0.0444	0.2026	0.0028	0.0006	0.0016	0.0018	0.2686	0.0014	0.0016	0.0727	285.0792	59.6848	0.0028	0.0520	0.0051	0.0261

Project Component/On-Road Vehicles	Emissions (lbs/day)																				Emissions (MT/phase)			MT
	ROG RunEx	ROG StartEx	CO RunEx	CO StartEX	NOx RunEx	NOx StartEx	SOx RunEx	SOx StartEx	PM_{10} RunEx	PM_{10} StartEx	PM_{10} BW, TW	$PM_{2.5}$ RunEx	$PM_{2.5}$ StartEx	$PM_{2.5}$ BW, TW	CO_2 RunEx	CO_2 StartEx	CH_4 RunEx	CH_4 StartEx	N_2O RunEx	N_2O StartEx	CO_2	CH_4	N_2O	CO_2e
Survey	0.0021	0.0031	0.1359	0.0296	0.0086	0.0027	0.0005	0.0000	0.0003	0.0000	0.0522	0.0003	0.0000	0.0141	55.4330	0.7895	0.0005	0.0007	0.0010	0.0003	1.0711	0.0000	0.0000	1.0792
Concrete Trucks	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.00	0.00	0.00	0
Haul Trucks	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.00	0.00	0.00	0
Workers	0.0021	0.0031	0.1359	0.0296	0.0086	0.0027	0.0005	0.0000	0.0003	0.0000	0.0522	0.0003	0.0000	0.0141	55.4330	0.7895	0.0005	0.0007	0.0010	0.0003	1.07	0.00	0.00	1.079223
Clear and Grub	0.0070	0.0103	0.4531	0.0985	0.0288	0.0089	0.0018	0.0000	0.0010	0.0001	0.1741	0.0009	0.0001	0.0471	184.7766	2.6316	0.0018	0.0023	0.0033	0.0012	5.3554	0.0001	0.0001	5.3961
Concrete Trucks	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.00	0.00	0.00	0
Haul Trucks	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.00	0.00	0.00	0
Workers	0.0070	0.0103	0.4531	0.0985	0.0288	0.0089	0.0018	0.0000	0.0010	0.0001	0.1741	0.0009	0.0001	0.0471	184.7766	2.6316	0.0018	0.0023	0.0033	0.0012	5.36	0.00	0.00	5.396116
Site Utilities	0.0111	0.0166	0.7250	0.1576	0.0461	0.0143	0.0029	0.0000	0.0016	0.0001	0.2786	0.0015	0.0001	0.0754	295.6426	4.2106	0.0029	0.0037	0.0053	0.0018	68.5496	0.0015	0.0016	69.0703
Concrete Trucks	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.00	0.00	0.00	0
Haul Trucks	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.00	0.00	0.00	0
Workers	0.0111	0.0166	0.7250	0.1576	0.0461	0.0143	0.0029	0.0000	0.0016	0.0001	0.2786	0.0015	0.0001	0.0754	295.6426	4.2106	0.0029	0.0037	0.0053	0.0018	68.55	0.00	0.00	69.07029
Demolition	0.0070	0.0103	0.4531	0.0985	0.0288	0.0089	0.0018	0.0000	0.0010	0.0001	0.1741	0.0009	0.0001	0.0471	184.7766	2.6316	0.0018	0.0023	0.0033	0.0012	5.3554	0.0001	0.0001	5.3961
Concrete Trucks	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.00	0.00	0.00	0
Haul Trucks	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.00	0.00	0.00	0
Workers	0.0070	0.0103	0.4531	0.0985	0.0288	0.0089	0.0018	0.0000	0.0010	0.0001	0.1741	0.0009	0.0001	0.0471	184.7766	2.6316	0.0018	0.0023	0.0033	0.0012	5.36	0.00	0.00	5.396116
Earthwork	0.0989	0.0166	1.6805	0.1576	10.4418	1.1710	0.0835	0.0000	0.0742	0.0001	2.3495	0.0710	0.0001	0.6576	8823.7771	4.2106	0.0069	0.0037	1.3458	0.0018	471.6464	0.0006	0.0718	493.0719
Concrete Trucks	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.00	0.00	0.00	0
Haul Trucks	0.0715	0.0000	0.7789	0.0000	8.4739	0.9429	0.0657	0.0000	0.0592	0.0000	1.6881	0.0566	0.0000	0.4745	6951.5279	0.0000	0.0033	0.0000	1.0927	0.0000	397.30	0.00	0.06	415.9129
Haul Trucks - Ballast Delivery (Occurs over 80 days months 4 through 6 and 9)	0.0162	0.0000	0.1766	0.0000	1.9219	0.2139	0.0149	0.0000	0.0134	0.0000	0.3829	0.0128	0.0000	0.1076	1576.6065	0.0000	0.0008	0.0000	0.2478	0.0000	57.21	0.00	0.01	59.89145
Workers	0.0111	0.0166	0.7250	0.1576	0.0461	0.0143	0.0029	0.0000	0.0016	0.0001	0.2786	0.0015	0.0001	0.0754	295.6426	4.2106	0.0029	0.0037	0.0053	0.0018	17.14	0.00	0.00	17.26757
Foundations	0.0178	0.0248	1.0973	0.2364	0.1916	0.0593	0.0051	0.0001	0.0033	0.0002	0.4368	0.0030	0.0002	0.1184	522.5593	6.3160	0.0043	0.0055	0.0203	0.0028	20.1511	0.0004	0.0009	20.4225
Concrete Trucks (conservatively included during foundations phase [shorter than building phase])	0.0011	0.0000	0.0099	0.0000	0.1225	0.0379	0.0007	0.0000	0.0008	0.0000	0.0190	0.0008	0.0000	0.0053	79.0954	0.0000	0.0001	0.0000	0.0124	0.0000	3.01	0.00	0.00	3.154887
Haul Trucks	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.00	0.00	0.00	0
Workers	0.0167	0.0248	1.0874	0.2364	0.0691	0.0214	0.0044	0.0001	0.0024	0.0002	0.4178	0.0022	0.0002	0.1131	443.4639	6.3160	0.0043	0.0055	0.0079	0.0028	17.14	0.00	0.00	17.26757
Roadway Paving	0.0104	0.0155	0.6797	0.1478	0.0432	0.0134	0.0027	0.0000	0.0015	0.0001	0.2611	0.0014	0.0001	0.0707	277.1650	3.9475	0.0027	0.0034	0.0049	0.0017	10.7109	0.0002	0.0003	10.7922
Concrete Trucks	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.00	0.00	0.00	0
Haul Trucks	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.00	0.00	0.00	0
Workers	0.0104	0.0155	0.6797	0.1478	0.0432	0.0134	0.0027	0.0000	0.0015	0.0001	0.2611	0.0014	0.0001	0.0707	277.1650	3.9475	0.0027	0.0034	0.0049	0.0017	10.71	0.00	0.00	10.79223
Building	0.0397	0.0590	2.5827	0.5615	0.1642	0.0509	0.0104	0.0001	0.0057	0.0004	0.9923	0.0053	0.0004	0.2686	1053.2268	15.0004	0.0102	0.0131	0.0187	0.0066	193.3313	0.0042	0.0046	194.7998
Concrete Trucks	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.00	0.00	0.00	0
Haul Trucks	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.00	0.00	0.00	0
Workers	0.0397	0.0590	2.5827	0.5615	0.1642	0.0509	0.0104	0.0001	0.0057	0.0004	0.9923	0.0053	0.0004	0.2686	1053.2268	15.0004	0.0102	0.0131	0.0187	0.0066	193.33	0.00	0.00	194.7998
Bridge(assume precast)	0.0251	0.0372	1.6312	0.3547	0.1037	0.0322	0.0066	0.0001	0.0036	0.0003	0.6267	0.0033	0.0003	0.1696	665.1959	9.4739	0.0064	0.0083	0.0118	0.0041	38.5592	0.0008	0.0009	38.8520
Concrete Trucks	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.00	0.00	0.00	0
Haul Trucks	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.00	0.00	0.00	0
Workers	0.0251	0.0372	1.6312	0.3547	0.1037	0.0322	0.0066	0.0001	0.0036	0.0003	0.6267	0.0033	0.0003	0.1696	665.1959	9.4739	0.0064	0.0083	0.0118	0.0041	38.56	0.00	0.00	38.85204
Trackwork- Ballasted- (top of sub ballast up)	0.0236	0.0310	1.3892	0.2955	0.4118	0.0630	0.0080	0.0001	0.0053	0.0002	0.5871	0.0050	0.0002	0.1596	821.2686	7.8949	0.0055	0.0069	0.0518	0.0035	61.1825	0.0012	0.0025	61.9467
Concrete Trucks	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.00	0.00	0.00	0
Haul Trucks	0.0027	0.0000	0.0299	0.0000	0.3254	0.0362	0.0025	0.0000	0.0023	0.0000	0.0648	0.0022	0.0000	0.0182	266.9387	0.0000	0.0001	0.0000	0.0420	0.0000	7.63	0.00	0.00	7.985527
Workers	0.0209	0.0310	1.3593	0.2955	0.0864	0.0268	0.0055	0.0001	0.0030	0.0002	0.5223	0.0028	0.0002	0.1414	554.3299	7.8949	0.0054	0.0069	0.0098	0.0035	53.55	0.00	0.00	53.96116
Trackwork- Direct Fixation	0.0070	0.0103	0.4531	0.0985	0.0288	0.0089	0.0018	0.0000	0.0010	0.0001	0.1741	0.0009	0.0001	0.0471	184.7766	2.6316	0.0018	0.0023	0.0033	0.0012	5.3554	0.0001	0.0001	5.3961
Concrete Trucks	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.00	0.00	0.00	0
Haul Trucks	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.00	0.00	0.00	0
Workers	0.0070	0.0103	0.4531	0.0985	0.0288	0.0089	0.0018	0.0000	0.0010	0.0001	0.1741	0.0009	0.0001	0.0471	184.7766	2.6316	0.0018	0.0023	0.0033	0.0012	5.36	0.00	0.00	5.396116
Major Equipment	0.0230	0.0341	1.4952	0.3251	0.0950	0.0295	0.0060	0.0001	0.0033	0.0003	0.5745	0.0031	0.0002	0.1555	609.7629	8.6844	0.0059	0.0076	0.0108	0.0038	35.3459	0.0008	0.0008	35.6144
Concrete Trucks	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.00	0.00	0.00	0
Haul Trucks	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.00	0.00	0.00	0
Workers	0.0230	0.0341	1.4952	0.3251	0.0950	0.0295	0.0060	0.0001	0.0033	0.0003	0.5745	0.0031	0.0002	0.1555	609.7629	8.6844	0.0059	0.0076	0.0108	0.0038	35.35	0.00	0.00	35.61437
Commissioning	0.0021	0.0031	0.1359	0.0296	0.0086	0.0027	0.0005	0.0000	0.0003	0.0000	0.0522	0.0003	0.0000	0.0141	55.4330	0.7895	0.0005	0.0007	0.0010	0.0003	1.0711	0.0000	0.0000	1.0792
Concrete Trucks	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.00	0.00	0.00	0
Haul Trucks	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.00	0.00	0.00	0
Workers	0.0021	0.0031	0.1359	0.0296	0.0086	0.0027	0.0005	0.0000	0.0003	0.0000	0.0522	0.0003	0.0000	0.0141	55.4330	0.7895	0.0005	0.0007	0.0010	0.0003	1.07	0.00	0.00	1.079223
																								942.92

Maximum Daily Scenarios - On-Road Equipment Emissions
Survey, Clear and Grub
Clear and Grub, Site Util/Electric, Demo, Earthwork
Site Util/Electric, Earthwork, Foundations, Bridge, Roadways/Paving
Site Util/Electric, Foundations, Bridge, Roadways/Paving, Buildings
Site Util/Electric, Buildings, Trackwork-Ballasted, Major Equip
Site Util/Electric, Buildings, Trackwork-DF, Major Equip

Maximum Daily Scenarios - On-Road Equipment Emissions	ROG RunEx	ROG StartEx	CO RunEx	CO StartEX	NOx RunEx	NOx StartEx	SOx RunEx	SOx StartEx	PM_{10} RunEx	PM_{10} StartEx	PM_{10} BW, TW	$PM_{2.5}$ RunEx	$PM_{2.5}$ StartEx	$PM_{2.5}$ BW, TW
Survey, Clear and Grub	0.0091	0.0134	0.5890	0.1281	0.0374	0.0116	0.0024	0.0000	0.0013	0.0001	0.2263	0.0012	0.0001	0.0613
Clear and Grub, Site Util/Electric, Demo, Earthwork	0.1240	0.0538	3.3117	0.5123	10.5455	1.2032	0.0901	0.0001	0.0779	0.0004	2.9762	0.0743	0.0004	0.8272
Site Util/Electric, Earthwork, Foundations, Bridge, Roadways/Paving	0.1634	0.1107	5.8136	1.0541	10.8264	1.2902	0.1009	0.0003	0.0843	0.0008	3.9527	0.0802	0.0008	1.0917
Site Util/Electric, Foundations, Bridge, Roadways/Paving, Buildings	0.1042	0.1531	6.7158	1.4580	0.5487	0.1700	0.0278	0.0004	0.0158	0.0012	2.5956	0.0145	0.0011	0.7027
Site Util/Electric, Buildings, Trackwork-Ballasted, Major Equip	0.0974	0.1407	6.1921	1.3398	0.7171	0.1577	0.0274	0.0003	0.0160	0.0011	2.4325	0.0148	0.0010	0.6590
Site Util/Electric, Buildings, Trackwork-DF, Major Equip	0.0808	0.1200	5.2560	1.1428	0.3341	0.1036	0.0212	0.0003	0.0117	0.0009	2.0195	0.0108	0.0008	0.5466

Maximum Daily Scenarios - On-Road Equipment Emissions
Survey, Clear and Grub
Clear and Grub, Site Util/Electric, Demo, Earthwork
Site Util/Electric, Earthwork, Foundations, Bridge, Roadways/Paving
Site Util/Electric, Foundations, Bridge, Roadways/Paving, Buildings
Site Util/Electric, Buildings, Trackwork-Ballasted, Major Equip
Site Util/Electric, Buildings, Trackwork-DF, Major Equip

Maximum Daily Scenarios - On-Road Equipment Emissions	ROG	CO	NO_X	SO_X	PM_{10}	$PM_{2.5}$
Survey, Clear and Grub	0.0225	0.7171	0.0490	0.0024	0.2277	0.0626
Clear and Grub, Site Util/Electric, Demo, Earthwork	0.1777	3.8239	11.7487	0.0902	3.0545	0.9019
Site Util/Electric, Earthwork, Foundations, Bridge, Roadways/Paving	0.2741	6.8677	12.1166	0.1011	4.0378	1.1727
Site Util/Electric, Foundations, Bridge, Roadways/Paving, Buildings	0.2573	8.1738	0.7187	0.0282	2.6125	0.7183
Site Util/Electric, Buildings, Trackwork-Ballasted, Major Equip	0.2381	7.5319	0.8747	0.0277	2.4496	0.6748
Site Util/Electric, Buildings, Trackwork-DF, Major Equip	0.2008	6.3988	0.4377	0.0215	2.0321	0.5582

Maximum Daily Scenarios - On-Road and Off-Road Equipment Emissions
Survey, Clear and Grub
Clear and Grub, Site Util/Electric, Demo, Earthwork
Site Util/Electric, Earthwork, Foundations, Bridge, Roadways/Paving
Site Util/Electric, Foundations, Bridge, Roadways/Paving, Buildings
Site Util/Electric, Buildings, Trackwork-Ballasted, Major Equip
Site Util/Electric, Buildings, Trackwork-DF, Major Equip

Maximum Daily Scenarios - On-Road and Off-Road Equipment Emissions	ROG	CO	NO_X	SO_X	PM_{10}	$PM_{2.5}$
Survey, Clear and Grub	1.5624	12.7128	13.1662	0.0318	0.7655	0.5573
Clear and Grub, Site Util/Electric, Demo, Earthwork	6.7043	73.0223	65.4729	0.2163	5.2252	2.8923
Site Util/Electric, Earthwork, Foundations, Bridge, Roadways/Paving	7.5704	68.1739	75.1981	0.2531	6.5621	3.4950
Site Util/Electric, Foundations, Bridge, Roadways/Paving, Buildings	8.0948	77.0711	64.3515	0.1836	5.1590	3.0611
Site Util/Electric, Buildings, Trackwork-Ballasted, Major Equip	6.2162	59.3638	47.4754	0.1369	4.3545	2.4273
Site Util/Electric, Buildings, Trackwork-DF, Major Equip	6.1661	58.9623	46.4912	0.1284	3.9070	2.2830
Maximum Daily Emissions	8.0948	77.0711	75.1981	0.2531	6.5621	3.4950

Constants		
lb		grams
1		453.59237
ton		lbs
1		2000
metric ton		grams
1		1000000
GWP CO2e		CH4
25		1
GWP CO2e		N2O
298		1
ton		lbs
1		2000
metric ton		lbs
1		2204.623
metric ton		ton
0.907185		1

Trip Length Assumptions - CalEEMod		miles	Source	
				0.5
Workers		14.7	CalEEMod default for Orange County	3%
Vendor		6.9	CalEEMod default for Orange County	7%
Haul Trucks		20	CalEEMod default	3%

Sources:

1 Start year assumed to be 2023 based on completion year of 2028 and 4.5-year total construction period for Phases 1 and 2
2 Equipment types, quantities, usage from Orange County Maintenance Facility- Activities and equipment--Phase 1-with hours=06JAN21 Workbook
3 HP and Load factors from CalEEMod default tables (Appendix D), unless indicated otherwise.

Work Days Per Month		21

Off-Road Construction Emissions - Phase 2

Construction Year[1]

2026									Emissions Factors (g/bhp-hr)							Emission Factor (g/gal)				Emissions (lbs/day)						metric tons/phase			
Project Phase/Equipment	Notes		Number	Hours per Day	Total Days[1]	Horsepower	Total Runtime Hours	Load Factor [2]	ROG	CO	NOx	SOx	PM_{10}	$PM_{2.5}$	CO_2	CH_4	N_2O	gal/hp-hr	Total Gallons	ROG	CO	NO_X	SO_X	PM_{10}	$PM_{2.5}$	CO_2	CH_4	N_2O	CO_2e
Survey					21															*0.07*	*0.47*	*0.51*	*0.00*	*0.02*	*0.02*	*1.95*	*0.00*	*0.00*	*1.95*
Impact hammer	electric/hand-held	Other Construction Equipment	1	0	0	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Power drill	electric/hand-held	Other Construction Equipment	1	0	0	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Tool truck		Off-Highway Trucks	1	3	21	402	63	0.38	0.07	0.46	0.51	0.00	0.02	0.02	201.86	0.57	0.26	0.00	9	0.07	0.47	0.51	0.00	0.02	0.02	1.95	0.00	0.00	1.95
Site Utilities/Electric		.			84															*2.15*	*18.49*	*17.02*	*0.04*	*0.70*	*0.64*	*27.25*	*0.00*	*0.00*	*27.44*
Abrasive/demo saw	assumes diesel	Concrete/Industrial Saws	1	2	8	81	17	0.73	0.37	3.19	2.78	0.01	0.10	0.09	414.36	0.57	0.26	0.34	464	0.10	0.83	0.73	0.00	0.03	0.02	0.41	0.00	0.00	0.45
Backhoe		Tractors/Loaders/Backhoes	1	8	17	97	134	0.37	0.08	1.29	0.85	0.00	0.04	0.04	195.21	0.57	0.26	0.00	3	0.05	0.81	0.54	0.00	0.03	0.02	0.94	0.00	0.00	0.94
Bucket Truck		Off-Highway Trucks	1	8	21	402	168	0.38	0.07	0.46	0.51	0.00	0.02	0.02	201.86	0.57	0.26	0.00	23	0.19	1.25	1.37	0.01	0.05	0.05	5.21	0.00	0.00	5.21
Compressor		Air Compressors	1	8	42	78	336	0.48	0.30	2.35	1.90	0.00	0.07	0.07	272.77	0.57	0.26	0.01	199	0.20	1.55	1.25	0.00	0.05	0.05	3.43	0.00	0.00	3.45
Concrete mixer		Cement and Mortar Mixers	1	4	8	9	34	0.56	0.31	1.82	2.35	0.00	0.09	0.08	318.42	0.57	0.26	0.10	31	0.01	0.08	0.10	0.00	0.00	0.00	0.05	0.00	0.00	0.06
Concrete pump		Pumps	1	5	17	84	84	0.74	0.03	1.01	0.53	0.00	0.03	0.03	159.70	0.57	0.26	0.01	71	0.02	0.69	0.36	0.00	0.02	0.02	0.83	0.00	0.00	0.84
Concrete saw		Concrete/Industrial Saws	1	8	4	81	34	0.73	0.37	3.19	2.78	0.01	0.10	0.09	414.36	0.57	0.26	0.34	929	0.38	3.33	2.90	0.01	0.10	0.09	0.82	0.00	0.00	0.91
Concrete truck		Off-Highway Trucks	1	5	17	402	84	0.38	0.07	0.46	0.51	0.00	0.02	0.02	201.86	0.57	0.26	0.00	12	0.12	0.78	0.86	0.00	0.03	0.03	2.60	0.00	0.00	2.60
Concrete vibrator	https://www.indiamart	Other Construction Equipment	1	5	17	5.5	84	0.42	0.34	2.02	2.59	0.01	0.10	0.09	352.40	0.57	0.26	0.05	25	0.01	0.05	0.07	0.00	0.00	0.00	0.07	0.00	0.00	0.07
Excavator-Track hoe		Excavators	1	8	8	158	67	0.38	0.07	1.18	0.56	0.00	0.03	0.03	201.69	0.57	0.26	0.00	11	0.07	1.25	0.60	0.00	0.03	0.03	0.82	0.00	0.00	0.82
Front end loader (rubber)		Tractors/Loaders/Backhoes	1	8	8	97	67	0.37	0.08	1.29	0.85	0.00	0.04	0.04	195.21	0.57	0.26	0.00	1	0.05	0.81	0.54	0.00	0.03	0.02	0.47	0.00	0.00	0.47
Generator		Generator Sets	1	8	17	84	134	0.74	0.06	1.17	0.48	0.00	0.04	0.04	420.53	0.57	0.26	0.01	73	0.06	1.29	0.53	0.00	0.04	0.04	3.51	0.00	0.00	3.52
Gradall		Graders	1	8	4	187	34	0.41	0.12	0.53	1.32	0.00	0.04	0.04	215.93	0.57	0.26	0.00	6	0.16	0.71	1.78	0.00	0.06	0.05	0.55	0.00	0.00	0.56
Grinder	https://www.essexequi	Other Construction Equipment	1	2	42	11	84	0.42	0.34	2.02	2.59	0.01	0.10	0.09	352.40	0.57	0.26	0.05	49	0.01	0.04	0.05	0.00	0.00	0.00	0.14	0.00	0.00	0.14
Horizontal Boring /Jacking machine		Bore/Drill Rigs	1	0	0	221	0	0.50	0.06	0.53	0.60	0.00	0.02	0.02	263.10	0.57	0.26	0.02	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Roller-vibratory		Rollers	1	2	17	80	34	0.38	0.10	1.28	1.09	0.00	0.06	0.05	198.12	0.57	0.26	0.00	8	0.01	0.17	0.14	0.00	0.01	0.01	0.20	0.00	0.00	0.20
Tractor trailer		Off-Highway Trucks	1	2	17	402	34	0.38	0.07	0.46	0.51	0.00	0.02	0.02	201.86	0.57	0.26	0.00	5	0.05	0.31	0.34	0.00	0.01	0.01	1.04	0.00	0.00	1.04
Trenching machine (Ditch witch)		Trenchers	1	4	17	78	67	0.50	0.24	1.86	2.26	0.00	0.16	0.14	265.84	0.57	0.26	0.03	134	0.08	0.64	0.78	0.00	0.05	0.05	0.70	0.00	0.00	0.71
Tri-axle Dump Trucks		Off-Highway Trucks	2	8	17	402	134	0.38	0.07	0.46	0.51	0.00	0.02	0.02	201.86	0.57	0.26	0.00	19	0.38	2.50	2.74	0.01	0.10	0.09	4.17	0.00	0.00	4.17
Vacuum excavator truck		Off-Highway Trucks	1	4	2	402	7	0.38	0.07	0.46	0.51	0.00	0.02	0.02	201.86	0.57	0.26	0.00	1	0.10	0.63	0.69	0.00	0.02	0.02	0.21	0.00	0.00	0.21
Welder		Welders	1	8	25	46	202	0.45	0.26	2.06	1.74	0.00	0.07	0.06	255.73	0.57	0.26	0.00	13	0.09	0.75	0.64	0.00	0.02	0.02	1.07	0.00	0.00	1.07
Demolition					21															*1.40*	*28.21*	*8.70*	*0.02*	*0.35*	*0.31*	*8.74*	*0.00*	*0.00*	*9.09*
Abrasive/demo saw		Concrete/Industrial Saws	1	4	4	81	17	0.73	0.37	3.19	2.78	0.01	0.10	0.09	414.36	0.57	0.26	0.34	464	0.19	1.66	1.45	0.00	0.05	0.05	0.41	0.00	0.00	0.45
Asphalt/Concrete crusher		Crushing/Proc. Equipment	1	6	7	85	42	0.78	0.53	21.52	1.66	0.01	0.05	0.03	655.82	0.57	0.26	0.94	3309	0.46	18.88	1.46	0.01	0.04	0.03	1.81	0.00	0.00	2.11
Backhoe		Tractors/Loaders/Backhoes	1	8	7	97	55	0.37	0.08	1.29	0.85	0.00	0.04	0.04	195.21	0.57	0.26	0.00	1	0.05	0.81	0.54	0.00	0.03	0.02	0.39	0.00	0.00	0.39
Compressor		Air Compressors	1	8	11	78	84	0.48	0.30	2.35	1.90	0.00	0.07	0.07	272.77	0.57	0.26	0.01	50	0.20	1.55	1.25	0.00	0.05	0.05	0.86	0.00	0.00	0.86
Excavator-Track hoe		Excavators	1	8	11	158	84	0.38	0.07	1.18	0.56	0.00	0.03	0.03	201.69	0.57	0.26	0.00	14	0.07	1.25	0.60	0.00	0.03	0.03	1.02	0.00	0.00	1.02
Front end loader (rubber)		Rubber Tired Loaders	1	4	17	203	67	0.36	0.08	0.43	0.73	0.00	0.02	0.02	190.49	0.57	0.26	0.00	5	0.05	0.28	0.47	0.00	0.02	0.01	0.94	0.00	0.00	0.94
Generator		Generator Sets	1	8	11	84	84	0.74	0.06	1.17	0.48	0.00	0.04	0.04	159.70	0.57	0.26	0.00	12	0.06	1.29	0.53	0.00	0.04	0.04	0.83	0.00	0.00	0.83
Grinder	https://www.essexequi	Other Construction Equipment	1	2	4	11	8	0.42	0.34	2.02	2.59	0.01	0.10	0.09	352.40	0.57	0.26	0.05	5	0.01	0.04	0.05	0.00	0.00	0.00	0.01	0.00	0.00	0.01
Hoe Ram	attachment to tractor,	Tractors/Loaders/Backhoes	1	8	3	97	25	0.37	0.08	1.29	0.85	0.00	0.04	0.04	195.21	0.57	0.26	0.00	0	0.05	0.81	0.54	0.00	0.03	0.02	0.18	0.00	0.00	0.18
Jack hammers	https://www.edisons.c	Other Construction Equipment	2	5	3	3.5	16	0.42	0.34	2.02	2.59	0.01	0.10	0.09	352.40	0.57	0.26	0.05	3	0.01	0.06	0.08	0.00	0.00	0.00	0.01	0.00	0.00	0.01
Tractor trailer		Off-Highway Trucks	1	2	16	402	32	0.38	0.07	0.46	0.51	0.00	0.02	0.02	201.86	0.57	0.26	0.00	4	0.05	0.31	0.34	0.00	0.01	0.01	0.98	0.00	0.00	0.98
Tri-axle Dump Trucks		Off-Highway Trucks	2	4	11	402	42	0.38	0.07	0.46	0.51	0.00	0.02	0.02	201.86	0.57	0.26	0.00	6	0.19	1.25	1.37	0.01	0.05	0.05	1.30	0.00	0.00	1.30
Earthwork					42															*1.05*	*10.09*	*10.49*	*0.02*	*0.50*	*0.46*	*10.77*	*0.00*	*0.00*	*10.88*
D5 Dozer		Rubber Tired Dozers	1	8	21	247	168	0.40	0.18	1.04	1.95	0.00	0.09	0.08	209.04	0.57	0.26	0.03	1044	0.31	1.81	3.40	0.00	0.15	0.14	3.47	0.00	0.00	3.57
Excavator-Track hoe		Excavators	1	8	4	158	34	0.38	0.07	1.18	0.56	0.00	0.03	0.03	201.69	0.57	0.26	0.00	6	0.07	1.25	0.60	0.00	0.03	0.03	0.41	0.00	0.00	0.41
Front end loader (rubber)		Rubber Tired Loaders	1	5	34	203	168	0.36	0.08	0.43	0.73	0.00	0.02	0.02	190.49	0.57	0.26	0.00	13	0.06	0.35	0.59	0.00	0.02	0.02	2.35	0.00	0.00	2.35
Roller-sheepsfoot		Graders	1	8	8	187	67	0.41	0.10	1.28	1.09	0.00	0.06	0.05	198.12	0.57	0.26	0.00	40	0.14	1.73	1.47	0.00	0.08	0.07	1.02	0.00	0.00	1.02
Roller-vibratory		Scrapers	1	8	8	367	67	0.48	0.10	1.28	1.09	0.00	0.06	0.05	198.12	0.57	0.26	0.00	78	0.32	4.01	3.41	0.01	0.19	0.17	2.36	0.00	0.00	2.36
Tri-axle Dump Trucks		Graders	2	6	13	187	76	0.41	0.07	0.46	0.51	0.00	0.02	0.02	201.86	0.57	0.26	0.00	5	0.14	0.93	1.02	0.00	0.04	0.03	1.17	0.00	0.00	1.17
Foundations					42															*0.77*	*6.75*	*6.75*	*0.02*	*0.27*	*0.25*	*14.09*	*0.00*	*0.00*	*14.66*
Backhoe		Tractors/Loaders/Backhoes	1	8	34	97	269	0.37	0.08	1.29	0.85	0.00	0.04	0.04	195.21	0.57	0.26	0.00	5	0.05	0.81	0.54	0.00	0.03	0.02	1.88	0.00	0.00	1.88
Concrete mixer		Cement and Mortar Mixers	1	8	4	9	34	0.56	0.31	1.82	2.35	0.00	0.09	0.08	318.42	0.57	0.26	0.10	31	0.03	0.16	0.21	0.00	0.01	0.01	0.05	0.00	0.00	0.06
Concrete pump		Pumps	1	4	21	84	84	0.74	0.03	1.01	0.53	0.00	0.03	0.03	159.70	0.57	0.26	0.01	71	0.02	0.55	0.29	0.00	0.02	0.02	0.83	0.00	0.00	0.84
Concrete truck		Off-Highway Trucks	1	4	21	402	84	0.38	0.07	0.46	0.51	0.00	0.02	0.02	201.86	0.57	0.26	0.00	12	0.10	0.63	0.69	0.00	0.02	0.02	2.60	0.00	0.00	2.60
Concrete vibrator	https://www.indiamart	Other Construction Equipment	1	4	21	5.5	84	0.42	0.34	2.02	2.59	0.01	0.10	0.09	352.40	0.57	0.26	0.05	25	0.01	0.04	0.05	0.00	0.00	0.00	0.07	0.00	0.00	0.07
Crane		Cranes	1	8	4	231	34	0.29	0.09	0.52	1.00	0.00	0.04	0.04	151.96	0.57	0.26	0.00	14	0.11	0.61	1.17	0.00	0.05	0.05	0.34	0.00	0.00	0.34
Excavator-Track hoe		Excavators	1	8	11	158	84	0.38	0.07	1.18	0.56	0.00	0.03	0.03	201.69	0.57	0.26	0.00	14	0.07	1.25	0.60	0.00	0.03	0.03	1.02	0.00	0.00	1.02
Front end loader (rubber)		Rubber Tired Loaders	1	8	34	203	269	0.36	0.08	0.43	0.73	0.00	0.02	0.02	190.49	0.57	0.26	0.00	21	0.10	0.56	0.95	0.00	0.03	0.03	3.76	0.00	0.00	3.76
Pile driver		Bore/Drill Rigs	1	6	4	221	25	0.50	0.06	0.53	0.60	0.00	0.02	0.02	263.10	0.57	0.26	0.02	103	0.09	0.78	0.88	0.00	0.03	0.03	0.74	0.00	0.00	0.75
Roller-vibratory-walk behind	https://www.doosanpo	Rollers	1	2	13	6	25	0.38	1.51	4.14	2.87	0.00	0.39	0.36	220.05	0.57	0.26	38.63	5841	0.01	0.04	0.03	0.00	0.00	0.00	0.01	0.00	0.00	0.55
Tractor Trailer		Off-Highway Trucks	1	2	21	402	42	0.38	0.07	0.46	0.51	0.00	0.02	0.02	201.86	0.57	0.26	0.00	6	0.05	0.31	0.34	0.00	0.01	0.01	1.30	0.00	0.00	1.30
Tri-axle Dump Trucks		Off-Highway Trucks	2	2	21	402	42	0.38	0.07	0.46	0.51	0.00	0.02	0.02	201.86	0.57	0.26	0.00	6	0.10	0.63	0.69	0.00	0.02	0.02	1.30	0.00	0.00	1.30
Welder		Welders	1	4	8	46	34	0.45	0.26	2.06	1.74	0.00	0.07	0.06	255.73	0.57	0.26	0.00	2	0.05	0.38	0.32	0.00	0.01	0.01	0.18	0.00	0.00	0.18
Roadway Paving					42															*1.34*	*11.47*	*11.51*	*0.03*	*0.46*	*0.42*	*8.81*	*0.00*	*0.00*	*8.85*
Asphalt Pavers		Pavers	2	6	7	130	40	0.42	0.08	1.25	0.83	0.00	0.04	0.04	219.72	0.57	0.26	0.01	49	0.12	1.78	1.18	0.00	0.06	0.05	0.48	0.00	0.00	0.48
Backhoe		Tractors/Loaders/Backhoes	1	8	21	97	168	0.37	0.08	1.29	0.85	0.00	0.04	0.04	195.21	0.57	0.26	0.00	3	0.05	0.81	0.54	0.00	0.03	0.02	1.18	0.00	0.00	1.18
Concrete trucks		Off-Highway Trucks	2	4	8	402	34	0.38	0.07	0.46	0.51	0.00	0.02	0.02	201.86	0.57	0.26	0.00	5	0.19	1.25	1.37	0.01	0.05	0.05	1.04	0.00	0.00	1.04
Concrete vibrator	https://www.indiamart	Other Construction Equipment	1	4	8	5.5	34	0.42	0.34	2.02	2.59	0.01	0.10	0.09	352.40	0.57	0.26	0.05	10	0.01	0.04	0.05	0.00	0.00	0.00	0.03	0.00	0.00	0.03
Core drill machine (testing)		Bore/Drill Rigs	1	4	1	221	3	0.50	0.06	0.53	0.60	0.00	0.02	0.02	263.10	0.57	0.26	0.02	14	0.06	0.52	0.59	0.00	0.02	0.02	0.10	0.00	0.00	0.10
Demo/Concrete saws		Concrete/Industrial Saws	2	4	2	81	8	0.73	0.37	3.19	2.78	0.01	0.10	0.09	414.36	0.57	0.26	0.34	232	0.38	3.33	2.90	0.01	0.10	0.09	0.21	0.00	0.00	0.23
Dozer		Rubber Tired Dozers	1	4	4	247	17	0.40	0.18	1.04	1.95	0.00	0.09	0.08	209.04	0.57	0.26	0.03	104	0.16	0.90	1.70	0.00	0.08	0.07	0.35	0.00	0.00	0.36
Front end loader (rubber)		Rubber Tired Loaders	1	8	13	203	101	0.36	0.08	0.43	0.73	0.00	0.02	0.02	190.49	0.57	0.26	0.00	8	0.10	0.56	0.95	0.00	0.03	0.03	1.41	0.00	0.00	1.41
Roller-smooth drum		Rollers	1	8	13	80	101	0.38	0.10	1.28	1.09	0.00	0.06	0.05	198.12	0.57	0.26	0.00	25	0.05	0.68	0.58	0.00	0.03	0.03	0.60	0.00	0.00	0.60
Rollers-vibratory		Rollers	1	4	13	80	50	0.38	0.10	1.28	1.09	0.00	0.06	0.05	198.12	0.57	0.26	0.00	13	0.03	0.34	0.29	0.00	0.02	0.01	0.30	0.00	0.00	0.30
Tri-axle Dump Trucks		Off-Highway Trucks	2	4	25	402	101	0.38	0.07	0.46	0.51	0.00	0.02	0.02	201.86	0.57	0.26	0.00	14	0.19	1.25	1.37	0.01	0.05	0.05	3.12	0.00	0.00	3.13
Building					315															*2.06*	*18.31*	*15.65*	*0.03*	*0.62*	*0.57*	*69.83*	*0.01*	*0.00*	*71.36*
Abrasive/demo saw		Concrete/Industrial Saws	1	2	16	81	32	0.73	0.37	3.19	2.78	0.01	0.10	0.09	414.36	0.57	0.26	0.34	871	0.10	0.83	0.73	0.00	0.03	0.02	0.77	0.00	0.00	0.85
Backhoe		Tractors/Loaders/Backhoes	1	8	158	97	1260	0.37	0.08	1.29	0.85	0.00	0.04	0.04	195.21	0.57	0.26	0.00	24	0.05	0.81	0.54	0.00	0.03	0.02	8.83	0.00	0.00	8.83
Circular saws		Concrete/Industrial Saws	2	4	95	81	378	0.73	0.37	3.19	2.78	0.01	0.10	0.09	414.36	0.57	0.26	0.34	10450	0.38	3.33	2.90	0.01	0.10	0.09	9.26	0.01	0.00	10.22
Compressor		Air Compressors	1	8	158	78	1260	0.48	0.30	2.35	1.90	0.00	0.07	0.07	272.77	0.57	0.26	0.01	745	0.20	1.55	1.25	0.00	0.05	0.05	12.87	0.00	0.00	12.94
Concrete finisher		Paving Equipment	1	4	63	132	252	0.36	0.08	1.10	0.75	0.00	0.04	0.04	187.02	0.57	0.26	0.02	533	0.03	0.46	0.31	0.00	0.02	0.01	2.21	0.00	0.00	2.26
Concrete pump		Pumps	1	4	16	84	63	0.74	0.03	1.01	0.53	0.00	0.03	0.03	159.70	0.57	0.26	0.01	53	0.02	0.55	0.29	0.00	0.02	0.02	0.63	0.00	0.00	0.63
Concrete saw		Concrete/Industrial Saws	1	8	6	81	50	0.73	0.37	3.19	2.78	0.01	0.10	0.09	414.36	0.57	0.26	0.34	1393	0.38	3.33	2.90	0.01	0.10	0.09	1.23	0.00	0.00	1.36
Concrete truck		Off-Highway Trucks	1	4	16	402	63	0.38	0.07	0.46	0.51	0.00	0.02	0.02	201.86	0.57	0.26	0.00	9	0.10	0.63	0.69	0.00	0.02	0.02	1.95	0.00	0.00	1.95
Concrete vibrator	https://www.indiamart	Other Construction Equipment	1	4	16	5.5	63	0.42	0.34	2.02	2.59	0.01	0.10	0.09	352.40	0.57	0.26	0.05	19	0.01	0.04	0.05	0.00	0.00	0.00	0.05	0.00	0.00	0.05
Crane		Cranes	1	6	6	231	38	0.29	0.09	0.52	1.00	0.00	0.04	0.04	151.96	0.57	0.26	0.00	15	0.08	0.46	0.88	0.00	0.04	0.03	0.38	0.00	0.00	0.38
Front end loader (rubber)		Rubber Tired Loaders	1	4	158	203	630	0.36	0.08	0.43	0.73	0.00	0.02	0.02	190.49	0.57	0.26	0.00	50	0.05	0.28	0.47	0.00	0.02	0.01	8.81	0.00	0.00	8.82
Generator		Generator Sets	1	8	158	84	1260	0.74	0.06	1.17	0.48	0.00	0.04	0.04	159.70	0.57	0.26	0.00	186	0.06	1.29	0.53	0.00	0.04	0.04	12.51	0.00	0.00	12.52
Grinder	https://www.essexequi	Other Construction Equipment	1	4	63	11	252	0.42	0.34	2.02	2.59	0.01	0.10	0.09	352.40	0.57	0.26	0.05	148	0.01	0.08	0.10	0.00	0.00	0.00	0.41	0.00	0.00	0.42
Jack hammers	https://www.edisons.c	Other Construction Equipment	2	4	6	3.5	25	0.42	0.34	2.02	2.59	0.01	0.10	0.09	352.40	0.57	0.26	0.05	5	0.01	0.05	0.07	0.00	0.00	0.00	0.01	0.00	0.00	0.01
Lull		Forklifts	1	4	95	89	378	0.20	0.06	0.73	0.60	0.00	0.04	0.03	105.95	0.57	0.26	0.00	3	0.01	0.12	0.09	0.00	0.01	0.01	0.72	0.00	0.00	0.72
Mortar mixer		Cement and Mortar Mixers	1	4	95	9	378	0.56	0.31	1.82	2.35	0.00	0.09	0.08	318.42	0.57	0.26	0.10	346	0.01	0.08	0.10	0.00	0.00	0.00	0.61	0.00	0.00	0.64
Nail guns	electric/hand-held	Other Construction Equipment	2	4	63	0	252	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.57	0.26	0.00	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paint sprayers	assumes powered by ai	Air Compressors	2	8	6	78	50	0.48	0.30	2.35	1.90	0.00	0.07	0.07	272.77	0.57	0.26	0.01	30	0.39	3.10	2.51	0.00	0.10	0.09	0.51	0.00	0.00	0.52
Table saw		Concrete/Industrial Saws	1	2	32	81	63	0.73	0.37	3.19	2.78	0.01	0.10	0.09	414.36	0.57	0.26	0.34	1742	0.10	0.83	0.73	0.00	0.03	0.02	1.54	0.00	0.00	1.70
Tractor trailer		Off-Highway Trucks	1	2	95	402	189	0.38	0.07	0.46	0.51	0.00	0.02	0.02	201.86	0.57	0.26	0.00	26	0.05	0.31	0.34	0.00	0.01	0.01	5.86	0.00	0.00	5.86
Welder		Welders	1	2	63	46	126	0.45	0.26	2.06	1.74	0.00	0.07	0.06	255.73	0.57	0.26	0.00	8	0.02	0.19	0.16	0.00	0.01	0.01	0.67	0.00	0.00	0.67
Trackwork- Ballasted- (top of sub ballast up)					84															*1.13*	*9.49*	*9.06*	*0.02*	*0.40*	*0.37*	*33.00*	*0.00*	*0.00*	*33.25*
Air Compressor		Air Compressors	1	8	67	78	538	0.48	0.30	2.35	1.90	0.00	0.07	0.07	272.77	0.57	0.26	0.01	318	0.20	1.55	1.25	0.00	0.05	0.05	5.49	0.00	0.00	5.52
Backhoe		Tractors/Loaders/Backhoes	1	8	67	97	538	0.37	0.08	1.29	0.85	0.00	0.04	0.04	195.21	0.57	0.26	0.00	10	0.05	0.81	0.54	0.00	0.03	0.02	3.77	0.00	0.00	3.77
Ballast cars (dump)	assumes no separate er	Other Material Handling Equipment	2	6	17	0	101	0.40	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.57	0.26	0.00	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Ballast Compactor		Plate Compactors	1	4	17	8	67	0.43	0.24	1.49	1.78	0.00	0.07	0.06	244.37	0.57	0.26	0.09	47	0.01	0.05	0.05	0.00	0.00	0.00	0.06	0.00	0.00	0.06
Ballast Regulator	https://www.progressr	Other General Industrial Equipment	1	4	17	250	67	0.34	0.07	0.40	0.67	0.00	0.02	0.02	180.73	0.57	0.26	0.00	75	0.05	0.30	0.51	0.00	0.02	0.01	1.04	0.00	0.00	1.04
Front end loader (rubber)		Rubber Tired Loaders	1	4	67	203	269	0.36	0.08	0.43	0.73	0.00	0.02	0.02	190.49	0.57	0.26	0.00	21	0.05	0.28	0.47	0.00	0.02	0.01	3.76	0.00	0.00	3.76
Generator		Generator Sets	1	4	21	84	84	0.74	0.06	1.17	0.48	0.00	0.04	0.04	159.70	0.57	0.26	0.00	12	0.03	0.64	0.27	0.00	0.02	0.02	0.83	0.00	0.00	0.83
Power wrench	assumes powered by ai	Aerial Lifts	1	4	8	78	34	0.31	0.30	2.35	1.90	0.00	0.07	0.07	272.77	0.57	0.26	0.01	20	0.06	0.50	0.40	0.00	0.02	0.01	0.22	0.00	0.00	0.22
Prentice Loader (hi rail log loader)	http://s7d2.scene7.con	Tractors/Loaders/Backhoes	1	4	25	160	101	0.37	0.07	1.14	0.56	0.00	0.03	0.03	193.81	0.57	0.26	0.00	18	0.04	0.59	0.29	0.00	0.01	0.01	1.16	0.00	0.00	1.16
Rail drill	assumes powered by ai	Other Construction Equipment	1	2	17	78	34	0.42	0.30	2.35	1.90	0.00	0.07	0.07	272.77	0.57	0.26	0.01	20	0.04	0.34	0.27	0.00	0.01	0.01	0.30	0.00	0.00	0.30
Rail Profile Grinder	https://www.pandrol.c	Other Construction Equipment	1	4	8	6.4	34	0.42	0.34	2.02	2.59	0.01	0.10	0.09	352.40	0.57	0.26	0.05	12	0.01	0.05	0.06	0.00	0.00	0.00	0.03	0.00	0.00	0.03
Rail saw		Concrete/Industrial Saws	1	1	63	81	63	0.73	0.37	3.19	2.78	0.01	0.10	0.09	414.36	0.57	0.26	0.34	1742	0.05	0.42	0.36	0.00	0.01	0.01	1.54	0.00	0.00	1.70
Rail Train**	modeled in deliveries ta	Other General Industrial Equipment	1	8	4	0	34	0.34	0.00	0.00	0.00	0.00	0.00	0.00	0.00			0.00	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Ral heater/vibrator	assumes to be powered	Air Compressors	1	2	50	78	101	0.48	0.30	2.35	1.90	0.00	0.07	0.07	272.77	0.57	0.26	0.01	60	0.05	0.39	0.31	0.00	0.01	0.01	1.03	0.00	0.00	1.03
Speedswing (360 on track crane)		Cranes	1	8	67	231	538	0.29	0.09	0.52	1.00	0.00	0.04	0.04	151.96	0.57	0.26	0.00	220	0.11	0.61	1.17	0.00	0.05	0.05	5.44	0.00	0.00	5.46
Spiking gun *	assumes to not be used	Other Construction Equipment	0	6	50	171	302	0.42	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.57	0.26	0.00	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Tamper/Liner	assumes max 100 hp	Other Construction Equipment	1	6	17	171	101	0.42	0.16	1.49	1.47	0.00	0.10	0.09	219.44	0.57	0.26	0.01	89	0.15	1.40	1.38	0.00	0.09	0.09	1.57	0.00	0.00	1.58
Tie Drill	electric/hand-held	Other Construction Equipment	1	6	50	0	302	0.42	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.57	0.26	0.00	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Tractor Trailer		Off-Highway Trucks	1	2	8	402	17	0.38	0.07	0.46	0.51	0.00	0.02	0.02	201.86	0.57	0.26	0.00	2	0.05	0.31	0.34	0.00	0.01	0.01	0.52	0.00	0.00	0.52
Tri Axle dump trucks		Off-Highway Trucks	2	4	50	402	202	0.38	0.07	0.46	0.51	0.00	0.02	0.02	201.86	0.57	0.26	0.00	28	0.19	1.25	1.37	0.01	0.05	0.05	6.25	0.00	0.00	6.25
Trackwork- Direct Fixation					63															*1.09*	*9.92*	*8.17*	*0.02*	*0.34*	*0.32*	*15.63*	*0.00*	*0.00*	*15.91*
Air Compressor		Air Compressors	1	8	32	78	252	0.48	0.30	2.35	1.90	0.00	0.07	0.07	272.77	0.57	0.26	0.01	149	0.20	1.55	1.25	0.00	0.05	0.05	2.57	0.00	0.00	2.59
Backhoe		Tractors/Loaders/Backhoes	1	8	13	97	101	0.37	0.08	1.29	0.85	0.00	0.04	0.04	195.21	0.57	0.26	0.00	2	0.05	0.81	0.54	0.00	0.03	0.02	0.71	0.00	0.00	0.71
Circular / Table saw		Concrete/Industrial Saws	1	2	6	81	13	0.73	0.37	3.19	2.78	0.01	0.10	0.09	414.36	0.57	0.26	0.34	348	0.10	0.83	0.73	0.00	0.03	0.02	0.31	0.00	0.00	0.34
Concrete drill	assumes powered by ai	Air Compressors	1	4	32	78	126	0.48	0.30	2.35	1.90	0.00	0.07	0.07	272.77	0.57	0.26	0.01	75	0.10	0.78	0.63	0.00	0.02	0.02	1.29	0.00	0.00	1.29
Concrete grinder	https://hupshenghardv	Other Construction Equipment	1	2	32	6	63	0.42	0.34	2.02	2.59	0.01	0.10	0.09	352.40	0.57	0.26	0.05	20	0.00	0.02	0.03	0.00	0.00	0.00	0.06	0.00	0.00	0.06
Concrete mixer		Cement and Mortar Mixers	1	4	32	9	126	0.56	0.31	1.82	2.35	0.00	0.09	0.08	318.42	0.57	0.26	0.10	115	0.01	0.08	0.10	0.00	0.00	0.00	0.20	0.00	0.00	0.21
Concrete pump		Pumps	1	2	6	84	13	0.74	0.03	1.01	0.53	0.00	0.03	0.03	159.70	0.57	0.26	0.01	11	0.01	0.28	0.15	0.00	0.01	0.01	0.13	0.00	0.00	0.13
Concrete truck		Off-Highway Trucks	1	2	6	402	13	0.38	0.07	0.46	0.51	0.00	0.02	0.02	201.86	0.57	0.26	0.00	2	0.05	0.31	0.34	0.00	0.01	0.01	0.39	0.00	0.00	0.39
Concrete vibrator	https://www.indiamart	Other Construction Equipment	1	2	6	5.5	13	0.42	0.34	2.02	2.59	0.01	0.10	0.09	352.40	0.57	0.26	0.05	4	0.00	0.02	0.03	0.00	0.00	0.00	0.01	0.00	0.00	0.01
Front end loader (rubber)		Rubber Tired Loaders	1	4	32	203	126	0.36	0.08	0.43	0.73	0.00	0.02	0.02	190.49	0.57	0.26	0.00	10	0.05	0.28	0.47	0.00	0.02	0.01	1.76	0.00	0.00	1.76
Generator		Generator Sets	1	8	32	84	252	0.74	0.06	1.17	0.48	0.00	0.04	0.04	159.70	0.57	0.26	0.00	37	0.06	1.29	0.53	0.00	0.04	0.04	2.50	0.00	0.00	2.50
Nail guns (air)	electric/hand-held	Air Compressors	1	2	6	78	13	0.48	0.30	2.35	1.90	0.00	0.07	0.07	272.77	0.57	0.26	0.01	7	0.05	0.39	0.31	0.00	0.01	0.01	0.13	0.00	0.00	0.13
Power wrench	electric/hand-held	Air Compressors	1	2	3	78	6	0.48	0.30	2.35	1.90	0.00	0.07	0.07	272.77	0.57	0.26	0.01	4	0.05	0.39	0.31	0.00	0.01	0.01	0.06	0.00	0.00	0.06
Prentice Loader (hi rail log loader)	http://s7d2.scene7.con	Tractors/Loaders/Backhoes	1	2	32	160	63	0.37	0.07	1.14	0.56	0.00	0.03	0.03	193.81	0.57	0.26	0.00	11	0.02	0.30	0.15	0.00	0.01	0.01	0.72	0.00	0.00	0.72
Pressure washer	http://www.ultimatewa	Other Construction Equipment	1	1	32	10	32	0.42	0.16	0.97	1.31	0.00	0.06	0.05	170.09	0.57	0.26	0.22	70	0.00	0.01	0.01	0.00	0.00	0.00	0.02	0.00	0.00	0.03
Rail drill	electric/hand-held	Other Construction Equipment	1	2	38	78	76	0.42	0.30	2.35	1.90	0.00	0.07	0.07	272.77	0.57	0.26	0.00	0	0.04	0.34	0.27	0.00	0.01	0.01	0.67	0.00	0.00	0.67
Rail Profile Grinder	https://www.pandrol.c	Other Construction Equipment	1	2	38	6.4	76	0.42	0.34	2.02	2.59	0.01	0.10	0.09	352.40	0.57	0.26	0.05	26	0.00	0.02	0.03	0.00	0.00	0.00	0.07	0.00	0.00	0.07
Rail saw		Concrete/Industrial Saws	1	2	38	81	76	0.73	0.37	3.19	2.78	0.01	0.10	0.09	414.36	0.57	0.26	0.34	2090	0.10	0.83	0.73	0.00	0.03	0.02	1.85	0.00	0.00	2.04
Ral heater/vibrator	assumes to be powered	Air Compressors	1	4	13	78	50	0.48	0.30	2.35	1.90	0.00	0.07	0.07	272.77	0.57	0.26	0.01	30	0.10	0.78	0.63	0.00	0.02	0.02	0.51	0.00	0.00	0.52
Speedswing (360 on track crane)		Cranes	1	4	32	231	126	0.29	0.09	0.52	1.00	0.00	0.04	0.04	151.96	0.57	0.26	0.00	52	0.05	0.30	0.59	0.00	0.02	0.02	1.27	0.00	0.00	1.28
Tractor Trailer		Off-Highway Trucks	1	2	6	402	13	0.38	0.07	0.46	0.51	0.00	0.02	0.02	201.86	0.57	0.26	0.00	2	0.05	0.31	0.34	0.00	0.01	0.01	0.39	0.00	0.00	0.39
Major Equipment					126															*0.55*	*4.81*	*4.06*	*0.01*	*0.17*	*0.16*	*7.51*	*0.00*	*0.00*	*7.52*
Concrete drill	assumes powered by ai	Air Compressors	1	3	13	78	38	0.48	0.30	2.35	1.90	0.00	0.07	0.07	272.77	0.57	0.26	0.01	22	0.07	0.58	0.47	0.00	0.02	0.02	0.39	0.00	0.00	0.39
Concrete grinder	https://hupshenghardv	Other Construction Equipment	1	3	13	6	38	0.42	0.34	2.02	2.59	0.01	0.10	0.09	352.40	0.57	0.26	0.05	12	0.01	0.03	0.04	0.00	0.00	0.00	0.03	0.00	0.00	0.03
Crane		Cranes	1	4	13	231	50	0.29	0.09	0.52	1.00	0.00	0.04	0.04	151.96	0.57	0.26	0.00	21	0.05	0.30	0.59	0.00	0.02	0.02	0.51	0.00	0.00	0.51
Fork lift		Forklifts	1	4	63	89	252	0.20	0.06	0.73	0.60	0.00	0.04	0.03	105.95	0.57	0.26	0.00	2	0.01	0.12	0.09	0.00	0.01	0.01	0.48	0.00	0.00	0.48
Front end loader		Tractors/Loaders/Backhoes	1	4	63	97	252	0.37	0.08	1.29	0.85	0.00	0.04	0.04	195.21	0.57	0.26	0.00	5	0.03	0.41	0.27	0.00	0.01	0.01	1.77	0.00	0.00	1.77
Generator		Generator Sets	1	4	76	84	302	0.74	0.06	1.17	0.48	0.00	0.04	0.04	159.70	0.57	0.26	0.00	45	0.03	0.64	0.27	0.00	0.02	0.02	3.00	0.00	0.00	3.01
Impact guns	assumes powered by ai	Air Compressors	2	4	6	78	25	0.48	0.30	2.35	1.90	0.00	0.07	0.07	272.77	0.57	0.26	0.01	15	0.20	1.55	1.25	0.00	0.05	0.05	0.26	0.00	0.00	0.26
Steel drill	assumes to be powered	Air Compressors	1	4	6	78	25	0.48	0.30	2.35	1.90	0.00	0.07	0.07	272.77	0.57	0.26	0.01	15	0.10	0.78	0.63	0.00	0.02	0.02	0.26	0.00	0.00	0.26
Steel grinder	https://www.essexequi	Other Construction Equipment	1	4	6	11	25	0.42	0.34	2.02	2.59	0.01	0.10	0.09	352.40	0.57	0.26	0.05	15	0.01	0.08	0.10	0.00	0.00	0.00	0.04	0.00	0.00	0.04
Tractor Trailer		Off-Highway Trucks	1	2	13	402	25	0.38	0.07	0.46	0.51	0.00	0.02	0.02	201.86	0.57	0.26	0.00	3	0.05	0.31	0.34	0.00	0.01	0.01	0.78	0.00	0.00	0.78
Commissioning					42															*0.21*	*1.32*	*1.99*	*0.00*	*0.11*	*0.10*	*5.23*	*0.00*	*0.00*	*5.27*
Car Wash	Assumes no diesel engi	Air Compressors	0	8	42	78	336	0.48	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.57	0.26	0.00	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Drop Table	Assumes no diesel engi	Forklifts	1	8	42	89	336	0.20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.57	0.26	0.00	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Overhead Crane		Cranes	1	8	42	231	336	0.29	0.09	0.52	1.00	0.00	0.04	0.04	151.96	0.57	0.26	0.00	137	0.11	0.61	1.17	0.00	0.05	0.05	3.40	0.00	0.00	3.41
Wheel Truing Machine		Other General Industrial Equipment	1	8	42	88	336	0.34	0.19	1.34	1.55	0.00	0.12	0.11	181.11	0.57	0.26	0.01	365	0.10	0.71	0.82	0.00	0.06	0.06	1.83	0.00	0.00	1.86

	ROG	CO	NO_X	SO_X	PM_{10}	$PM_{2.5}$
Maximum Daily Scenarios - Off-Road Equipment Emissions	lbs/day					
Survey	0.07	0.47	0.51	0.00	0.02	0.02
Site Util/Electric, Demo	3.55	46.70	25.71	0.07	1.04	0.95
Site Util/Electric, Earthwork	3.20	28.58	27.51	0.06	1.20	1.10
Earthwork, Foundations	1.82	16.84	17.25	0.04	0.78	0.71
Foundations, Roadway/Paving	2.11	18.22	18.26	0.05	0.73	0.67
Buildings, Trackwork-Ballasted, Major Equip	3.74	32.61	28.76	0.06	1.20	1.10
Site Util/Electric, Buildings, Trackwork-DF, Major Equip	5.85	51.53	44.88	0.10	1.84	1.69
Major Equip, Commissioning	0.76	6.13	6.05	0.01	0.29	0.26

On-Road Construction Emissions - Phase 2

Emissions Factors (g/mi for RunEx, BW, TW and g/trip for StartEx)

Project Component/On-Road Vehicles	Days	Daily Trips	Trip Distance (One-way)	Total VMT	ROG RunEx	ROG StartEx	CO RunEx	CO StartEX	NOx RunEx	NOx StartEx	SOx RunEx	SOx StartEx	PM_{10} RunEx	PM_{10} StartEx	PM_{10} BW, TW	$PM_{2.5}$ RunEx	$PM_{2.5}$ StartEx	$PM_{2.5}$ BW, TW	CO_2 RunEx	CO_2 StartEx	CH_4 RunEx	CH_4 StartEx	N_2O RunEx	N_2O StartEx
Survey																								
Concrete Trucks	21	-	6.9	-	0.0191	0.0000	0.1675	0.0000	2.0777	4.4297	0.0127	0.0000	0.0144	0.0000	0.3216	0.0137	0.0000	0.0904	1341.5330	0.0000	0.0009	0.0000	0.2109	0.0000
Haul Trucks	21	-	20.0	-	0.0136	0.0000	0.1484	0.0000	1.6143	3.5926	0.0125	0.0000	0.0113	0.0000	0.3216	0.0108	0.0000	0.0904	1324.3272	0.0000	0.0006	0.0000	0.2082	0.0000
Workers	21	6	14.7	88	0.0107	0.2346	0.6991	2.2343	0.0444	0.2026	0.0028	0.0006	0.0016	0.0018	0.2686	0.0014	0.0016	0.0727	285.0792	59.6848	0.0028	0.0520	0.0051	0.0261
Site Utilities/Electric																								
Concrete Trucks	84	-	6.9	-	0.0191	0.0000	0.1675	0.0000	2.0777	4.4297	0.0127	0.0000	0.0144	0.0000	0.3216	0.0137	0.0000	0.0904	1341.5330	0.0000	0.0009	0.0000	0.2109	0.0000
Haul Trucks	84	-	20.0	-	0.0136	0.0000	0.1484	0.0000	1.6143	3.5926	0.0125	0.0000	0.0113	0.0000	0.3216	0.0108	0.0000	0.0904	1324.3272	0.0000	0.0006	0.0000	0.2082	0.0000
Workers	84	32	14.7	470	0.0107	0.2346	0.6991	2.2343	0.0444	0.2026	0.0028	0.0006	0.0016	0.0018	0.2686	0.0014	0.0016	0.0727	285.0792	59.6848	0.0028	0.0520	0.0051	0.0261
Demolition																								
Concrete Trucks	21	-	6.9	-	0.0191	0.0000	0.1675	0.0000	2.0777	4.4297	0.0127	0.0000	0.0144	0.0000	0.3216	0.0137	0.0000	0.0904	1341.5330	0.0000	0.0009	0.0000	0.2109	0.0000
Haul Trucks	21	-	20.0	-	0.0136	0.0000	0.1484	0.0000	1.6143	3.5926	0.0125	0.0000	0.0113	0.0000	0.3216	0.0108	0.0000	0.0904	1324.3272	0.0000	0.0006	0.0000	0.2082	0.0000
Workers	21	20	14.7	294	0.0107	0.2346	0.6991	2.2343	0.0444	0.2026	0.0028	0.0006	0.0016	0.0018	0.2686	0.0014	0.0016	0.0727	285.0792	59.6848	0.0028	0.0520	0.0051	0.0261
Earthwork																								
Concrete Trucks	42	-	6.9	-	0.0191	0.0000	0.1675	0.0000	2.0777	4.4297	0.0127	0.0000	0.0144	0.0000	0.3216	0.0137	0.0000	0.0904	1341.5330	0.0000	0.0009	0.0000	0.2109	0.0000
Haul Trucks	42	-	20.0	-	0.0136	0.0000	0.1484	0.0000	1.6143	3.5926	0.0125	0.0000	0.0113	0.0000	0.3216	0.0108	0.0000	0.0904	1324.3272	0.0000	0.0006	0.0000	0.2082	0.0000
Haul Trucks - Ballast Delivery (Occurs over over 21 days months 2 through 3 and 4)	21	28	20.0	560	0.0136	0.0000	0.1484	0.0000	1.6143	3.5926	0.0125	0.0000	0.0113	0.0000	0.3216	0.0108	0.0000	0.0904	1324.3272	0.0000	0.0006	0.0000	0.2082	0.0261
Workers	42	32	14.7	470	0.0107	0.2346	0.6991	2.2343	0.0444	0.2026	0.0028	0.0006	0.0016	0.0018	0.2686	0.0014	0.0016	0.0727	285.0792	59.6848	0.0028	0.0520	0.0051	0.0000
Foundations																								
Concrete Trucks (conservatively included during foundations phase [shorter than building phase])	42	10	6.9	67	0.0191	0.0000	0.1675	0.0000	2.0777	4.4297	0.0127	0.0000	0.0144	0.0000	0.3216	0.0137	0.0000	0.0904	1341.5330	0.0000	0.0009	0.0000	0.2109	0.0000
Haul Trucks	42	-	20.0	-	0.0136	0.0000	0.1484	0.0000	1.6143	3.5926	0.0125	0.0000	0.0113	0.0000	0.3216	0.0108	0.0000	0.0904	1324.3272	0.0000	0.0006	0.0000	0.2082	0.0000
Workers	42	48	14.7	706	0.0107	0.2346	0.6991	2.2343	0.0444	0.2026	0.0028	0.0006	0.0016	0.0018	0.2686	0.0014	0.0016	0.0727	285.0792	59.6848	0.0028	0.0520	0.0051	0.0261
Roadway Paving																								
Concrete Trucks	42	-	6.9	-	0.0191	0.0000	0.1675	0.0000	2.0777	4.4297	0.0127	0.0000	0.0144	0.0000	0.3216	0.0137	0.0000	0.0904	1341.5330	0.0000	0.0009	0.0000	0.2109	0.0000
Haul Trucks	42	-	20.0	-	0.0136	0.0000	0.1484	0.0000	1.6143	3.5926	0.0125	0.0000	0.0113	0.0000	0.3216	0.0108	0.0000	0.0904	1324.3272	0.0000	0.0006	0.0000	0.2082	0.0000
Workers	42	30	14.7	441	0.0107	0.2346	0.6991	2.2343	0.0444	0.2026	0.0028	0.0006	0.0016	0.0018	0.2686	0.0014	0.0016	0.0727	285.0792	59.6848	0.0028	0.0520	0.0051	0.0261
Building																								
Concrete Trucks	315		6.9	-	0.0191	0.0000	0.1675	0.0000	2.0777	4.4297	0.0127	0.0000	0.0144	0.0000	0.3216	0.0137	0.0000	0.0904	1341.5330	0.0000	0.0009	0.0000	0.2109	0.0000
Haul Trucks	315		20.0	-	0.0136	0.0000	0.1484	0.0000	1.6143	3.5926	0.0125	0.0000	0.0113	0.0000	0.3216	0.0108	0.0000	0.0904	1324.3272	0.0000	0.0006	0.0000	0.2082	0.0000
Workers	315	114	14.7	1,676	0.0107	0.2346	0.6991	2.2343	0.0444	0.2026	0.0028	0.0006	0.0016	0.0018	0.2686	0.0014	0.0016	0.0727	285.0792	59.6848	0.0028	0.0520	0.0051	0.0261
Trackwork- Ballasted- (top of sub ballast up)																								
Concrete Trucks	84	-	6.9	-	0.0191	0.0000	0.1675	0.0000	2.0777	4.4297	0.0127	0.0000	0.0144	0.0000	0.3216	0.0137	0.0000	0.0904	1341.5330	0.0000	0.0009	0.0000	0.2109	0.0000
Haul Trucks (occurs during first two months of track construction	42	2	20.0	31	0.0136	0.0000	0.1484	0.0000	1.6143	3.5926	0.0125	0.0000	0.0113	0.0000	0.3216	0.0108	0.0000	0.0904	1324.3272	0.0000	0.0006	0.0000	0.2082	0.0000
Workers	84	60	14.7	882	0.0107	0.2346	0.6991	2.2343	0.0444	0.2026	0.0028	0.0006	0.0016	0.0018	0.2686	0.0014	0.0016	0.0727	285.0792	59.6848	0.0028	0.0520	0.0051	0.0261
Trackwork- Direct Fixation																								
Concrete Trucks	63	-	6.9	-	0.0191	0.0000	0.1675	0.0000	2.0777	4.4297	0.0127	0.0000	0.0144	0.0000	0.3216	0.0137	0.0000	0.0904	1341.5330	0.0000	0.0009	0.0000	0.2109	0.0000
Haul Trucks	63	-	20.0	-	0.0136	0.0000	0.1484	0.0000	1.6143	3.5926	0.0125	0.0000	0.0113	0.0000	0.3216	0.0108	0.0000	0.0904	1324.3272	0.0000	0.0006	0.0000	0.2082	0.0000
Workers	63	20	14.7	294	0.0107	0.2346	0.6991	2.2343	0.0444	0.2026	0.0028	0.0006	0.0016	0.0018	0.2686	0.0014	0.0016	0.0727	285.0792	59.6848	0.0028	0.0520	0.0051	0.0261
Major Equipment																								
Concrete Trucks	126	-	6.9	-	0.0191	0.0000	0.1675	0.0000	2.0777	4.4297	0.0127	0.0000	0.0144	0.0000	0.3216	0.0137	0.0000	0.0904	1341.5330	0.0000	0.0009	0.0000	0.2109	0.0000
Haul Trucks	126	-	20.0	-	0.0136	0.0000	0.1484	0.0000	1.6143	3.5926	0.0125	0.0000	0.0113	0.0000	0.3216	0.0108	0.0000	0.0904	1324.3272	0.0000	0.0006	0.0000	0.2082	0.0000
Workers	126	66	14.7	970	0.0107	0.2346	0.6991	2.2343	0.0444	0.2026	0.0028	0.0006	0.0016	0.0018	0.2686	0.0014	0.0016	0.0727	285.0792	59.6848	0.0028	0.0520	0.0051	0.0261
Commissioning																								
Concrete Trucks	42	-	6.9	-	0.0191	0.0000	0.1675	0.0000	2.0777	4.4297	0.0127	0.0000	0.0144	0.0000	0.3216	0.0137	0.0000	0.0904	1341.5330	0.0000	0.0009	0.0000	0.2109	0.0000
Haul Trucks	42	-	20.0	-	0.0136	0.0000	0.1484	0.0000	1.6143	3.5926	0.0125	0.0000	0.0113	0.0000	0.3216	0.0108	0.0000	0.0904	1324.3272	0.0000	0.0006	0.0000	0.2082	0.0000
Workers	42	6	14.7	88	0.0107	0.2346	0.6991	2.2343	0.0444	0.2026	0.0028	0.0006	0.0016	0.0018	0.2686	0.0014	0.0016	0.0727	285.0792	59.6848	0.0028	0.0520	0.0051	0.0261

Emissions (lbs/day)

Project Component/On-Road Vehicles	ROG RunEx	ROG StartEx	CO RunEx	CO StartEX	NOx RunEx	NOx StartEx	SOx RunEx	SOx StartEx	PM_{10} RunEx	PM_{10} StartEx	PM_{10} BW, TW	$PM_{2.5}$ RunEx	$PM_{2.5}$ StartEx	$PM_{2.5}$ BW, TW	CO_2 RunEx	CO_2 StartEx	CH_4 RunEx	CH_4 StartEx	N_2O RunEx	N_2O StartEx
Survey	0.0021	0.0031	0.1359	0.0296	0.0086	0.0027	0.0005	0.0000	0.0003	0.0000	0.0522	0.0003	0.0000	0.0141	55.4330	0.7895	0.0005	0.0007	0.0010	0.0003
Concrete Trucks	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Haul Trucks	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Workers	0.0021	0.0031	0.1359	0.0296	0.0086	0.0027	0.0005	0.0000	0.0003	0.0000	0.0522	0.0003	0.0000	0.0141	55.4330	0.7895	0.0005	0.0007	0.0010	0.0003
Site Utilities/Electric	0.0111	0.0166	0.7250	0.1576	0.0461	0.0143	0.0029	0.0000	0.0016	0.0001	0.2786	0.0015	0.0001	0.0754	295.6426	4.2106	0.0029	0.0037	0.0053	0.0018
Concrete Trucks	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Haul Trucks	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Workers	0.0111	0.0166	0.7250	0.1576	0.0461	0.0143	0.0029	0.0000	0.0016	0.0001	0.2786	0.0015	0.0001	0.0754	295.6426	4.2106	0.0029	0.0037	0.0053	0.0018
Demolition	0.0070	0.0103	0.4531	0.0985	0.0288	0.0089	0.0018	0.0000	0.0010	0.0001	0.1741	0.0009	0.0001	0.0471	184.7766	2.6316	0.0018	0.0023	0.0033	0.0012
Concrete Trucks	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Haul Trucks	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Workers	0.0070	0.0103	0.4531	0.0985	0.0288	0.0089	0.0018	0.0000	0.0010	0.0001	0.1741	0.0009	0.0001	0.0471	184.7766	2.6316	0.0018	0.0023	0.0033	0.0012
Earthwork	0.0280	0.0166	0.9082	0.1576	2.0391	0.2361	0.0184	0.0000	0.0155	0.0001	0.6756	0.0148	0.0001	0.1870	1930.6420	4.2106	0.0036	0.0037	0.2623	0.0016
Concrete Trucks	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Haul Trucks	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Haul Trucks - Ballast Delivery (Occurs over over 21 days months 2 through 3 and 4)	0.0168	0.0000	0.1832	0.0000	1.9931	0.2218	0.0154	0.0000	0.0139	0.0000	0.3970	0.0133	0.0000	0.1116	1634.9994	0.0000	0.0008	0.0000	0.2570	0.0016
Workers	0.0111	0.0166	0.7250	0.1576	0.0461	0.0143	0.0029	0.0000	0.0016	0.0001	0.2786	0.0015	0.0001	0.0754	295.6426	4.2106	0.0029	0.0037	0.0053	0.0000
Foundations	0.0195	0.0248	1.1123	0.2364	0.3769	0.1165	0.0063	0.0001	0.0045	0.0002	0.4655	0.0043	0.0002	0.1265	642.1791	6.3160	0.0044	0.0055	0.0391	0.0028
Concrete Trucks (conservatively included during foundations phase [shorter than building phase])	0.0028	0.0000	0.0248	0.0000	0.3078	0.0951	0.0019	0.0000	0.0021	0.0000	0.0476	0.0020	0.0000	0.0134	198.7151	0.0000	0.0001	0.0000	0.0312	0.0000
Haul Trucks	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Workers	0.0167	0.0248	1.0874	0.2364	0.0691	0.0214	0.0044	0.0001	0.0024	0.0002	0.4178	0.0022	0.0002	0.1131	443.4639	6.3160	0.0043	0.0055	0.0079	0.0028
Roadway Paving	0.0104	0.0155	0.6797	0.1478	0.0432	0.0134	0.0027	0.0000	0.0015	0.0001	0.2611	0.0014	0.0001	0.0707	277.1650	3.9475	0.0027	0.0034	0.0049	0.0017
Concrete Trucks	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Haul Trucks	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Workers	0.0104	0.0155	0.6797	0.1478	0.0432	0.0134	0.0027	0.0000	0.0015	0.0001	0.2611	0.0014	0.0001	0.0707	277.1650	3.9475	0.0027	0.0034	0.0049	0.0017
Building	0.0397	0.0590	2.5827	0.5615	0.1642	0.0509	0.0104	0.0001	0.0057	0.0004	0.9923	0.0053	0.0004	0.2686	1053.2268	15.0004	0.0102	0.0131	0.0187	0.0066
Concrete Trucks	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Haul Trucks	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Workers	0.0397	0.0590	2.5827	0.5615	0.1642	0.0509	0.0104	0.0001	0.0057	0.0004	0.9923	0.0053	0.0004	0.2686	1053.2268	15.0004	0.0102	0.0131	0.0187	0.0066
Trackwork- Ballasted- (top of sub ballast up)	0.0218	0.0310	1.3695	0.2955	0.1977	0.0392	0.0063	0.0001	0.0038	0.0002	0.5445	0.0035	0.0002	0.1476	645.6267	7.8949	0.0054	0.0069	0.0242	0.0035
Concrete Trucks	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Haul Trucks (occurs during first two months of track construction	0.0009	0.0000	0.0102	0.0000	0.1113	0.0124	0.0009	0.0000	0.0008	0.0000	0.0222	0.0007	0.0000	0.0062	91.2967	0.0000	0.0000	0.0000	0.0144	0.0000
Workers	0.0209	0.0310	1.3593	0.2955	0.0864	0.0268	0.0055	0.0001	0.0030	0.0002	0.5223	0.0028	0.0002	0.1414	554.3299	7.8949	0.0054	0.0069	0.0098	0.0035
Trackwork- Direct Fixation	0.0070	0.0103	0.4531	0.0985	0.0288	0.0089	0.0018	0.0000	0.0010	0.0001	0.1741	0.0009	0.0001	0.0471	184.7766	2.6316	0.0018	0.0023	0.0033	0.0012
Concrete Trucks	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Haul Trucks	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Workers	0.0070	0.0103	0.4531	0.0985	0.0288	0.0089	0.0018	0.0000	0.0010	0.0001	0.1741	0.0009	0.0001	0.0471	184.7766	2.6316	0.0018	0.0023	0.0033	0.0012
Major Equipment	0.0230	0.0341	1.4952	0.3251	0.0950	0.0295	0.0060	0.0001	0.0033	0.0003	0.5745	0.0031	0.0002	0.1555	609.7629	8.6844	0.0059	0.0076	0.0108	0.0038
Concrete Trucks	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Haul Trucks	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Workers	0.0230	0.0341	1.4952	0.3251	0.0950	0.0295	0.0060	0.0001	0.0033	0.0003	0.5745	0.0031	0.0002	0.1555	609.7629	8.6844	0.0059	0.0076	0.0108	0.0038
Commissioning	0.0021	0.0031	0.1359	0.0296	0.0086	0.0027	0.0005	0.0000	0.0003	0.0000	0.0522	0.0003	0.0000	0.0141	55.4330	0.7895	0.0005	0.0007	0.0010	0.0003
Concrete Trucks	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Haul Trucks	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Workers	0.0021	0.0031	0.1359	0.0296	0.0086	0.0027	0.0005	0.0000	0.0003	0.0000	0.0522	0.0003	0.0000	0.0141	55.4330	0.7895	0.0005	0.0007	0.0010	0.0003

Emissions (MT/phase) and **MT**

Project Component/On-Road Vehicles	CO_2	CH_4	N_2O	CO_2e
Survey	0.5355	0.0000	0.0000	0.5396
Concrete Trucks	0.00	0.00	0.00	0
Haul Trucks	0.00	0.00	0.00	0
Workers	0.54	0.00	0.00	0.539612
Site Utilities/Electric	11.4249	0.0002	0.0003	11.5117
Concrete Trucks	0.00	0.00	0.00	0
Haul Trucks	0.00	0.00	0.00	0
Workers	11.42	0.00	0.00	11.51171
Demolition	1.7851	0.0000	0.0000	1.7987
Concrete Trucks	0.00	0.00	0.00	0
Haul Trucks	0.00	0.00	0.00	0
Workers	1.79	0.00	0.00	1.798705
Earthwork	21.6044	0.0001	0.0026	22.3866
Concrete Trucks	0.00	0.00	0.00	0
Haul Trucks	0.00	0.00	0.00	0
Haul Trucks - Ballast Delivery (Occurs over over 21 days months 2 through 3 and 4)	15.89	0.00	0.00	16.64119
Workers	5.71	0.00	0.00	5.745393
Foundations	12.3544	0.0002	0.0008	12.5969
Concrete Trucks (conservatively included during foundations phase [shorter than building phase])	3.79	0.00	0.00	3.963088
Haul Trucks	0.00	0.00	0.00	0
Workers	8.57	0.00	0.00	8.633786
Roadway Paving	5.3554	0.0001	0.0001	5.3961
Concrete Trucks	0.00	0.00	0.00	0
Haul Trucks	0.00	0.00	0.00	0
Workers	5.36	0.00	0.00	5.396116
Building	152.6300	0.0033	0.0036	153.7893
Concrete Trucks	0.00	0.00	0.00	0
Haul Trucks	0.00	0.00	0.00	0
Workers	152.63	0.00	0.00	153.7893
Trackwork- Ballasted- (top of sub ballast up)	23.1610	0.0005	0.0008	23.4052
Concrete Trucks	0.00	0.00	0.00	0
Haul Trucks (occurs during first two months of track construction	1.74	0.00	0.00	1.820774
Workers	21.42	0.00	0.00	21.58447
Trackwork- Direct Fixation	5.3554	0.0001	0.0001	5.3961
Concrete Trucks	0.00	0.00	0.00	0
Haul Trucks	0.00	0.00	0.00	0
Workers	5.36	0.00	0.00	5.396116
Major Equipment	35.3459	0.0008	0.0008	35.6144
Concrete Trucks	0.00	0.00	0.00	0
Haul Trucks	0.00	0.00	0.00	0
Workers	35.35	0.00	0.00	35.61437
Commissioning	1.0711	0.0000	0.0000	1.0792
Concrete Trucks	0.00	0.00	0.00	0
Haul Trucks	0.00	0.00	0.00	0
Workers	1.07	0.00	0.00	1.079223
				273.51

Maximum Daily Scenarios - On-Road Equipment Emissions	ROG RunEx	ROG StartEx	CO RunEx	CO StartEX	NOx RunEx	NOx StartEx	SOx RunEx	SOx StartEx	PM_{10} RunEx	PM_{10} StartEx	PM_{10} BW, TW	$PM_{2.5}$ RunEx	$PM_{2.5}$ StartEx	$PM_{2.5}$ BW, TW
Survey	0.0021	0.0031	0.1359	0.0296	0.0086	0.0027	0.0005	0.0000	0.0003	0.0000	0.0522	0.0003	0.0000	0.0141
Site Util/Electric, Demo	0.0181	0.0269	1.1781	0.2561	0.0749	0.0232	0.0048	0.0001	0.0026	0.0002	0.4527	0.0024	0.0002	0.1225
Site Util/Electric, Earthwork	0.0391	0.0331	1.6331	0.3152	2.0852	0.2504	0.0213	0.0001	0.0171	0.0003	0.9541	0.0163	0.0002	0.2624
Earthwork, Foundations	0.0475	0.0414	2.0204	0.3941	2.4160	0.3526	0.0246	0.0001	0.0201	0.0003	1.1411	0.0191	0.0003	0.3135
Foundations, Roadway/Paving	0.0300	0.0403	1.7919	0.3842	0.4201	0.1299	0.0090	0.0001	0.0061	0.0003	0.7266	0.0057	0.0003	0.1972
Buildings, Trackwork-Ballasted, Major Equip	0.0845	0.1241	5.4475	1.1822	0.4569	0.1196	0.0228	0.0003	0.0129	0.0009	2.1113	0.0119	0.0009	0.5716
Site Util/Electric, Buildings, Trackwork-DF, Major Equip	0.0808	0.1200	5.2560	1.1428	0.3341	0.1036	0.0212	0.0003	0.0117	0.0009	2.0195	0.0108	0.0008	0.5466
Major Equip, Commissioning	0.0251	0.0372	1.6312	0.3547	0.1037	0.0322	0.0066	0.0001	0.0036	0.0003	0.6267	0.0033	0.0003	0.1696

Maximum Daily Scenarios - On-Road Equipment Emissions	ROG	CO	NO_X	SO_X	PM_{10}	$PM_{2.5}$
Survey	0.0052	0.1655	0.0113	0.0006	0.0526	0.0144
Site Util/Electric, Demo	0.0450	1.4342	0.0981	0.0048	0.4555	0.1251
Site Util/Electric, Earthwork	0.0722	1.9484	2.3356	0.0214	0.9715	0.2789
Earthwork, Foundations	0.0889	2.4145	2.7686	0.0247	1.1614	0.3328
Foundations, Roadway/Paving	0.0703	2.1761	0.5500	0.0091	0.7330	0.2031
Buildings, Trackwork-Ballasted, Major Equip	0.2086	6.6296	0.5764	0.0231	2.1251	0.5844
Site Util/Electric, Buildings, Trackwork-DF, Major Equip	0.2008	6.3988	0.4377	0.0215	2.0321	0.5582
Major Equip, Commissioning	0.0623	1.9858	0.1358	0.0067	0.6307	0.1732

Maximum Daily Scenarios - On-Road and Off-Road Equipment Emissions	ROG	CO	NO_X	SO_X	PM_{10}	$PM_{2.5}$
Survey	0.0774	0.6350	0.5252	0.0024	0.0711	0.0315
Site Util/Electric, Demo	3.5939	48.1311	25.8100	0.0728	1.5002	1.0796
Site Util/Electric, Earthwork	3.2761	30.5238	29.8461	0.0838	2.1720	1.3833
Earthwork, Foundations	1.9114	19.2530	20.0136	0.0623	1.9365	1.0459
Foundations, Roadway/Paving	2.1820	20.3969	18.8137	0.0556	1.4631	0.8748
Buildings, Trackwork-Ballasted, Major Equip	3.9444	39.2387	29.3401	0.0841	3.3262	1.6893
Site Util/Electric, Buildings, Trackwork-DF, Major Equip	6.0502	57.9246	45.3209	0.1237	3.8695	2.2486
Major Equip, Commissioning	0.8218	8.1117	6.1846	0.0175	0.9158	0.4355
Maximum Daily Emissions	6.0502	57.9246	45.3209	0.1237	3.8695	2.2486

Constants		
lb		grams
1		453.59237
ton		lbs
1		2000
metric ton		grams
1		1000000
GWP CO2e		CH4
25		1
GWP CO2e		N2O
298		1
ton		lbs
1		2000
metric ton		lbs
1		2204.623
metric ton		ton
0.907185		1

0.5

Trip Length Assumptions - CalEEMod		miles	Source	
Workers		14.7	CalEEMod default for Orange County	3%
Vendor		6.9	CalEEMod default for Orange County	7%
Haul Trucks		20	CalEEMod default	3%

Sources:

1 Start year assumed to be 2026 based on completion year of 2028 and 4.5-year total construction period for Phases 1 and 2
2 Equipment types, quantities, usage from Orange County Maintenance Facility- Activities and equipment--Phase 2-with hours=06JAN21 Workbook
3 HP and Load factors from CalEEMod default tables (Appendix D), unless indicated otherwise.

Work Days Per Month		21

Phase 1 Deliveries

Rail, OTM and Turnouts-Ballasted Track	Assume 144 truckloads delivered evenly spread over first three months of track construction		
Ballast	Assume 1080 loads ballast delivered (14/day) evenly over 80 days months 4 through 6 and month 9		
Options			
	Car Loads @ 100 tn/car		
Rail deliver by railcar (100 tons/ car) **	8	Assume 4 round trips trips with 2 cars each.	(Yard type locomotive (4000 HP +/-, Type EMD SD40-2) in and out four two times each)

*** Quantity could be delivred on a welded rail train with one delivery if sufficient storage available. Assume 2 road engines (5000 HP) in at start of day, running all day while unloading and out at end of day for two days*

	Rail Delivery Options	Days	Quantity	Horsepower	Hrs Per Day	Load Factor	ROG	CO	NOX	SO2	PM10	PM2.5	CO2	CH4	N2O	ROG	CO	NOX	SO2	PM10	PM2.5	ROG	CO	NOX	SO2	PM10	PM2.5
							g/bhp-hr									lb/day						total lbs					
1	Onsite Idling During Rail Delivery	4	1	4000	1	0.4	0.04212	1.28	1	0.004615	0.015	0.01455	490.6731	0.038462	0.0125	0.148574	4.515067	3.527396	0.01628	0.052911	0.051324	0.594296	18.06027	14.10958	0.065121	0.211644	0.205294
1	In Transit Rail Delivery	4	1	4000	1	0.248	0.04212	1.28	1	0.004615	0.015	0.01455	490.6731	0.038462	0.0125	0.092116	2.799342	2.186986	0.010094	0.032805	0.031821	0.368463	11.19737	8.747943	0.040375	0.131219	0.127283
	In transit rail delivery includes emissions associated with delivery within the basin.														Total	0.24069	7.314409	5.714382	0.026374	0.085716	0.083144	0.962759	29.25763	22.85753	0.105496	0.342863	0.332577
	Assumes 4 days of deliveries.																										

							ROG	CO	NOX	SO2	PM10	PM2.5	CO2	CH4	N2O	ROG	CO	NOX	SO2	PM10	PM2.5	ROG	CO	NOX	SO2	PM10	PM2.5
							g/bhp-hr							g/gal		lbs/day						total lbs					
2	Welded Rail Train(Off-Highway Truck)	2	2	599	8	0.38	0.07	0.46	0.51	0.00	0.02	0.02	201.86	0.57	0.26	0.57359	3.731253	4.08353	0.015045	0.147056	0.135292	1.147179	7.462507	8.16706	0.030091	0.294112	0.270583

Assumptions:

Off-highway truck (gal/hp-hr) 0.000345475 6.622065852 Total Gallons

Assumes truck engine horsepower is 599 HP per http://www.plasseramerican.com/en/machines-systems/mobile-rail-rectification-apt-1500-rl.html (flash-butt welding in truck design)

Welding machinery assumptions determined to be electric per 17Feb21 email from Jason N. (https://kzeso.com/en/k920-1/). Flash butt welding machines on road-rail vehicles.

Locomotives	Emission Factors (g/bhp-hr)*				Emission Factors (g/bhp-hr)									
	PM10	HC	NOx	CO	HC	ROG	CO	NOX	SO2	PM10	PM2.5	CO2	CH4	N2O
Tier 4	0.015	0.04	1	1.28	0.04	0.04212	1.28	1	0.004615	0.015	0.01455	490.6731	0.038462	0.0125

Assumes Tier 4 work train is performing the local delivery.

Constants		
lb		grams
1		453.59237
ton		lbs
1		2000
metric ton		grams
1		1000000
GWP CO2e		CH4
25		1
GWP CO2e		N2O
298		1
ton		lbs
1		2000
metric ton		lbs
1		2204.623
metric ton		ton
0.907185		1

Phase 2 Deliveries

Rail, OTM and Turnouts-Ballasted Track	Assume 33 truckloads delivered evenly spread over first two months of track construction		
Ballast	Assume 300 loads ballast delivered (14/day) evenly over 21 days months 2 through 3 and 4		
Options			
	Car Loads @ 100 tn/car		
Rail deliver by railcar (100 tons/ car) **	2	Assume 1 round trips trips with 2 cars each.	(Yard type locomotive (4000 HP +/-, Type EMD SD40-2) in and out one time)

*** Rail delivery would be more economical if purchased with Phase 1 material.*

	Rail Delivery Options	Days	Quantity	Horsepower	Hrs Per Da	Load Facto	ROG	CO	NOX	SO2	PM10	PM2.5	CO2	CH4	N2O	ROG	CO	NOX	SO2	PM10	PM2.5	CO2	CH4	N2O	CO2e
							g/bhp-hr									lb/day						Total Metric Tons			MT
1	Onsite Idling During Rail Delivery	1	1	4000	1	0.4	0.04212	1.28	1	0.004615	0.015	0.01455	490.6731	0.038462	0.0125	0.148574	4.515067	3.527396	0.01628	0.052911	0.051324	0.785077	6.15385E-05	2E-05	0.792575
1	In Transit Rail Delivery	1	1	4000	1	0.248	0.04212	1.28	1	0.004615	0.015	0.01455	490.6731	0.038462	0.0125	0.092116	2.799342	2.186986	0.010094	0.032805	0.031821	0.486748	3.81538E-05	1.24E-05	0.491397
															Total	0.24069	7.314409	5.714382	0.026374	0.085716	0.083144	1.271824	9.96923E-05	3.24E-05	1.283972

Locomotives	Emission Factors (g/bhp-hr)*				Emission Factors (g/bhp-hr)									
	PM10	HC	NOx	CO	HC	ROG	CO	NOX	SO2	PM10	PM2.5	CO2	CH4	N2O
Tier 4	0.015	0.04	1	1.28	0.04	0.04212	1.28	1	0.004615	0.015	0.01455	490.6731	0.038462	0.0125

*Source: EPA Emission Factors for Locomotives - Technical Highlights (EPA-420-F-09-025)

Constants		
lb		grams
1		453.59237
ton		lbs
1		2000
metric ton		grams
1		1000000
GWP CO2e		CH4
25		1
GWP CO2e		N2O
298		1
ton		lbs
1		2000
metric ton		lbs
1		2204.623
metric ton		ton
0.907185		1

EMFAC2017 (v1.0.2) Emission Rates
Region Type: County
Region: ORANGE
Calendar Year: 2023
Season: Annual
Vehicle Classification: EMFAC2011 Categories
Units: miles/day for VMT, trips/day for Trips, g/mile for RUNEX, PMBW and PMTW, g/trip for STREX, HTSK and RUNLS, g/vehicle/day for IDLEX, RESTL and DIURN. Note "day" in the unit is operation day.

Region	Calendar Year	Vehicle Category	Model Year	Speed	Fuel	Population	VMT	%VMT	Trips	%Trips	ROG_RUNEX	ROG_STREX	CO_RUNEX	CO_STREX	NOx_RUNEX	NOx_STREX	SOx_RUNEX	SOx_STREX	PM10_RUNEX	PM10_STREX	PM10_PMTW	PM10_PMBW	PM2.5_RUNEX	PM2.5_STREX	PM2.5_PMTW	PM2.5_PMBW	CO2_RUNEX	CO2_STREX	CH4_RUNEX	CH4_STREX	N2O_RUNEX	N2O_STREX
ORANGE	2023	LDA	Aggregated	Aggregated	GAS	1317264	499657793.64	58.22%	6248383.008	58%	0.007743836	0.197501239	0.606543885	2.06671228	0.030489814	0.166590934	0.002540209	0.000523211	0.00149995	0.001817693	0.008000002	0.036750011	0.001379154	0.001671339	0.002000001	0.015750005	256.6954233	53.53810958	0.022122662	0.045450547	0.003904294	0.024384848
ORANGE	2023	LDA	Aggregated	Aggregated	DSL	13431.01	521944.8541	0.61%	63854.3682	1%	0.013569946	0	0.227182921	0	0.048567852	0	0.001882379	0	0.005609463	0	0.008000002	0.036750011	0.0053668	0	0.002000001	0.015750005	199.117743	0	0.000630298	0	0.031298536	0
ORANGE	2023	LDA	Aggregated	Aggregated	ELEC	33012.03	1363745.619	1.59%	164035.8627	2%	0	0	0	0	0	0	0	0	0	0	0.008000002	0.036750011	0	0	0.002000001	0.015750005	0	0	0	0	0	0
ORANGE	2023	LDT1	Aggregated	Aggregated	GAS	145926	5324604.48	6.20%	676933.8582	6%	0.020442622	0.299527348	1.037043845	2.191511003	0.077597393	0.228974772	0.002962779	0.000615855	0.001978943	0.00233687	0.008000002	0.036750011	0.001819608	0.002148737	0.002000001	0.015750005	299.3973221	63.01801694	0.004787653	0.06188013	0.006505475	0.027172949
ORANGE	2023	LDT1	Aggregated	Aggregated	DSL	46.29888	970.2407912	0.00%	157.1623518	0%	0.173929598	0	0.970366346	0	0.850017124	0	0.003757056	0	0.136007381	0	0.008000002	0.036750011	0.130123762	0	0.002000001	0.015750005	397.420837	0	0.008078697	0	0.082469021	0
ORANGE	2023	LDT1	Aggregated	Aggregated	ELEC	1366.204	58816.77113	0.07%	6870.769993	0%	0	0	0	0	0	0	0	0	0	0	0.008000002	0.036750011	0	0	0.002000001	0.015750005	0	0	0	0	0	0
ORANGE	2023	LDT2	Aggregated	Aggregated	GAS	459126.1	18863833.77	19.65%	2151241.261	20%	0.013032857	0.276732518	0.803616066	2.574979445	0.057855547	0.24813429	0.003178729	0.000671197	0.001502955	0.001736807	0.008000002	0.036750011	0.001381922	0.001596948	0.002000001	0.015750005	321.2197143	68.68010073	0.003349111	0.061292595	0.005421704	0.03012684
ORANGE	2023	LDT2	Aggregated	Aggregated	DSL	3171.576	131714.3685	0.15%	15330.20474	0%	0.017075285	0	0.157639726	0	0.038163309	0	0.002584973	0	0.009489816	0	0.008000002	0.036750011	0.004724073	0	0.002000001	0.015750005	273.4380282	0	0.000820983	0	0.04298065	0
ORANGE	2023	LDT2	Aggregated	Aggregated	ELEC	5547.578	177681.564	0.21%	27961.08308	0%	0	0	0	0	0	0	0	0	0	0	0.008000002	0.036750011	0	0	0.002000001	0.015750005	0	0	0	0	0	0
ORANGE	2023	MDV	Aggregated	Aggregated	GAS	313407.7	11014472.81	12.84%	1450734.231	13%	0.017533478	0.353870453	0.929801761	2.934181699	0.077597328	0.309678252	0.003036807	0.000829199	0.001559009	0.00186252	0.008000002	0.036750011	0.001432615	0.001712642	0.002000001	0.015750005	397.9255985	84.84868518	0.004357919	0.073940782	0.006786742	0.033157254
ORANGE	2023	MDV	Aggregated	Aggregated	DSL	7459.366	293854.6559	0.34%	36276.35582	0%	0.012459134	0	0.235878169	0	0.041879477	0	0.003405794	0	0.004379732	0	0.008000002	0.036750011	0.004190267	0	0.002000001	0.015750005	360.2643448	0	0.000576703	0	0.056826538	0
ORANGE	2023	MDV	Aggregated	Aggregated	ELEC	3044.279	101132.5162	0.12%	15528.53705	0%	0	0	0	0	0	0	0	0	0	0	0.008000002	0.036750011	0	0	0.002000001	0.015750005	0	0	0	0	0	0
							85,815,565.29		10,857,506.70																							
Worker Vehicle Weighted Average Emission Factors (accounts for SAFE Rule)											0.010743	0.254611	0.899061	2.234266	0.044431	0.202557	0.002830	0.000583	0.001555	0.001790	0.008000	0.036750	0.001432	0.001646	0.002000	0.015750	285.079162	58.684765	0.002758	0.052038	0.005064	0.026127

EMFAC2017 Off-Model Adjustment Factors for Gasoline Light Duty Vehicle Emissions

Year	NOx Exhaust	TOG Exhaust	PM Exhaust	CO Exhaust	CO2 Exhaust
2023	1.0007	1.0007	1.0036	1.0027	1.0126

Applied to gas powered LDA, LDT1, and LDT2 vehicles
Source: Table 2 in ARB 2019 EMFAC Off-Model Adjustment Factors to Account for the SAFE Vehicle Rule Part One
https://ww3.arb.ca.gov/msei/emfac_off_model_adjustment_factors_final_draft.pdf
https://ww3.arb.ca.gov/msei/emfac_off_model_co2_adjustment_factors_06262020-final.pdf

Haul Truck Emission Factor																																
ORANGE	2023	T7 Single	Aggregated	Aggregated	DSL	2446.304	171547.3811	100%	28230.00459		0.01362657	0	0.148382097	0	1.614549314	3.592637291	0.012511587	0	0.011277582	0	0.03600001	0.061740018	0.010789719	0	0.009000003	0.026460008	1324.327211	0	0.000632919	0	0.208165795	0

Concrete Truck Emission Factor																																
ORANGE	2023	T7 single construction	Aggregated	Aggregated	DSL	722.5048	50137.89549	100%	3266.415907		0.019116717	0	0.167473405	0	2.077703851	4.429731006	0.012674139	0	0.014351546	0	0.03600001	0.061740018	0.013730705	0	0.009000003	0.026460008	1341.533024	0	0.000887922	0	0.210870309	0

Assumed to be T7 single construction vehicle category (based on CARB 2019 Presentation, slide 51 https://ww2.arb.ca.gov/sites/default/files/2019-10/oct19emfac202x.pdf)

Fugitive Dust Emissions

Truck Loading and Stockpiling
Material Import/Excavation Quantities

Assumptions	Excavation (CY)	Excavation (tons)	Import (CY)	Import (tons)
Material Import during Phase 1		-	120,000	151,700

	Earthwork		Earthwork	
Total Emissions from Stockpiling and Truck Loading Soils	PM10 (lbs/day)	PM2.5 (lbs/day)	PM10 (total lbs)	PM2.5 (total lbs)
Import	0.11	0.02	13.55	2.05

Fugitive Dust Emission Factors

Storage Pile and Truck Loading Fugitive Dust Emission Factors
$EF_E = k \times (0.0032) \times ((U/5)^{1.3})/((M/2)^{1.4})$

Variable	Amount	Units	Notes
EF (PM_{10}) for soil	0.000089	lb/ton	
EF ($PM_{2.5}$) for soil	0.000014	lb/ton	
k (PM_{10})	0.35	factor	
k ($PM_{2.5}$)	0.053	factor	
U (mean wind speed)	4.92	miles/hr	Based on CalEEMod Default Data for Orange County 2.2 m/s
M (moisture content) of saturated soil	12.00	percent	Based on default moisture content in CalEEMod User's Guide (Appendix A)
Soil density (CalEEMod default)	1.26	tons/cy	
M (moisture content) of demolition debris	2.00	percent	Based on CalEEMod default using MRI report (Appendix A)

E (lbs) = EF (lb/ton) x TP (tons)

						Unmitigated Emissions (lbs/day)		Controlled Emissions (lbs/day)		Unmitigated Emissions (total lbs)	
Phase 1 - Subphase	Equipment	Number of Earthworking Equipment	Daily Activity Level	Total Activity Level	Days	**PM10**	**PM2.5**	**PM10**	**PM2.5**	**PM10**	**PM2.5**
Clear and Grub	D5 Dozer	1	8	8	13	6.02209	3.31852	2.70994	1.49334	75.87828	18.81603
Site Utilities	Gradall	1	8	8	126	6.02209	3.31852	2.70994	1.49334	758.78285	188.16030
Earthwork	D5 Dozer	1	8	8	63	6.02209	3.31852	2.70994	1.49334	379.39142	94.08015
	Gradall	1	8	8	42	6.02209	3.31852	2.70994	1.49334	250.39834	62.09290
	Pan	1	8	8	6	6.02209	3.31852	2.70994	1.49334	37.93914	9.40801
	Road Grader	1	8	8	6	6.02209	3.31852	2.70994	1.49334	37.93914	9.40801
Roadway Paving	Dozer	1	4	4	8	3.01104	1.65926	1.35497	0.74667	25.29276	6.27201
Daily and Total Fugitive Dust Emissions from Bulldozing, Scraping, and Grading						39.14356	21.57040	17.61460	9.70668	1565.62194	388.23741

Phase 2 - Subphase	Equipment	Number of Earthworking Equipment	Daily Activity Level	Total Activity Level	Days	**PM10**	**PM2.5**	**PM10**	**PM2.5**	**PM10**	**PM2.5**
Site Utilities/Electric	Gradall	1	8	8	4	6.02209	3.31852	2.70994	1.49334	25.2927615	13.9377997
Earthwork	D5 Dozer	1	8	8	21	6.02209	3.31852	2.70994	1.49334	126.4638076	69.6889983
Roadway Paving	Dozer	1	4	4	4	3.01104	1.65926	1.35497	0.74667	12.6463808	6.9688998
Daily and Total Fugitive Dust Emissions from Bulldozing, Scraping, and Grading						15.05522	8.29631	6.77485	3.73334	164.40295	90.59570

Bulldozing, Scraping and Grading Emission Factors

PM10 Emission Factor [lb/hr] = 0.75 x (silt content [%])$^{1.5}$ / (moisture)$^{1.4}$
PM2.5 Emission Factor [lb/hr] = 0.60 x (silt content [%])$^{1.2}$ / (moisture)$^{1.3}$
Reference: AP-42, Table 11.9-1, July 1998

Parameter	Value	Basis
Silt Content	6.9	USEPA, AP-42, July 1998, Table 11.9-3 Typical Values for Correction Factors Applicable to the Predictive Emission
Moisture	7.9	USEPA, AP-42, July 1998, Table 11.9-3 Typical Values for Correction Factors Applicable to the Predictive Emission

PM10 Emission Factor	0.75 lb/hr
PM2.5 Emission Factor	0.41 lb/hr

Emissions [pounds per day] = Controlled emission factor [pounds per hour] x Bulldozing, scraping or grading time [hours/day]

Paved Roads Fugitive Dust Emissions

Paved Roads	100%

Paved Road Dust

$EF_{DUST} = [(k(sL)^{0.91} \times (W)^{1.02}](1 - P/4N))$

Source: AP-42 Section 13.2.1 (Paved Roads) - http://www.epa.gov/ttnchie1/ap42/ch13/final/c13s0201.pdf

Variable	Value	Description
k (PM10)	0.0022	particle size multiplier for particle size range and units of interest (lb/VMT)
k (PM2.5)	0.00054	particle size multiplier for particle size range and units of interest (lb/VMT)
sL	0.032	road surface silt loading (g/m^2) based on EPA 2011 default for collector streets (https://ww
W	5.20	average weight of all vehicles based on weighted average of trip types
W	5.20	haul truck tons
P	64	number of "wet" days with at least 0.254 mm of precipitation during the averaging period
N	365	number of days in averaging period

All Vehicle Trip Types

EF (PM10)	0.000494	lb/VMT
EF (PM2.5)	0.000121	lb/VMT

Conversion Units	
lbs	tons
2000	1

Vehicle Type	Total Trips	Percent	Weight (tons)
Worker	526	77.3%	2.4
Trucks	154	22.7%	14.75
Total	680	Average Weight	5.20

Architectural Coatings

Phase 1 Total Arch Coating and Parking Related VOC Emissions (lbs)	239.62
Phase 2 Total Arch Coating and Parking Related VOC Emissions (lbs)	187.27
Phase 1 Max Daily Arch Coating and Parking Related VOC Emissions (lbs)	29.58
Phase 2 Max Daily Arch Coating and Parking Related VOC Emissions (lbs)	74.31

Mitigated Emissions

Phase 2 Max Daily Arch Coating and Parking Related VOC Emissions (lbs)	29.73

Phase 1	Total Sq. Ft.	Source/Note
Train Wash	11,110	
S&I (Pump House)	750	
Utility Building	961	1
Transportation Building	7,495	
Total	20,316	

Phase 2	Total Sq. Ft.	Source/Note
Maintenance Building	40,392	1

		Architectural Coatings	
		Total VOC Emissions (lbs)	VOC Emissions (lbs/day)
Phase 1 Buildings - Exterior Surface Area (A)		58.87	7.38
Phase 1 Buildings - Interior Surface Area (A)		176.61	22.13
Phase 2 Buildings - Exterior Surface Area (A)		117.04	18.58
Phase 2 Buildings - Interior Surface Area (A)		351.13	55.74
MITIGATED 2 Buildings - Exterior Surface Area (A)		46.82	7.43
MITIGATED Phase 2 Buildings - Interior Surface Area (A)		140.45	22.29

Assumptions: Default value based on SCAQMD methods used in coating rules are 25% for exterior shell and 75% for interior surfaces.
Assumes architectural coating occurs for 2% of the Building Phase duration (consistent with paint sprayers estimated duration)

CalEEMod Default Assumptions	Unmitigated	Mitigated	Unit	Sources/Notes:
NonResidential Interior	250	100	g/L	CalEEMod Appendix D
NonResidential Exterior	250	100	g/L	CalEEMod Appendix D

	Unmitigated	Mitigated
Interior EF $_{AC}$ (lb/sq.ft)	0.011590844	0.004636337
Exterior EF $_{AC}$ (lb/sq.ft)	0.011590844	0.004636337

Painting of Stripes, Handicap Symbols, Directional Arrows, etc.

Total	14869	square feet	Qty	Sq. Ft. per qty.	Sources/Notes
ADA Parking Spaces	418	square feet	2	209	1
Parking Spaces	13851	square feet	81	171	1
Golf Cart Spaces	600	square feet	12	50	1

		Parking-Related Paint	
	square feet	VOC Emissions (lbs)	VOC Emissions (lbs/day)
A $_{Paint}$	892	4.14	0.07

Assumes paint sprayers during building construction also paint the paved areas.
CalEEMod Default Assumptions
Parking Lot Paint 100 g/L

Parking EF AC (lb/sq.ft) 0.004636337

Conversion Factors	
tons	pounds
1	2000
sq. ft.	acre
43560	1
grams	lb
453.592	1
L	gal
3.78541	1
L	oz
1	33.814

Asphalt Paving Off-Gassing Emissions

	lbs VOC	lbs/day
Asphalt Paving Off-Gassing	5.128668	0.381597

Assumes asphalt paving occurs for 16% of the roadway paving phase (consistent with estimated usage of pavers)

Project Information				Source/Notes
Paved Area Total	85269	sq. ft.	1.958	1

Note: Includes parking lot paved area and Ridge Valley Road paving, assuming 1,600 feet by 44 feet wide

CalEEMod Assumption (lb VOC/acre) 2.62

Source: CalEEMod User's Guide Appendix A

Conversion Factors	
tons	pounds
1	2000
sq. ft.	acre
43560	1

CalEEMod
Equipment HP and Load Factors

OFFROAD Equipment Type	Horsepower	Load Factor
Aerial Lifts	63	0.31
Air Compressors	78	0.48
Bore/Drill Rigs	221	0.50
Cement and Mortar Mixers	9	0.56
Concrete/Industrial Saws	81	0.73
Cranes	231	0.29
Crawler Tractors	212	0.43
Crushing/Proc. Equipment	85	0.78
Dumpers/Tenders	16	0.38
Excavators	158	0.38
Forklifts	89	0.201
Generator Sets	84	0.74
Graders	187	0.41
Off-Highway Tractors	124	0.44
Off-Highway Trucks	402	0.38
Other Construction Equipment	171	0.42
Other General Industrial Equipmen	88	0.34
Other Material Handling Equipmen	168	0.40
Pavers	130	0.42
Paving Equipment	132	0.36
Plate Compactors	8	0.43
Pressure Washers	13	0.3
Pumps	84	0.74
Rollers	80	0.38
Rough Terrain Forklifts	100	0.40
Rubber Tired Dozers	247	0.4
Rubber Tired Loaders	203	0.36
Scrapers	367	0.48
Signal Boards	6	0.82
Skid Steer Loaders	65	0.37
Surfacing Equipment	263	0.30
Sweepers/Scrubbers	64	0.46
Tractors/Loaders/Backhoes	97	0.37
Trenchers	78	0.50
Welders	46	0.45

Operational Emissions Summary

Project Operational Emissions:

	Daily Emissions (lb/day)						Total Emissions (metric tons)
	ROG	CO	NOX	SO2	PM10	PM2.5	CO2e
On-Site Equipment + Backup Generator	0.83	3.48	2.53	0.01	0.11	0.15	98
On-site Fueling	0.41	-	-	-	-	-	-
On-site Sand Silo	-	-	-	-	0.04	0.064	-
On-Road Vehicles	0.06	2.00	1.58	0.02	2.26	0.01	0.13
Architectural Coatings	0.13	-	-	-	-	-	-
Facility Natural Gas	0.04	0.32	0.39	0.002	0.03	0.03	85
Facility Electricity	-	-	-	-	-	-	329
Facility Water	-	-	-	-	-	-	24
Facility Waste	-	-	-	-	-	-	279
Total	**1.48**	**5.80**	**4.50**	**0.03**	**2.44**	**0.25**	**815**
Air District Threshold	55.00	550.00	55.00	150.00	150.00	55.00	10,000
Exceed Threshold?	No	No	No	No	No	No	No

On-Site Emissions Sources	**ROG**	**CO**	**NOX**	**SO2**	**PM10**	**PM2.5**
Locomotive Operations (On-site)	4.45	101.85	98.30	0.37	1.98	1.92
On-Site Equipment + Backup Generator	0.83	3.48	2.53	0.01	0.11	0.15
On-Road Vehicles	0.004	0.14	0.11	0.00	0.16	0.00
Architectural Coatings	0.13	-	-	-	-	-
On-site Fueling	0.41	-	-	-	-	-
Facility Natural Gas	0.04	0.32	0.39	0.00	0.03	0.03
On-site Sand Silo	-	-	-	-	0.04	0.06
Total	**5.88**	**105.80**	**101.34**	**0.38**	**2.32**	**2.16**

Locomotive Operational Emissions

Daily Locomotive Operational Emissions	Daily In-Transit Emissions (lbs/day)										MT/Year
Operational Activity	ROG	CO	NOX	SO2	PM10	PM2.5	CO2	CH4	N2O	CO2e	CO2e
On-site	4.45	101.85	98.30	0.37	1.98	1.92	38943.59	3.06	0.99	39316.50	6509.29

Maintenance Facility On-Site Emissions				Daily Idling Emissions (lbs/day)									
	Daily Idling Hours	*HP*	*Load Factor*	ROG	CO	NOX	SO2	PM10	PM2.5	CO2	CH4	N2O	CO2e
Arrival and Departure Idling Emissions per Tier 2 train per day	0.166666667	3000	0.40	0.1207	0.5644	2.1826	0.0020	0.0794	0.0770	215.7986	0.0170	0.0055	218
Arrival and Departure Idling Emissions per Tier 4 train per day	0.166666667	4000	0.40	0.0248	0.7525	0.5879	0.0027	0.0088	0.0086	287.7315	0.0226	0.0073	290
Other on-site engines operations per Tier 2 train per day	1	3000	0.70	1.2679	5.9277	22.9236	0.0214	0.8336	0.8086	2266.5331	0.1781	0.0579	2288
Other on-site engines operations per Tier 4 train per day	1	4000	0.70	0.2601	7.9036	6.1747	0.0285	0.0926	0.0898	3022.0441	0.2375	0.0772	3051

*Daily idling time estimated as up to 5 minutes upon arrival and departure (10 minutes total) per train per day.
Additional on-site engine operations for movement, maintenance, testing bsaed upon project engineer input.

Emission Factors

	Emission Factors (g/bhp-hr)*				Emission Factors (g/bhp-hr)										
Locomotives	**PM10**	**HC**	**NOx**	**CO**	**HC**	**ROG**	**CO**	**NO_x**	**SO2**	**PM10**	**PM2.5**	**CO2**	**CH4**	**N2O**	
Tier 2	**0.18**	**0.26**	**4.95**	**1.28**	0.26	0.27378	1.28	4.95	0.004615385	0.18	0.1746	489.4230769	0.038461538	0.0125	
Tier 4	0.015	0.04	1	1.28	0.04	0.04212	1.28	1	0.004615385	0.015	0.01455	489.4230769	0.038461538	0.0125	

*Source: EPA Emission Factors for Locomotives - Technical Highlights (EPA-420-F-09-025)

Notes:
Assumes Line-Haul Locomotives with Tier 4 Engines

Emission Factors Calculations:	Conversion Factor
ROG is estimated as 1.053 times the EF for HC	1.053
PM10 = PM	
PM2.5 as a 97% of PM10	97%
SO2 Emission Factor (g/gal) = (fuel density) * (64 g SO2 / 32 g S) * (S content of fuel)	
Fuel density	3200
2281)	15
SO2 EF (g/gal)	0.096
CO2 is defined by U.S. EPA as 10,180 g CO2/gal diesel fuel (https://www.epa.gov/energy/greenhouse-gases-equivalencies-calculator-calculations-and-references#:~:text=of%20diesel%20consumed-,in%20the%20preamble%20to%20the%20joint%20EPA%2FDepartment%20of%20Transportation,emissions%20per%20gallon%20of%20diesel)	10180
CH4 and N2O Emission Factors per EPA: Table 5 in https://www.epa.gov/sites/production/files/2018-03/documents/emission-factors_mar_2018_0.pdf	
CH4 g/gal	0.8
N2O g/gal	0.26
Conversion for g/gal to g/hp-hr (divide by) per EPA 2009 Technical Highlights	
Line Haul and Passenger	20.8
Switch	15.2

CO2 (g/gal) = (fuel density) * (44 g CO2/12 g C) * (C content of fuel)

Carbon content of renewable diesel =
density of fuel 3200 g/gal
39.33 gCO2e/MJ

Operational Variables	
Operational Days per Year	365
Number of Trains Serviced at Facility Daily	12
Engine Tier	2
Engine HP	3000
Engine Tier	4
Engine HP	4000

**Per Metrolink Ops excel table, average operational hours are about 15 hours per train.*
***Per project-specific data inputs, 15 existing engines are Tier 2 and 40 engines are Tier 4*

Locomotive Engine Mix

	2026	2021	2028
Percent Tier 2	8%	27%	0.00%
Percent Tier 4	92%	73%	100%

Horsepower and Load Factor Calculations

Notch	*Percent Operating Time at Each Notch Power Level*[1]	Reweighted time (split idle and moving time)	Notch Power Level as a Percent of Rated Power[2]
Normal Idle	*47.40%*	100.00%	0.40%
Dynamic Break	*6.20%*	11.79%	2.10%
Notch 1	*7.00%*	13.31%	4.50%
Notch 2	*5.10%*	9.70%	11.50%
Notch 3	*5.70%*	10.84%	23.50%
Notch 4	*4.70%*	8.94%	35.00%
Notch 5	*4.00%*	7.60%	48.50%
Notch 6	*2.90%*	5.51%	64.00%
Notch 7	*1.40%*	2.66%	85.00%
Notch 8	*15.60%*	29.66%	100.00%

1. Per EPA 1998 Locomotive Emission Standards Regulatory Support Document , Table 4-5 https://nepis.epa.gov/Exe/ZyPDF.cgi/P100F9QT.PDF?Dockey=P100F9QT.PDF
2. Per EPA 1998 Locomotive Emission Standards Regulatory Support Document , Table 5-2 https://nepis.epa.gov/Exe/ZyPDF.cgi/P100F9QT.PDF?Dockey=P100F9QT.PDF

Time-weighted engine Load Factor

Idle	0.40%
In-transit	46.8%
Idling and In-Transit	24.8%
Idling and In-Transit	70.0%

Conversion Factors (per EPA 2009 Emission Factors for Locomotives Technical Highlights - Table 3)

Locomotive Application	**Conversion Factor (bhp-hr/gal)**
Large Line-Haul and Passenger	20.8
Small Line-Haul	18.2
Switching	15.2

Conversion Factors	
grams per pound	453.59237
pounds per ton	2000
pounds per metric ton	2204.62262
Global Warming Potential	
CO2	1
Ch4	25
N20	298

Note: GWP are the 100-year GWPs from the IPCC fourth assessment report (AR4), consistent with the California Air Resources Board 2019 GHG emissions inventory.

On-Site Equipment Exhaust Emissions

Project-Specific Equipment (CalEEMod equivalent) [1]	# / Day	Operational hours / day	Horsepower [2]	Load Factor	Emission Factors (g/hp-hr) [3]							Emission Factors (g/gal)		gal/hp-hr	Daily Emissions (lb/day)									Annual Emissions (metric tons/year)
					ROG	CO	NOX	SO2	PM10	PM2.5	CO2	CH4	N2O		ROG	CO	NOX	SO2	PM10	PM2.5	CO2	CH4	N20	CO2e
Crane	4	6	231	0.29	0.035984	0.23724301	0.1553145	0.0009742	0.002854	0.0026	105	0.57	0.26	7.22227E-05	0.13	0.84	0.55	0.00	0.01	0.01	374	0.0001	0.0001	61.90
Forklift	4	6	89	0.2	0.0475337	1.014356664	0.1487462	0.0015081	0.00548	0.005	163	0.57	0.26	0.002415779	0.04	0.96	0.14	0.00	0.01	0.00	154	0.0013	0.0006	25.49
Total															**0.17**	**1.80**	**0.69**	**0.00**	**0.02**	**0.01**	**528**	**0.00**	**0.00**	**87.39**

1. Equipment types is based on project-specific list of anticipated equipment requirements provided by project engineers.
2. Used CalEEMod default horsepower and loadfactors of off-road equipment.
3. Emission factors based on CARB OFFROAD2017 emissions database for year 2028.

Conversion Factors

grams per pound	453.59237
pounds per metric ton	2204.62262

Global Warming Potential

CO2	1
Ch4	25
N20	298

Note: GWP are the 100-year GWPs from the IPCC fourth assessment report (AR4), consistent with the California Air Resources Board 2019 GHG emissions inventory.

Average Operational Days per Year:	365

On-Site Emergency Generator Exhaust Emissions

						Emissions (lbs/day)									Emissions (tons/year)									
Equipment Type	Horsepower	Load Factor	Hours of Operation per Day	Number of Units	Days per Year	ROG	CO	NO_X	SO2	PM_{10} Exhaust	$PM_{2.5}$ Exhaust	CO_2	CH_4	N_2O	ROG	CO	NO_X	SO2	PM_{10} Exhaust	$PM_{2.5}$ Exhaust	CO_2	CH_4	N_2O	CO_2e (MT/year)
300KV Backup Generator	402	0.73	1	1	50	0.660285	1.682118242	1.843860381	0.003196025	0.09704528	0.13293874	462.3	0.06469686	0	0.02	0.04	0.05	0.00	0.00	0.00	11.56	0.00	0.00	10.52

Emission factors and load power based upon CalEEMod modeling factors.

Conversion Factors	
lb	grams
1	453.59237
metric ton	grams
1	1000000
ton	lbs
1	2000
metric ton	lbs
1	2204.623
metric ton	ton
0.907185	1
CO2 grams	gallons diesel
10180	1
CO2 grams	gallons diesel
8890	1
GWP CO2e	CH4
25	1
GWP CO2e	N2O
298	1

Note: GWP are the 100-year GWPs from the IPCC fourth assessment report (AR4), consistent with the California Air Resources Board 2019 GHG emissions inventory.

CalEEMod Emission Factors	Diesel Emergency Generator Emission Factors								
Horsepower Bin	TOG (lb/hp-hr)	ROG (lb/hp-hr)	CO (g/hp-hr)	NOX (g/hp-hr)	SO2 (g/hp-hr)	PM10 (g/hp-hr)	PM2.5 (g/hp-hr)	CO2 (lb/hp-hr)	CH4 (g/hp-hr)
175-300	0.00247	0.00225	2.6	2.85	0.00494	0.15	0.15	1.15	0.073
300-600	0.00247	0.00225	2.6	2.85	0.00494	0.15	0.15	1.15	0.073

Offsite On-Road Vehicle Emissions (Exhaust)

Vehilcle Type	Trips / Day[1]	Miles / Day[2]	Daily Emissions[3] (lb/day)													Daily Emissions (metric tons/day)	Annual Emissions (metric tons)
			ROG	CO	NOX	SO2	PM10 Fugitive Dust[4]	PM10 Exhaust	PM10 Total	PM2.5 Fugitive Dust[4]	PM2.5 Exhaust	PM2.5 Total	CO2	CH4	N2O	CO2e	CO2e
Fuel Trucks	2	33.2	0.001	0.011	0.134	0.001	0.117	0.001	0.117	0.029	0.001	0.030	91.236	0.000	0.014	0.041	0.007
Delivery Haul Trucks	20	332	0.010	0.112	1.341	0.009	1.165	0.009	1.175	0.294	0.007	0.301	912.362	0.000	0.143	0.414	0.069
Worker Trips	80	1328	0.044	1.877	0.105	0.007	0.978	0.0	0.986	0.260	0.003	0.267	718.540	0.011	0.015	0.326	0.054
Total On-Road Emissions			0.056	2.001	1.580	0.017	2.260	0.014	2.278	0.584	0.011	0.598	1722	0.012	0.173	0.781	0.129

1.Trips per day reflects estiamted maximum daily workers, delivery trucks, and fuel trucks. Trips are one-way trips.
2. Miles per day based on trip length data from CalEEMod for Orange County for commercial-*worker* (C-W) and commericial-*nonworker* (C-NW) trips.
3. Emission factors based on EMFAC2017 aggregate fleet for year 2028 (anticipated construction completion / operational year), and gasoline light duty vehicle (LDA, LDT1, LDT2 and MDV) emission factors were adjusted using the CARB Off-Model Adjustment Factors for the same year.
4. Includes emission factor for fugitive re-entrained road dust emissions for paved roads (AP-42,Section 13.2.1)

Assumptions	
Fuel Truck Trip length (miles) (CalEEMod default C-NW for Orange County Urban)	6.9
Delivery Truck Trip length (miles) (CalEEMod default C-NW for Orange County Urban)	6.9
Worker Trip length (miles) (CalEEMod default C-W for Orange County Urban)	16.6
Conversion Factors	
grams per pound	453.59237
pounds per ton	2000
pounds per metric ton	2204.62262
Global Warming Potential	
CO2	1
Ch4	25
N20	298

Note: GWP are the 100-year GWP's from the IPCC fourth assessment report (AR4), consistent with the California Air Resources Board 2019 GHG emissions inventory.

Operational Days per Year:	365

Vehilcle Type	Emission Factors (g/mile)[3]																					
	ROG_ RUNEX	ROG_ STREX	CO_ RUNEX	CO_ STREX	NOX_ RUNEX	NOX_ STREX	SO2_ RUNEX	SO2_ STREX	PM10 Fugitive Dust[4]	PM10_ RUNEX	PM10_ STREX	PM10 Total	PM2.5 Fugitive Dust[4]	PM2.5_ RUNEX	PM2.5_ STREX	PM2.5 Total	CO2_ RUNEX	CO2_ STREX	CH4_ RUNEX	CH4_ STREX	N2O_ RUNEX	N2O_ STREX
Fuel Trucks	0.014	0.000	0.154	0.000	1.614	3.606	0.012	0.000	1.592	0.013	0.000	1.605	0.402	0.009	0.000	0.411	1246.507	0.000	0.001	0.000	0.196	0.000
Delivery Haul Trucks	0.014	0.000	0.154	0.000	1.614	3.606	0.012	0.000	1.592	0.013	0.000	1.605	0.402	0.009	0.000	0.411	1246.507	0.000	0.001	0.000	0.196	0.000
Worker Trips	0.006	0.153	0.530	1.853	0.027	0.146	0.002	0.000	0.334	0.001	0.001	0.337	0.089	0.001	0.001	0.091	242.415	49.957	0.002	0.036	0.004	0.021

Architectural Coatings

Max Daily Arch Coating and Parking Related VOC Emissions (lbs)	0.13

Phase 1	Total Sq. Ft.	Source/Note
Train Wash	11,110	
S&I (Pump House)	750	
Utility Building	961	1
Transportation Building	7,495	
Total (assumes 10% of total area per year)	2,032	

		Architectural Coatings	
		Total VOC Emissions (lbs)	VOC Emissions (lbs/day)
Buildings Exterior Surface Area (A)		5.89	0.03
Buildings - Interior Surface Area (A)		17.66	0.10

Assumptions: Surface for painting is 2 times the nonresidential square footage. Default value based on SCAQMD methods used in coating rules are 25% for exterior shell and 75% for interior surfaces.

Assumes architectural coating occurs for 2% of the Building Phase duration (consistent with paint sprayers estimated duration)

CalEEMod Default Assumptions		Unit	Sources/Notes:
NonResidential Interior	250	g/L	CalEEMod Appendix D
NonResidential Exterior	250	g/L	CalEEMod Appendix D

Interior EF_{AC} (lb/sq.ft) 0.011590844

Exterior EF_{AC} (lb/sq.ft) 0.011590844

Painting of Stripes, Handicap Symbols, Directional Arrows, etc.

Total (assumes 10% of total area per year)	1486.9	square feet	Qty	Sq. Ft. per qty.	Sources/Notes
ADA Parking Spaces	418	square feet	2	209	1
Parking Spaces	13851	square feet	81	171	1
Golf Cart Spaces	600	square feet	12	50	1

		Parking-Related Paint	
	square feet	VOC Emissions (lbs)	VOC Emissions (lbs/day)
A_{Paint}	89	0.41	0.002

Assumes paint sprayers during building construction also paint the paved areas.

CalEEMod Default Assumptions

Parking Lot Paint 100 g/L

Parking EF AC (lb/sq.ft) 0.004636337

Conversion Factors	
tons	pounds
1	2000
sq. ft.	acre
43560	1
grams	lb
453.592	1
L	gal
3.78541	1
L	oz
1	33.814

Sources/Notes

1 Square footages from AQ Request - GF Responses

The emission factor (EF) is based on the VOC content of the surface coatings and is calculated estimated using the equation below:

$$EF_{AC} = C_{VOC} / 454(g/lb) \times 3.785(L/Gal) / 180(sqft)$$

Where:

EF = emission factor (lb/sq. ft.)

C = VOC content (g/L). This varies by location and year.

$$E_{AC} = EF_{AC} \times F \cdot A_{paint}$$

Where:

E = emissions (lb VOC)

EF = emission factor (lb/sq. ft.)

A = building surface area (sq. ft.).

CalEEMod also calculates the VOC emissions from the painting of stripes, handicap symbols, directional arrows and car space descriptions in parking lots. Please refer to Appendix E for the studies conducted to determine a default percent of parking lot square footage that is painted. The equation for striping emission is the same as that for E_{AC} above, but A_{paint} is:

$$A_{paint} = A_{PL} \times P\%$$

Where:

A_{PL} = Parking lot area (sq. ft.)

P% = Default percent of parking lot area that is painted (6%)

The VOC content limit for parking lot area is either provided by local air districts or based on the exterior coating VOC limit of the region where the project is located. If the user has more specific VOC content limit on the coating being applied the default can be overridden but the user is expected to explain and justify the change in the “Remarks” box at the bottom of the screen.

Fuel Tank Emissions

	Total Losses (tpy)	Hexane (-n) tpy	Benzene (tpy)	Toluene (tpy)	Ethylbenzene (tpy)	Xylene (-m) (tpy)	1,2,4-Trimethylbenzene (tpy)
Tank 1-30,000	1.48E-02	0.00E+00	0.00E+00	3.23E-04	3.48E-05	8.81E-04	7.15E-04
Tank 2-30,000	1.48E-02	0.00E+00	0.00E+00	3.23E-04	3.48E-05	8.81E-04	7.15E-04
Tank 3-30,000	1.48E-02	0.00E+00	0.00E+00	3.23E-04	3.48E-05	8.81E-04	7.15E-04
Tank 4-30,000	1.48E-02	0.00E+00	0.00E+00	3.23E-04	3.48E-05	8.81E-04	7.15E-04
Tank 5-10,000	1.44E-02	0.00E+00	0.00E+00	3.14E-04	3.37E-05	8.54E-04	6.92E-04

Speciated TACs from SCAQMD storage tank guidance document for diesel.
http://www.aqmd.gov/docs/default-source/planning/annual-emission-reporting/supplemental-instructions-for-liquid-organic-storage-tanks.pdf

Supplemental Instructions for Liquid Organic Storage Tanks
South Coast AQMD Annual Emissions Reporting Program

APPENDIX 3: Default TAC Profile for Select Petroleum Products

Crude Oil			
Chemical Name	**CAS Number**	**Liquid Weight (%)**	**Molecular Weight**
Hexane (-n)	110543	0.40	86.17
Benzene	71432	0.60	78.11
Isooctane	26635643	0.10	114.22
Toluene	108883	1.00	92.13
Ethylbenzene	100414	0.40	106.17
Xylene (-m)	1330207	1.40	106.17
Isopropyl benzene	98828	0.10	120.20
1,2,4-Trimethylbenzene	95636	0.33	120.19
Cyclohexane	110827	0.70	84.16

Distillate Fuel Oil #2 (Diesel)			
Chemical Name	**CAS Number**	**Liquid Weight (%)**	**Molecular Weight**
Hexane (-n)	110543	0.00	86.17
Benzene	71432	0.00	78.11
Toluene	108883	0.03	92.13
Ethylbenzene	100414	0.01	106.17
Xylene (-m)	1330207	0.29	106.17
1,2,4-Trimethylbenzene	95636	1.00	120.19

Sand Silo Fugitive Dust

*Note that exhaust emissions assoiated with truck delivery is captured under "On-Road Vehicle Emissions"

Estimated Sand Throughput (tons per year)	Pneumatic Transfer Emission Factor (pounds PM10 per ton)	Gravity Transfer Emission Factor (pounds PM10 per ton)	Pneumatic Transfer Emissions (pounds PM10 per year)	Gravity Transfer Emissions (pounds PM10 per year)	Total PM10 (pounds)
1243	0.00034	0.00099	0.42254	1.23033	1.65287

Notes:
1. Sand throughput based on estimated throughput of reference Los Angeles Commerce Railyard Maintenance Facility sand throughput. Throughput is scaled based on facility operations.
2. Emission factors based on AP-42, Table 11.12-2.

Facility Natural Gas Emissions (Direct)

	Emissions (lbs/day)									Emissions (tons/year)									
kBTU/yr	ROG	CO	NO_X	SO2	PM_{10} Exhaust	$PM_{2.5}$ Exhaust	CO_2	CH_4	N_2O	ROG	CO	NO_X	SO2	PM_{10} Exhaust	$PM_{2.5}$ Exhaust	CO_2	CH_4	N_2O	CO_2e (MT/year)
327	0.042	0.324	0.385	0.002	0.029	0.029	462.111	0.009	0.008	0.008	0.059	0.070	0.000	0.005	0.005	84.335	0.002	0.002	84.86

*Natural gas consumption and daily emissions estimate using CalEEMod General Office Building of the same square footage as the proposed project.

Conversion Factors	
kWh to MWh	0.001
pounds per ton	2000
pounds per metric ton	2204.62262
average days per month	30.5
days per year	365
Global Warming Potential	
CO2	1
Ch4	25
N20	298
Note: GWP are the 100-year GWPs from the IPCC fourth assessment	

Operational Days per Year: 365

Facility Electricity Emissions (Indirect)

		Emissions (lb/day)				Emissions (metric tons per year)			
kWh/month	**Electricity Provider**	**CO2**	**CH4**	**N2O**	**CO2e**	**CO2**	**CH4**	**N2O**	**CO2e**
128,011	SCE	1961.63	0.14	0.08	1989.52	324.77	0.02	0.01	329.39

*Electricity estimate based upon CalEEMod General Office Building of the same square footage as the proposed project (this is a conservative estimate resulting in higher electricity consumption compared to industrial uses).

Emission Factors

	CO2 (MT/MWh)	CH4 (MT/MWh)	N2O (MT/MWh	CO2 (lb/MWh)	CH4 (lb/MWh)	N2O (lb/MWh)
SCE	0.21	-	8.82179E-06	467.38	0.034	0.019

Notes:
Southern California Edison emission factors for CO2 and N2O based upon EEI Metrics produced by Edison International for Southern California Edison (https://www.edison.com/content/dam/eix/documents/sustainability/eix-esg-pilot-quantitative-section-sce.xlsx). Emission factor for CH4 based upon U.S. EPA eGrid for CAMX subregion (https://www.epa.gov/sites/production/files/2020-01/documents/egrid2018_summary_tables.pdf)

Conversion Factors	
kWh to MWh	0.001
pounds per ton	2000
pounds per metric ton	2204.62262
average days per month	30.5
days per year	365
Global Warming Potential	
CO2	1
Ch4	25
N20	298
Note: GWP are the 100-year GWPs from the IPCC fourth assessment report (AR4), consistent with the California Air Resources Board 2019 GHG emissions inventory.	

Operational Days per Year: 365

Facility Waste Emissions (Indirect)

Average Annual Waste Tonnage (tons/1000 sq ft/year)	Average Annual Waste Tonnage (tons/year)	Emissions (metric tons per year)			
		CO2	CH4	N2O	CO2e
3.82	599.2052	124.43	6.17	0.00	278.69

*Anticipated waste based on CalEEMod data for Automobile Care Center (note this is more conservative than data for Heavy Industrial) in Climate Zone 8.

Emission Factors

CO2 (tons/ton waste)	CH4 (tons/ton waste)	N2O (tons/ton waste)
0.23	0.011350894	0

Source: CalEEMod

Conversion Factors	
metric tons per ton	0.907185
Global Warming Potential	
CO2	1
Ch4	25
N20	298

Note: GWP are the 100-year GWPs from the IPCC fourth assessment report (AR4), consistent with the California Air Resources Board 2019 GHG emissions inventory.

Facility Water Emissions (Indirect)

Single Wash Fresh Water Demand (gallons)	Single Wash Reclaim Water Demand (gallons)	Trains Washed per Day	Building General Operational Water Demand (per 1,000 sq ft)	Annual Fresh Water Demand (mgd)	Daily Reclaim Water Demand (mgd)	Emissions (metric tons per year)			
						CO2	CH4	N2O	CO2e
1,101.00	1,220.00	10.00	177,734	31.90	4.45	23.77	0	0.00	24.07

*Anticipated water use provided by project engineering team for train washes; also added typical building water demand for staff and general operations based on CalEEMod default data for a General Office Building.

Energy Demand	kWhr/million gallons	MWh/million gallons
Fresh Water	3500	3.5
Reclaimed Water	111	0.111

Source: CalEEMod energy demand for water supply, treat, and distribute.

Conversion Factors	
pounds per ton	2000
pounds per metric ton	2204.62262
average days per month	30.5
days per year	365
Global Warming Potential	
CO2	1
Ch4	25
N20	298

Note: GWP are the 100-year GWPs from the IPCC fourth assessment report (AR4), consistent with the California Air Resources Board 2019 GHG emissions inventory.

	CO2 (MT/MWh)	CH4 (MT/MWh)	N2O (MT/MWh)
SCE	0.21	0	8.82179E-06

Notes:
Southern California Edison emission factors for CO2 and N2O based upon EEI Metrics produced by Edison International for Southern California Edison (https://www.edison.com/content/dam/eix/documents/sustainability/eix-esg-pilot-quantitative-section-sce.xlsx). Emission factor for CH4 based upon U.S. EPA eGrid for CAMX subregion (https://www.epa.gov/sites/production/files/2020-01/documents/egrid2018_summary_tables.pdf)

EIC Code:

SCC/EIC	YEAR	PM PROFILE NUMBER	PM2.5/TPM	PM10/TPM	OG PROFILE	ROG/TOG	VOC/TOG
43042270780000	0	371	0.075	0.5	600	0.6986	0.6986

https://www.arb.ca.gov/app/emsinv/2017/emseic_query.php?F_YR=2020&F_DIV=-4&F_SEASON=A&SP=SIP105ADJ&SPN=SIP105ADJ&F_AREA=CA&F_EICSUM=430

PM10 (lb/yr)	1.652870894
PM10 (lb/hr)	0.000754736
PM10/PM2.5 (g/s)	

PM PROFILE NUMBER	SAROAD	WEIGHT FRACTION OF PM2.5	WEIGHT FRACTION OF PM10	WEIGHT FRACTION OF TPM	CAS	TAC	lb/yr	lb/hr
371	12114	0.0005	0.0005	0.0005	7440508	Copper	8.26E-04	3.77E-07
371	12126	0.0055	0.0055	0.0055	N/A	Iron	9.09E-03	4.15E-06
371	12136	0.0005	0.0005	0.0005	7440020	Nickel	8.26E-04	3.77E-07
371	12165	0.4	0.4	0.4	1175	Silica, crystln	6.61E-01	3.02E-04
371	12403	0.0055	0.0055	0.0055	9960	Sulfates	9.09E-03	4.15E-06
371	12999	0.588	0.588	0.588	N/A	Other	9.72E-01	4.44E-04

EMFAC2017 (v1.0.2) Emission Rates
Region Type: County
Region: ORANGE
Calendar Year: 2028
Season: Annual
Vehicle Classification: EMFAC2011 Categories
Units: miles/day for VMT, trips/day for Trips, g/mile for RUNEX, PMBW and PMTW, g/trip for STREX, HTSK and RUNLS, g/vehicle/day for IDLEX, RESTL and DIURN. Note 'day' in the unit is operation day.

Region	Calendar Year	Vehicle Category	Model Year	Speed	Fuel	Population	VMT	%VMT	Trips	%Trips	ROG_RUNEX	ROG_STREX	CO_RUNEX	CO_STREX	NOx_RUNEX	NOx_STREX	SOx_RUNEX	SOx_STREX	PM10_RUNEX	PM10_STREX	PM10_PMTW	PM10_PMBW	PM2.5_RUNEX	PM2.5_STREX	PM2.5_PMTW	PM2.5_PMBW	CO2_RUNEX	CO2_STREX	CH4_RUNEX	CH4_STREX	N2O_RUNEX	N2O_STREX
ORANGE	2028	LDA	Aggregated	Aggregated	GAS	1411674.912	5087859.1	57.71%	6683308.947	53%	0.004238235	0.13152841	0.480052086	1.72809108	0.020866771	0.13132518	0.002223583	0.000456419	0.001173899	0.001471991	0.008000002	0.036750011	0.001079357	0.001353441	0.002000001	0.015750005	224.7085449	46.12240883	0.001275336	0.031948574	0.003139936	0.020365464
ORANGE	2028	LDA	Aggregated	Aggregated	DSL	15920.07914	592226.2677	0.67%	76102.48189	1%	0.006949971	0	0.196887456	0	0.020886547	0	0.001665124	0	0.002468205	0	0.008000002	0.036750011	0.002361431	0	0.002000001	0.015750005	176.1355845	0	0.000394761	0	0.027698218	0
ORANGE	2028	LDA	Aggregated	Aggregated	ELEC	59785.95341	2456904.286	2.79%	294218.8335	3%	0	0	0	0	0	0	0	0	0	0	0.008000002	0.036750011	0	0	0.002000001	0.015750005	0	0	0	0	0	0
ORANGE	2028	LDT1	Aggregated	Aggregated	GAS	163763.3552	5651024.535	6.41%	758748.0688	6%	0.010563564	0.188108592	0.695023639	1.833733697	0.044280341	0.168287295	0.002628948	0.00054344	0.001423127	0.001743226	0.008000002	0.036750011	0.001307593	0.001602832	0.002000001	0.015750005	265.4606621	54.91615101	0.002623105	0.041562866	0.004502539	0.022649618
ORANGE	2028	LDT1	Aggregated	Aggregated	DSL	24.64502637	736.2971993	0.00%	102.2031952	0%	0.063453782	0	0.45651042	0	0.247160389	0	0.00319413	0	0.035351113	0	0.008000002	0.036750011	0.033821639	0	0.002000001	0.015750005	337.8745965	0	0.002947307	0	0.053109181	0
ORANGE	2028	LDT1	Aggregated	Aggregated	ELEC	3304.208074	139600.8795	0.16%	16405.8598	0%	0	0	0	0	0	0	0	0	0	0	0.008000002	0.036750011	0	0	0.002000001	0.015750005	0	0	0	0	0	0
ORANGE	2028	LDT2	Aggregated	Aggregated	GAS	479336.0185	16749817.97	19.00%	2240043.251	19%	0.007996905	0.193658875	0.626007517	2.224931153	0.035888226	0.176904177	0.002708463	0.000572968	0.001227962	0.001496399	0.008000002	0.036750011	0.001129066	0.001375884	0.002000001	0.015750005	273.6979072	57.90009413	0.002162847	0.044818303	0.00397436	0.024082926
ORANGE	2028	LDT2	Aggregated	Aggregated	DSL	4143.236594	155355.4468	0.18%	19940.42034	0%	0.017172368	0	0.167659441	0	0.03267798	0	0.002275403	0	0.004339879	0	0.008000002	0.036750011	0.004151181	0	0.002000001	0.015750005	240.6918359	0	0.000797624	0	0.037833405	0
ORANGE	2028	LDT2	Aggregated	Aggregated	ELEC	12010.15439	349262.4991	0.40%	59524.73884	1%	0	0	0	0	0	0	0	0	0	0	0.008000002	0.036750011	0	0	0.002000001	0.015750005	0	0	0	0	0	0
ORANGE	2028	MDV	Aggregated	Aggregated	GAS	315682.2972	10621237.82	12.05%	1460180.383	12%	0.009532677	0.227426582	0.669864182	2.38485248	0.042464551	0.204157737	0.003360921	0.000708409	0.001247783	0.001523548	0.008000002	0.036750011	0.00114729	0.001400846	0.002000001	0.015750005	339.6307051	71.58677008	0.002532832	0.050478075	0.004867593	0.025584364
ORANGE	2028	MDV	Aggregated	Aggregated	DSL	9344.610081	336234.9396	0.38%	44118.51684	0%	0.009487418	0	0.220270272	0	0.023826779	0	0.002988891	0	0.002773437	0	0.008000002	0.036750011	0.00285346	0	0.002000001	0.015750005	316.270206	0	0.000440672	0	0.049713272	0
ORANGE	2028	MDV	Aggregated	Aggregated	ELEC	7944.433907	256534.5432	0.27%	39689.56194	0%	0	0	0	0	0	0	0	0	0	0	0.008000002	0.036750011	0	0	0.002000001	0.015750005	0	0	0	0	0	0
							88,148,399.19	1.00	11,692,663.05	1.00																						
Worker Vehicle Weighted Average Emission Factors (accounts for SAFE Rule)											0.005925	0.153312	0.529542	1.852656	0.027081	0.145869	0.002398	0.000494	0.001201	0.001446	0.008000	0.036750	0.001106	0.001331	0.002000	0.015750	242.415353	49.956982	0.001626	0.035947	0.003840	0.020918

EMFAC2017 Off-Model Adjustment Factors for Gasoline Light Duty Vehicle Emissions

Year	NOx Exhaust	TOG Exhaust	PM Exhaust	CO Exhaust
2028	1.0034	1.0028	1.0117	1.012

Applied to gas powered LDA, LDT1, and LDT2 vehicles
Source: Table 2 in ARB 2019 EMFAC Off-Model Adjustment Factors to Account for the SAFE Vehicle Rule Part One
https://ww3.arb.ca.gov/msei/emfac_off_model_adjustment_factors_final_draft.pdf

Haul and Fast Truck Emission Factor

ORANGE	2028	T7 Single	Aggregated	Aggregated	DSL	2663.768192	194675.0856	100%	30739.51552		0.01427489	0	0.153637872	0	1.614349314	3.605728287	0.011776379	0	0.012817379	0	0.03600001	0.061740018	0.008901201	0	0.009000003	0.026460008	1246.506913	0	0.000663032	0	0.195933528	0

Fugitive Dust Emission Factors

Paved Road Dust	$EF_{DUST} = [(k(sL)^{0.91} \times (W)^{1.02}](1 - P/4N))$	
Source: AP-42 Section 13.2.1 (Paved Roads) - http://www.epa.gov/ttnchie1/ap42/ch13/final/c13s0201.pdf		
Variable	Value	Description
k (PM10)	0.0022	particle size multiplier for particle size rangeand units of interest (lb/VMT)
k (PM2.5)	0.00054	particle size multiplier for particle size rangeand units of interest (lb/VMT)
sL	0.1	road surface silt loading (g/m^2)
W	2.4	average weight (tons) of vehicles (2.4 tons)
W	12	haul truck tons
P	51	number of "wet" days with at least 0.254 mm (0.1 inches) of precipitation during the averaging period
N	365	number of days in averaging period
Pickup and Worker		
EF (PM10)	0.000637964	lb/VMT
EF (PM2.5)	0.000156591	lb/VMT
Haul Truck		
EF (PM10)	0.003294168	lb/VMT
EF (PM2.5)	0.000808568	lb/VMT

OFFROAD Tons Per Year and Gallons Per Horsepower-Hour Calculation

Constants	
lbs	grams
1	453.5924
ton	lbs
1	2000

CH4 Emissions Factor (g/gallon diesel): 0.57
N2O Emissions Factor (g/gallon diesel): 0.26

Region	CalYr	VehClass	MdlYr	HP_Bin	Fuel	HC_g_hp-hr	ROG_g_hp-hr	TOG_g_hp-hr	CO_g_hp-hr	NOx_g_hp-hr	CO2_g_hp-hr	PM10_g_hp-hr	PM2_5_g_hp-hr	PM_g_hp-hr	SOx_g_hp-hr	NH3_g_hp-hr	gal/hp-hr
South Coast AQMD	2028	CHE - Rail RTG Crane	Aggregate	Aggregate	Diesel	0.0297389	0.035984038	0.04282398	0.237243	0.155314526	105.470878	0.002854091	0.002625764	0.00285409	0.00097424	0.00086084	7.22227E-05
South Coast AQMD	2028	CHE - Rail Forklift	Aggregate	Aggregate	Diesel	0.0392841	0.047533723	0.05656906	1.0143567	0.148746164	163.249337	0.005479709	0.005041333	0.00547971	0.00150814	0.00133242	0.002415779
South Coast AQMD	2028	OFF - Industrial - Aerial Lifts	Aggregate	Aggregate	Gasoline	0.6523443	0.600026265	0.71786508	33.779709	0.754440462	335.070377	0.231449201	0.17487273	0.25716578	0.00393045	0.00517929	0.001767678
South Coast AQMD	2028	OFF - Industrial - Aerial Lifts	Aggregate	Aggregate	Diesel	0.2165427	0.257703711	0.31182149	1.2458643	1.965178752	261.426991	0.074904968	0.06891257	0.07490497	0.0035618	0.00218849	0.004997523
South Coast AQMD	2028	OFF - Industrial - Aerial Lifts	Aggregate	Aggregate	Nat Gas	0	0	0.19748075	52.726227	1.4509006	310.335024	0	0	0.15939052	0	0	0.012648857
South Coast AQMD	2028	OFF - Industrial - Forklifts	Aggregate	Aggregate	Gasoline	0.2431377	0.223638068	0.26755822	24.625827	1.018190829	232.291908	0.016210581	0.012247994	0.01801176	0.00232723	0.00360408	2.81879E-05
South Coast AQMD	2028	OFF - Industrial - Forklifts	Aggregate	Aggregate	Nat Gas	0	0	0.01887453	8.2085885	0.886377026	202.398041	0	0	0.01800889	0	0	1.35055E-05
South Coast AQMD	2028	OFF - Industrial - Other General Industrial E	Aggregate	Aggregate	Gasoline	0.9981045	0.918056541	1.09835314	69.488677	1.513604764	360.713457	0.055085962	0.041620504	0.06120662	0.00515933	0.00628188	0.00441549
South Coast AQMD	2028	OFF - Industrial - Other General Industrial E	Aggregate	Aggregate	Diesel	0.2347298	0.279347844	0.33801089	1.3300849	2.18657337	289.833446	0.082558925	0.075954211	0.08255892	0.00387491	0.00242538	0.00485907
South Coast AQMD	2028	OFF - Industrial - Other Material Handling E	Aggregate	Aggregate	Gasoline	0.2823722	0.259725989	0.31073343	18.776703	1.448620842	410.757795	0.028633529	0.021634222	0.03181503	0.00398599	0.00584591	0.019803423
South Coast AQMD	2028	OFF - Industrial - Sweepers/Scrubbers	Aggregate	Aggregate	Gasoline	0.621852	0.571979475	0.6843102	45.428046	1.655059377	532.488381	0.046635848	0.035235974	0.05181761	0.00603441	0.00803572	0.00239064
South Coast AQMD	2028	OFF - Industrial - Sweepers/Scrubbers	Aggregate	Aggregate	Diesel	0.3064518	0.364702928	0.44129054	1.8813037	2.896232509	386.31212	0.110040831	0.101237564	0.11004083	0.00532149	0.00323403	0.042474795

OFFROAD Tons Per Year and Gallons Per Horsepower-Hour Calculation

Constants	
year	days
1	365

Region	CalYr	VehClass	MdlYr	HP_Bin	Fuel	HC_tpy	ROG_tpy	TOG_tpy	CO_tpy	NOx_tpy	CO2_tpy	PM10_tpy	PM2_5_tpy	PM_tpy	SOx_tpy	NH3_tpy	gal/hp-hr
South Coast AQMD	2028	CHE - Rail RTG Crane	Aggregated	Aggregated	Diesel	4.255279	5.1488876	6.1276017	33.946651	22.22366	15091.627	0.4083865	0.3757156	0.4083865	0.1394019	0.1231758	0.0103342
South Coast AQMD	2028	CHE - Rail Forklift	Aggregated	Aggregated	Diesel	0.2601088	0.3147316	0.3745567	6.7162873	0.9848823	1080.9112	0.0362824	0.0333798	0.0362824	0.0099858	0.0088223	0.0159954
South Coast AQMD	2028	OFF - Industrial - Aerial Lifts	Aggregated	Aggregated	Gasoline	16.477303	15.155824	18.132267	853.22817	19.05611	8463.4087	5.8460829	4.4170404	6.4956476	0.0992776	0.1308217	0.0446491
South Coast AQMD	2028	OFF - Industrial - Aerial Lifts	Aggregated	Aggregated	Diesel	1.1383845	1.3547716	1.6392736	6.5496204	10.331121	1374.3452	0.3937822	0.3622796	0.3937822	0.0187247	0.0115051	0.0262724
South Coast AQMD	2028	OFF - Industrial - Aerial Lifts	Aggregated	Aggregated	Nat Gas	0	0	0.9779558	261.10859	7.1850886	1536.828	0	0	0.789327	0	0	0.0626391
South Coast AQMD	2028	OFF - Industrial - Forklifts	Aggregated	Aggregated	Gasoline	267.99528	246.50206	294.91245	27143.487	1122.2872	256040.63	17.867895	13.500187	19.853216	2.565162	3.9725529	0.0310697
South Coast AQMD	2028	OFF - Industrial - Forklifts	Aggregated	Aggregated	Nat Gas	0	0	47.204143	20529.222	2216.7795	506186.21	0	0	45.039241	0	0	0.0337765
South Coast AQMD	2028	OFF - Industrial - Other General Industrial Eq	Aggregated	Aggregated	Gasoline	12.241324	11.25957	13.470831	852.24885	18.563714	4423.996	0.6756057	0.5104577	0.750673	0.0632769	0.0770445	0.0541541
South Coast AQMD	2028	OFF - Industrial - Other General Industrial Eq	Aggregated	Aggregated	Diesel	1.4065327	1.6738901	2.025407	7.9700489	13.102244	1736.7213	0.4947043	0.4551279	0.4947043	0.023219	0.0145332	0.0291162
South Coast AQMD	2028	OFF - Industrial - Other Material Handling Eq	Aggregated	Aggregated	Gasoline	0.7185806	0.6609505	0.7907542	47.782938	3.6864491	1045.2961	0.0728666	0.0550547	0.0809629	0.0101435	0.0148767	0.0503957
South Coast AQMD	2028	OFF - Industrial - Sweepers/Scrubbers	Aggregated	Aggregated	Gasoline	18.01937	16.574217	19.829218	1316.3659	47.958561	15429.886	1.3513643	1.0210308	1.5015159	0.1748587	0.2328506	0.0692734
South Coast AQMD	2028	OFF - Industrial - Sweepers/Scrubbers	Aggregated	Aggregated	Diesel	0.2801105	0.3333546	0.4033591	1.7195947	2.6472845	353.10635	0.1005822	0.0925356	0.1005822	0.0048641	0.002956	0.0388238

OFFROAD2017 (v1.0.1) Emissions Inventory
Region Type: County
Region: Orange
Calendar Year: 2028
Scenario: All Adopted Rules - Exhaust
Vehicle Classification: OFFROAD2017 Equipment Types
Units: Emissions: tons/day, Fuel Consumption: gallons/year, Activity: hours/year, HP-Hours: HP-hours/year

Region	CalYr	VehClass	MdlYr	HP_Bin	Fuel	HC_tpd	ROG_tpd	TOG_tpd	CO_tpd	NOx_tpd	CO2_tpd	PM10_tpd	PM2_5_tpd	PM_tpd	SOx_tpd	NH3_tpd	Fuel_gpy	Total_Activity_hp	Total_Popula	Horsepower_Hours_hhpy
South Coast AQMD	2028	CHE - Rail RTG Crane	Aggregated	Aggregated	Diesel	0.011658	0.014107	0.016788	0.093005	0.060887	41.34692	0.001118867	0.001029358	0.001118867	0.000381923	0.000337468	13414455.424	456416.8269	94.71014	1.3E+08
South Coast AQMD	2028	CHE - Rail Forklift	Aggregated	Aggregated	Diesel	0.000713	0.000862	0.001026	0.018401	0.002698	2.9614	9.94039E-05	9.14516E-05	9.94039E-05	2.73582E-05	2.41706E-05	96079.37611	45140.98014	17.40261	6006678
South Coast AQMD	2028	OFF - Industrial - Aerial Lifts	Aggregated	Aggregated	Gasoline	0.045143	0.041523	0.049677	2.337611	0.052209	23.18742	0.016016665	0.01210148	0.017796295	0.000271993	0.000358416	1023098.65	564939.7	1545.94	22914218
South Coast AQMD	2028	OFF - Industrial - Aerial Lifts	Aggregated	Aggregated	Diesel	0.003119	0.003712	0.004491	0.017944	0.028304	3.765329	0.001078855	0.000992547	0.001078855	5.13005E-05	3.15208E-05	125297.2	272826.55	683.06	4769152
South Coast AQMD	2028	OFF - Industrial - Aerial Lifts	Aggregated	Aggregated	Nat Gas	0	0	0.002679	0.715366	0.019685	4.210488	0	0	0.00216254	0	0	281407.7	238162.5	634.51	4492522
South Coast AQMD	2028	OFF - Industrial - Forklifts	Aggregated	Aggregated	Gasoline	0.734234	0.675348	0.807979	74.36572	3.074759	701.4812	0.048953136	0.036986814	0.054392373	0.007027841	0.010883707	31067580.9	15191471.55	8437.66	1E+09
South Coast AQMD	2028	OFF - Industrial - Forklifts	Aggregated	Aggregated	Nat Gas	0	0	0.129326	56.24444	6.073368	1386.812	0	0	0.123395181	0	0	76632764.7	34458241.1	19128.77	2.27E+09
South Coast AQMD	2028	OFF - Industrial - Other General Industrial Equip	Aggregated	Aggregated	Gasoline	0.033538	0.030848	0.036906	2.334928	0.050859	12.12054	0.001850975	0.001398514	0.002056638	0.000173361	0.000211081	602531.05	499422.2	1088.43	11126233
South Coast AQMD	2028	OFF - Industrial - Other General Industrial Equip	Aggregated	Aggregated	Diesel	0.003854	0.004586	0.005549	0.021836	0.035897	4.75814	0.001355354	0.001246926	0.001355354	6.36137E-05	3.9817E-05	158274.95	301705.35	211.49	5435974
South Coast AQMD	2028	OFF - Industrial - Other Material Handling Equip	Aggregated	Aggregated	Gasoline	0.001969	0.001811	0.002166	0.130912	0.0101	2.863825	0.000199634	0.000150835	0.000221816	2.77905E-05	4.0758E-05	116343.75	42975.1	111.29	2308603
South Coast AQMD	2028	OFF - Industrial - Sweepers/Scrubbers	Aggregated	Aggregated	Gasoline	0.049368	0.045409	0.054327	3.606482	0.131393	42.27366	0.003702368	0.002797345	0.004113742	0.000479065	0.000637947	1821021.5	643301.55	1531.09	2628742
South Coast AQMD	2028	OFF - Industrial - Sweepers/Scrubbers	Aggregated	Aggregated	Diesel	0.000767	0.000913	0.001105	0.004711	0.007253	0.967415	0.000275568	0.000253522	0.000275568	1.33262E-05	8.09875E-06	32193	44822	68.86	829207

Tank ESP Inputs Key

Fixed roof tank type

Column-supported (cone)	A
Horizontal Tank	D
No fixed roof (open top)	C
Self-supporting (dome)	B

Shell/roof finish

aluminum-colored paint (diffuse)	B
aluminum-colored paint (specular)	A
beige/cream-colored paint	C
black	G
brown paint	D
light gray paint	E
medium gray paint	F
mill finish aluminum (unpainted)	L
red primer or dark green paint	H
rust (unpainted iron oxide)	I
tan paint	J
white paint	K

Shell/roof condition

Aged (Ag)	Ag
Average (Av)	Av
New (N)	N

Tank insulation

Fully insulated (shell and roof insulated)	F
Not insulated	N
Partially insulated (Shell only)	P

Inside shell condition

dense rust	D
gunite lined	G
light rust	L

Shell construction

riveted	R
welded	W

Stock data

Name	Abbrv.
Out of Service	OUT
Crude Oil RVP_X	CRUDE_X
Gasoline RVP_X	GAS_X
Jet kerosene	JET
Kerosene	KERO
Diesel	DIESEL
No. 2 Oil	2OIL
No. 6 Oil	6OIL
Vacuum Residual Oil	STR_RESID
Propylene glycol	PROPGLY
Methanol	METHANOL
Triethylene glycol	TRIGLY

Tank ESP Tank Info

Required entry
Not required - can leave blank if N/A
Defaults will be used if unknown

Closest Met Station	USER ID	Start Date	DIAMETER	HEIGHT (Vert tanks) or LENGTH (Horz tanks)	Fixed Roof Type	Shell Finish	Shell Condition	Roof Finish	Roof Condition	Operating Pressure	Min Vent Relieving Pressure PSIG	Max vent relieving pressure PSIG	HEIGHT Max L (ft)	HEIGHT Min L (ft)	Cone Roof SLOPE (in/ft)	Slope of Cone Bottom	Dome Roof_HEIGHT	Dome Roof_Radius	Insulation Condition	Vapor Control Efficiency	Max Pump Rate (gal/hr)	Combo PV Vents	P Vents	V Vents	Open Vents	Inside Shell Condition	Shell Construction	Build Date	Assoc. Source Category	Sump Diameter (ft)	Sump Height (ft)	Tank ID 2 (FIN)	Emission Point No. (EPN)	Is Closed?	Control ID No. (CIN)	Location (coordinates)
Santa Ana, CA	Tank 1-30,000	1/1/2023	10	48	D	K	Av	K	Av	0	-0.03	0.03							N							L	W							N		
Santa Ana, CA	Tank 2-30,000	1/1/2023	10	48	D	K	Av	K	Av	0	-0.03	0.03							N							L	W							N		
Santa Ana, CA	Tank 3-30,000	1/1/2023	10	48	D	K	Av	K	Av	0	-0.03	0.03							N							L	W							N		
Santa Ana, CA	Tank 4-30,000	1/1/2023	10	48	D	K	Av	K	Av	0	-0.03	0.03							N							L	W							N		
Santa Ana, CA	Tank 5-10,000	1/1/2023	10	18	B	K	Av	K	Av										N																	

Tank ESP Tank Service

Tank ID	Start Date	Throughtput	Throughput Unit	Stock	Stock RVP	Bulk Storage Temp (degF)	Comments	Min Heated Temp (F)	Max Heated Temp (F)	Heating Cycle Length (days)	Flash Gas
Tank 1-30,000	1/1/2023	1,186,250	gallons	DIESEL							
Tank 2-30,000	1/1/2023	1,186,250	gallons	DIESEL							
Tank 3-30,000	1/1/2023	1,186,250	gallons	DIESEL							
Tank 4-30,000	1/1/2023	1,186,250	gallons	DIESEL							
Tank 5-10,000	1/1/2023	4,745,000	gallons	DIESEL							

TankSummaries for Every month between Jan and Dec 2023

Site: OCTA,

Equations for this site: After 2019 AP-42 revisions H/D ratio: Default 0.5

Tank ID	Row label	Jan-23	Feb-23	Mar-23	Apr-23	May-23	Jun-23	Jul-23	Aug-23	Sep-23	Oct-23	Nov-23	Dec-23
Tank 1-30,000													
	Diameter (ft)	10	10	10	10	10	10	10	10	10	10	10	10
	Fixed Roof Type	D	D	D	D	D	D	D	D	D	D	D	D
	Inside Shell Condition	L	L	L	L	L	L	L	L	L	L	L	L
	Shell Condition (post-19)	Av	Av	Av	Av	Av	Av	Av	Av	Av	Av	Av	Av
	Shell Finish	K	K	K	K	K	K	K	K	K	K	K	K
	Roof Condition (post-19)	Av	Av	Av	Av	Av	Av	Av	Av	Av	Av	Av	Av
	Roof Finish	K	K	K	K	K	K	K	K	K	K	K	K
	Product	Diesel	Diesel	Diesel	Diesel	Diesel	Diesel	Diesel	Diesel	Diesel	Diesel	Diesel	Diesel
	Throughput (gal)	100749.999	91000.0014	100749.999	97500.0012	100749.999	97500.0012	100749.999	100749.999	97500.0012	100749.999	97500.0012	100749.999
	Bulk Liquid Temperature (degF)	57.96184	58.622082	60.736128	63.113753	66.438912	69.363065	72.94733	74.241485	72.714272	68.300468	62.584563	57.439062
	Avg. Liquid Surface Temp. (degF)	58.825504	59.682387	62.206889	64.986839	68.375535	71.412614	75.014948	76.219366	74.347351	69.523393	63.565675	58.235875
	Avg. TVP (psia)	0.006235178	0.00641443	0.006969278	0.007628905	0.008507021	0.009368503	0.010489212	0.010889372	0.010273029	0.008824036	0.007285117	0.006114418
	Estimated standing losses (lbs)	0.2566938	0.2334849	0.30469824	0.35631705	0.37805837	0.40107392	0.47727438	0.50535619	0.43417246	0.35460892	0.30237473	0.2480649
	Estimated working losses (lbs)	1.6610115	1.5403807	1.8428117	1.9406263	2.2216069	2.353754	2.7048025	2.8020802	2.5684975	2.301937	1.8607732	1.6308652
	Total estimated emissions (lbs)	1.9177053	1.7738656	2.1475099	2.2969434	2.5996653	2.7548279	3.1820769	3.3074364	3.0026699	2.6565459	2.1631479	1.8789301
	Benzene	0	0	0	0	0	0	0	0	0	0	0	0
	Benzo(g,h,i)perylene	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data
	Biphenyl	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data
	Cumene {isopropylbenzene}	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data
	Cyclohexane	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data
	Ethylbenzene	0.004428053	0.004102685	0.004990159	0.005363312	0.006103533	0.006497218	0.007541971	0.007851198	0.007110506	0.006248035	0.005038611	0.004333516
	Hexane (n-)	0	0	0	0	0	0	0	0	0	0	0	0
	Iso-octane {2,2,4 trimethylpentane	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data
	Total loss components in the "Cho	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data
	PACs {Chrysene}	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data
	Phenanthrene	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data
	Toluene	0.042588038	0.039329299	0.047381077	0.050399213	0.056649331	0.059651286	0.068374507	0.070882616	0.064612509	0.057751305	0.047598342	0.041773586
	Trimethylbenzene (1,2,4)	0.086695928	0.080685409	0.099427399	0.108385786	0.125455255	0.135557802	0.160119039	0.16764468	0.150476398	0.129156483	0.101092537	0.084583452
	Xylene	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data
	Xylene (m-)	0.111806969	0.103616533	0.126120261	0.13565817	0.154530188	0.164640472	0.191312307	0.199225282	0.180333023	0.158240565	0.127393865	0.109401809
Tank 2-30,000													
	Diameter (ft)	10	10	10	10	10	10	10	10	10	10	10	10
	Fixed Roof Type	D	D	D	D	D	D	D	D	D	D	D	D
	Inside Shell Condition	L	L	L	L	L	L	L	L	L	L	L	L
	Shell Condition (post-19)	Av	Av	Av	Av	Av	Av	Av	Av	Av	Av	Av	Av
	Shell Finish	K	K	K	K	K	K	K	K	K	K	K	K
	Roof Condition (post-19)	Av	Av	Av	Av	Av	Av	Av	Av	Av	Av	Av	Av
	Roof Finish	K	K	K	K	K	K	K	K	K	K	K	K
	Product	Diesel	Diesel	Diesel	Diesel	Diesel	Diesel	Diesel	Diesel	Diesel	Diesel	Diesel	Diesel
	Throughput (gal)	100749.999	91000.0014	100749.999	97500.0012	100749.999	97500.0012	100749.999	100749.999	97500.0012	100749.999	97500.0012	100749.999
	Bulk Liquid Temperature (degF)	57.96184	58.622082	60.736128	63.113753	66.438912	69.363065	72.94733	74.241485	72.714272	68.300468	62.584563	57.439062
	Avg. Liquid Surface Temp. (degF)	58.825504	59.682387	62.206889	64.986839	68.375535	71.412614	75.014948	76.219366	74.347351	69.523393	63.565675	58.235875
	Avg. TVP (psia)	0.006235178	0.00641443	0.006969278	0.007628905	0.008507021	0.009368503	0.010489212	0.010889372	0.010273029	0.008824036	0.007285117	0.006114418
	Estimated standing losses (lbs)	0.2566938	0.2334849	0.30469824	0.35631705	0.37805837	0.40107392	0.47727438	0.50535619	0.43417246	0.35460892	0.30237473	0.2480649
	Estimated working losses (lbs)	1.6610115	1.5403807	1.8428117	1.9406263	2.2216069	2.353754	2.7048025	2.8020802	2.5684975	2.301937	1.8607732	1.6308652
	Total estimated emissions (lbs)	1.9177053	1.7738656	2.1475099	2.2969434	2.5996653	2.7548279	3.1820769	3.3074364	3.0026699	2.6565459	2.1631479	1.8789301
	Benzene	0	0	0	0	0	0	0	0	0	0	0	0
	Benzo(g,h,i)perylene	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data
	Biphenyl	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data
	Cumene {isopropylbenzene}	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data
	Cyclohexane	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data
	Ethylbenzene	0.004428053	0.004102685	0.004990159	0.005363312	0.006103533	0.006497218	0.007541971	0.007851198	0.007110506	0.006248035	0.005038611	0.004333516
	Hexane (n-)	0	0	0	0	0	0	0	0	0	0	0	0
	Iso-octane {2,2,4 trimethylpentane	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data
	Total loss components in the "Cho	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data
	PACs {Chrysene}	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data
	Phenanthrene	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data
	Toluene	0.042588038	0.039329299	0.047381077	0.050399213	0.056649331	0.059651286	0.068374507	0.070882616	0.064612509	0.057751305	0.047598342	0.041773586
	Trimethylbenzene (1,2,4)	0.086695928	0.080685409	0.099427399	0.108385786	0.125455255	0.135557802	0.160119039	0.16764468	0.150476398	0.129156483	0.101092537	0.084583452
	Xylene	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data
	Xylene (m-)	0.111806969	0.103616533	0.126120261	0.13565817	0.154530188	0.164640472	0.191312307	0.199225282	0.180333023	0.158240565	0.127393865	0.109401809
Tank 3-30,000													
	Diameter (ft)	10	10	10	10	10	10	10	10	10	10	10	10
	Fixed Roof Type	D	D	D	D	D	D	D	D	D	D	D	D
	Inside Shell Condition	L	L	L	L	L	L	L	L	L	L	L	L
	Shell Condition (post-19)	Av	Av	Av	Av	Av	Av	Av	Av	Av	Av	Av	Av
	Shell Finish	K	K	K	K	K	K	K	K	K	K	K	K
	Roof Condition (post-19)	Av	Av	Av	Av	Av	Av	Av	Av	Av	Av	Av	Av
	Roof Finish	K	K	K	K	K	K	K	K	K	K	K	K
	Product	Diesel	Diesel	Diesel	Diesel	Diesel	Diesel	Diesel	Diesel	Diesel	Diesel	Diesel	Diesel
	Throughput (gal)	100749.999	91000.0014	100749.999	97500.0012	100749.999	97500.0012	100749.999	100749.999	97500.0012	100749.999	97500.0012	100749.999
	Bulk Liquid Temperature (degF)	57.96184	58.622082	60.736128	63.113753	66.438912	69.363065	72.94733	74.241485	72.714272	68.300468	62.584563	57.439062
	Avg. Liquid Surface Temp. (degF)	58.825504	59.682387	62.206889	64.986839	68.375535	71.412614	75.014948	76.219366	74.347351	69.523393	63.565675	58.235875
	Avg. TVP (psia)	0.006235178	0.00641443	0.006969278	0.007628905	0.008507021	0.009368503	0.010489212	0.010889372	0.010273029	0.008824036	0.007285117	0.006114418
	Estimated standing losses (lbs)	0.2566938	0.2334849	0.30469824	0.35631705	0.37805837	0.40107392	0.47727438	0.50535619	0.43417246	0.35460892	0.30237473	0.2480649
	Estimated working losses (lbs)	1.6610115	1.5403807	1.8428117	1.9406263	2.2216069	2.353754	2.7048025	2.8020802	2.5684975	2.301937	1.8607732	1.6308652
	Total estimated emissions (lbs)	1.9177053	1.7738656	2.1475099	2.2969434	2.5996653	2.7548279	3.1820769	3.3074364	3.0026699	2.6565459	2.1631479	1.8789301
	Benzene	0	0	0	0	0	0	0	0	0	0	0	0
	Benzo(g,h,i)perylene	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data
	Biphenyl	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data
	Cumene {isopropylbenzene}	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data
	Cyclohexane	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data
	Ethylbenzene	0.004428053	0.004102685	0.004990159	0.005363312	0.006103533	0.006497218	0.007541971	0.007851198	0.007110506	0.006248035	0.005038611	0.004333516
	Hexane (n-)	0	0	0	0	0	0	0	0	0	0	0	0
	Iso-octane {2,2,4 trimethylpentane	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data
	Total loss components in the "Cho	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data
	PACs {Chrysene}	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data
	Phenanthrene	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data
	Toluene	0.042588038	0.039329299	0.047381077	0.050399213	0.056649331	0.059651286	0.068374507	0.070882616	0.064612509	0.057751305	0.047598342	0.041773586
	Trimethylbenzene (1,2,4)	0.086695928	0.080685409	0.099427399	0.108385786	0.125455255	0.135557802	0.160119039	0.16764468	0.150476398	0.129156483	0.101092537	0.084583452
	Xylene	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data
	Xylene (m-)	0.111806969	0.103616533	0.126120261	0.13565817	0.154530188	0.164640472	0.191312307	0.199225282	0.180333023	0.158240565	0.127393865	0.109401809

TankSummaries for Every month between Jan and Dec 2023

Site: OCTA,

Equations for this site: After 2019 AP-42 revisions H/D ratio: Default 0.5

Tank ID	Row label	Jan-23	Feb-23	Mar-23	Apr-23	May-23	Jun-23	Jul-23	Aug-23	Sep-23	Oct-23	Nov-23	Dec-23
Tank 4-30,000													
	Diameter (ft)	10	10	10	10	10	10	10	10	10	10	10	10
	Fixed Roof Type	D	D	D	D	D	D	D	D	D	D	D	D
	Inside Shell Condition	L	L	L	L	L	L	L	L	L	L	L	L
	Shell Condition (post-19)	Av	Av	Av	Av	Av	Av	Av	Av	Av	Av	Av	Av
	Shell Finish	K	K	K	K	K	K	K	K	K	K	K	K
	Roof Condition (post-19)	Av	Av	Av	Av	Av	Av	Av	Av	Av	Av	Av	Av
	Roof Finish	K	K	K	K	K	K	K	K	K	K	K	K
	Product	Diesel	Diesel	Diesel	Diesel	Diesel	Diesel	Diesel	Diesel	Diesel	Diesel	Diesel	Diesel
	Throughput (gal)	100749.999	91000.0014	100749.999	97500.0012	100749.999	97500.0012	100749.999	100749.999	97500.0012	100749.999	97500.0012	100749.999
	Bulk Liquid Temperature (degF)	57.96184	58.622082	60.736128	63.113753	66.438912	69.363065	72.94733	74.241485	72.714272	68.300468	62.584563	57.439062
	Avg. Liquid Surface Temp. (degF)	58.825504	59.682387	62.206889	64.986839	68.375535	71.412614	75.014948	76.219366	74.347351	69.523393	63.565675	58.235875
	Avg. TVP (psia)	0.006235178	0.00641443	0.006969278	0.007628905	0.008507021	0.009368503	0.010489212	0.010889372	0.010273029	0.008824036	0.007285117	0.006114418
	Estimated standing losses (lbs)	0.2566938	0.2334849	0.30469824	0.35631705	0.37805837	0.40107392	0.47727438	0.50535619	0.43417246	0.35460892	0.30237473	0.2480649
	Estimated working losses (lbs)	1.6610115	1.5403807	1.8428117	1.9406263	2.2216069	2.353754	2.7048025	2.8020802	2.5684975	2.301937	1.8607732	1.6308652
	Total estimated emissions (lbs)	1.9177053	1.7738656	2.1475099	2.2969434	2.5996653	2.7548279	3.1820769	3.3074364	3.0026699	2.6565459	2.1631479	1.8789301
	Benzene	0	0	0	0	0	0	0	0	0	0	0	0
	Benzo(g,h,i)perylene	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data
	Biphenyl	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data
	Cumene {isopropylbenzene}	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data
	Cyclohexane	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data
	Ethylbenzene	0.004428053	0.004102685	0.004990159	0.005363312	0.006103533	0.006497218	0.007541971	0.007851198	0.007110506	0.006248035	0.005038611	0.004333516
	Hexane (n-)	0	0	0	0	0	0	0	0	0	0	0	0
	Iso-octane {2,2,4 trimethylpentane	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data
	Total loss components in the "Cho	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data
	PACs {Chrysene}	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data
	Phenanthrene	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data
	Toluene	0.042588038	0.039329299	0.047381077	0.050399213	0.056649331	0.059651286	0.068374507	0.070882616	0.064612509	0.057751305	0.047598342	0.041773586
	Trimethylbenzene (1,2,4)	0.086695928	0.080685409	0.099427399	0.108385786	0.125455255	0.135557802	0.160119039	0.16764468	0.150476398	0.129156483	0.101092537	0.084583452
	Xylene	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data
	Xylene (m-)	0.111806969	0.103616533	0.126120261	0.13565817	0.154530188	0.164640472	0.191312307	0.199225282	0.180333023	0.158240565	0.127393865	0.109401809
Tank 5-10,000													
	Diameter (ft)	10	10	10	10	10	10	10	10	10	10	10	10
	Fixed Roof Type	B	B	B	B	B	B	B	B	B	B	B	B
	Inside Shell Condition	L	L	L	L	L	L	L	L	L	L	L	L
	Shell Condition (post-19)	Av	Av	Av	Av	Av	Av	Av	Av	Av	Av	Av	Av
	Shell Finish	K	K	K	K	K	K	K	K	K	K	K	K
	Roof Condition (post-19)	Av	Av	Av	Av	Av	Av	Av	Av	Av	Av	Av	Av
	Roof Finish	K	K	K	K	K	K	K	K	K	K	K	K
	Product	Diesel	Diesel	Diesel	Diesel	Diesel	Diesel	Diesel	Diesel	Diesel	Diesel	Diesel	Diesel
	Throughput (gal)	403000.0002	364000.0014	403000.0002	390000.0006	403000.0002	390000.0006	403000.0002	403000.0002	390000.0006	403000.0002	390000.0006	403000.0002
	Bulk Liquid Temperature (degF)	57.96184	58.622082	60.736128	63.113753	66.438912	69.363065	72.94733	74.241485	72.714272	68.300468	62.584563	57.439062
	Avg. Liquid Surface Temp. (degF)	58.825504	59.682387	62.206889	64.986839	68.375535	71.412614	75.014948	76.219366	74.347351	69.523393	63.565675	58.235875
	Avg. TVP (psia)	0.006235178	0.00641443	0.006969278	0.007628905	0.008507021	0.009368503	0.010489212	0.010889372	0.010273029	0.008824036	0.007285117	0.006114418
	Estimated standing losses (lbs)	0.098946289	0.089995337	0.1174249	0.13729116	0.14563061	0.15445724	0.18374224	0.19453039	0.16715937	0.13658499	0.11651864	0.095623557
	Estimated working losses (lbs)	1.7719724	1.6432831	1.9659174	2.0702663	2.3700173	2.5109923	2.8854919	2.9892681	2.7400813	2.4557137	1.9850787	1.7398122
	Total estimated emissions (lbs)	1.8709186	1.7332784	2.0833423	2.2075575	2.5156479	2.6654495	3.0692342	3.1837985	2.9072407	2.5922987	2.1015974	1.8354357
	Benzene	0	0	0	0	0	0	0	0	0	0	0	0
	Benzo(g,h,i)perylene	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data
	Biphenyl	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data
	Cumene {isopropylbenzene}	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data
	Cyclohexane	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data
	Ethylbenzene	0.004320021	0.004008813	0.004841053	0.005154598	0.005906276	0.006286421	0.007274518	0.007557706	0.006884524	0.006096929	0.004895242	0.004233202
	Hexane (n-)	0	0	0	0	0	0	0	0	0	0	0	0
	Iso-octane {2,2,4 trimethylpentane	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data
	Total loss components in the "Cho	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data
	PACs {Chrysene}	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data
	Phenanthrene	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data
	Toluene	0.041549009	0.038429419	0.04596533	0.048437921	0.054818508	0.057715943	0.065949813	0.068232897	0.062559028	0.056354619	0.046243973	0.040806591
	Trimethylbenzene (1,2,4)	0.08458079	0.078839274	0.096456506	0.104167939	0.121400727	0.131159727	0.154440903	0.161377822	0.145694037	0.1260329	0.098216036	0.082625475
	Xylene	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data
	Xylene (m-)	0.109079192	0.101245719	0.122351785	0.130379015	0.149536001	0.159298831	0.184527996	0.191777884	0.174601775	0.154413599	0.123768983	0.106869326

Attachment B

Construction and Operational Emission Estimates

Table B-1: Modeling Parameters for On-Road Construction Sources

Road	Road Width (ft)	Road Width (m)	Base Elevation	SourceID	Line Volume Src Type	Release Height from	Initial Lateral Dimensio	Initial Vertical Dimensio	# Volume Sources	Total Length (m)	g/s per vol (1 g/s)
Marine Way (West of Perimeter Rd and East of Rt-133)	89.47	27.27	varies - AERMAP	MARINE1	Adjacent	2.00	varies - based on	2.30	10	395	**1.0000E-01**
Marine Way (West of Rt-133 and East of Sand Canyon Ave)	26.90	8.20	varies - AERMAP	MARINE2	Adjacent	2.00	varies - based on	2.30	34	236.7	**2.9412E-02**
Perimeter Road (Project Site to Marine Way)	24.67	7.52	varies - AERMAP	PERIM1	Adjacent	2.00	varies - based on	2.30	12	155.7	**8.3333E-02**
Sand Canyon Ave (North of Marine Way and South of I-5 on ramp Westbound)	126.64	38.60	varies - AERMAP	SAN1	Adjacent	2.00	varies - based on	2.30	3	173	**3.3333E-01**
Sand Canyon Ave (South of Marine Way and North of I-5 on ramp Eastbound)	126.64	38.60	varies - AERMAP	SAN2	Adjacent	2.00	varies - based on	2.30	3	90.8	**3.3333E-01**
I-5 on ramp Westbound	42.65	13.00	varies - AERMAP	I5ON1	Adjacent	2.00	varies - based on	2.30	19	370.4	**5.2632E-02**
I-5 on ramp Eastbound	24.93	7.60	varies - AERMAP	I5ON2	Adjacent	2.00	varies - based on	2.30	24	596	**4.1667E-02**
I-5 off ramp from Westbound	43.64	13.30	varies - AERMAP	I5OFF1	Adjacent	2.00	varies - based on	2.30	12	172.7	**8.3333E-02**
I-5 off ramp from Eastbound	41.67	12.70	varies - AERMAP	I5OFF2	Adjacent	2.00	varies - based on	2.30	22	408.3	**4.5455E-02**
Entrance Road to Site South of Marine Way	76.35	23.27	varies - AERMAP	ENT1	Adjacent	2.00	varies - based on	2.30	7	208.7	**1.4286E-01**
Entrance Road Turning East	76.35	23.27	varies - AERMAP	ENT2	Adjacent	2.00	varies - based on	2.30	7	122	**1.4286E-01**

	2023-2025		2026-2027	
Route Length	**meters**	**miles**	**meters**	**miles**
Outbound West	1330.8	0.826921	1505.8	0.935661
Outbound East	1474.2	0.916025	1649.2	1.024765
Inbound West	1330.5	0.826734	1505.5	0.935474
Inbound East	1791.7	1.113311	1966.7	1.222051
Route 1 (out west, in east)	3122.5	1.940232	3472.5	2.157711
Route 2 (out east, in west)	2804.7	1.74276	3154.7	1.96024

Table B-2: Modeling Parameters On-Site Sources

Model ID	Description	Source Type	Ht. (ft)	Ht. (m)	Init. Lateral (m)	Init. Vert (m)[2]	No. of Volumes	Exit Temperature (K)	Exit Velocity (m/s)	Stack Diameter (m)
FUEL_D1-4	Fuel Dispensing	Volume	3.38[1]	1.03	3.4571[1,3]	1.4295	1	---	---	---
DISPEN	Fuel Delivery	Volume	3.38[1]	1.03	3.4571[1,3]	2.5518	1	---	---	---
DEFTNK	Def Tank	Volume	18	5.49	3.4571[1,3]	2.5518	1	---	---	---
SAND1-2	Sand Silos (2)	Volume	30	9.14	2.7907[1]	1.4295	1	---	---	---
SKID	Pump Skid Def Tank	Volume	3.38	1.03	1.8605[1]	0.4792	1	---	---	---
WASH	Train Wash	Volume	55	16.76	5.58[2]	7.80	6	---	---	---
MAINT	Maintenance	Volume	75	22.86	13.02[2]	10.63	4	---	---	---
CRANE	Crane/Forklift	Volume	75	22.86	13.02[2]	10.63	4	---	---	---
GEN1	Emergency Generator[1]	Point	12	3.66	---	---	---	739.8	45.3	0.183
TNKVENT1-4	Fuel Tank Vent (4)	Point	12	3.66	---	---	---	ambient	0.001	0.0762

[1] Based on SF 2020 Citywide HRA (Table 7).
[2] Based on building height/2.15 (EPA 2017).
[3] Assumes 1 dispenser.

Table B-3: Building Inputs

Building ID	Description	Height (ft)	Height (m)
TRANS	Transportation Building	75	22.86
MAINT1	Maintenance Building	75	22.86
UTILITY	Utility Building	55	16.76
TRN_WASH	Train Wash Building	55	16.76
PUMP	Pump House	18	5.49
WATER	Water Treatment Room	30	9.14
MATERIAL	Materials Storage Building	30	9.14
DEF_TNK	Def Fuel Tank	18	5.49
TANK1-4	Fuel Tanks	10.08	3.07
SILO1-2	Sand Silos	30	9.14

Table B-4: Modeling Parameters for On-Road Operation Sources

Road	Road Width (m)	Base Elevation	SourceID	Line Volume Src Type	Release Height from CRRP-HRA (m)	Initial Lateral Dimension (m)	Initial Vertical Dimension (m) from CRRP-HRA	# Volume Sources	Total Length (m)	g/s per vol (1 g/s)
Marine Way (West of Perimeter Rd and East of Rt-133)	27.27	varies - AERMAP	MARINE1	Adjacent	2.00	varies - based on plume width	2.30	10	395	**1.0000E-01**
Marine Way (West of Rt-133 and East of Sand Canyon Ave)	8.20	varies - AERMAP	MARINE2	Adjacent	2.00	varies - based on plume width	2.30	34	236.7	**2.9412E-02**
Sand Canyon Ave (North of Marine Way and South of Great Park Blvd)	38.60	varies - AERMAP	SAN4	Adjacent	2.00	varies - based on plume width	2.30	29	1271.2	**3.4483E-02**
Sand Canyon Ave (South of Marine Way and North of I-5 on ramp Eastbound)	38.60	varies - AERMAP	SAN2	Adjacent	2.00	varies - based on plume width	2.30	3	90.8	**3.3333E-01**
I-5 on ramp Westbound	13.00	varies - AERMAP	I5ON1	Adjacent	2.00	varies - based on plume width	2.30	20	428.2	**5.0000E-02**
I-5 on ramp Eastbound	7.60	varies - AERMAP	I5ON2	Adjacent	2.00	varies - based on plume width	2.30	24	596	**4.1667E-02**
I-5 off ramp from Westbound	13.30	varies - AERMAP	I5OFF1	Adjacent	2.00	varies - based on plume width	2.30	12	172.7	**8.3333E-02**
I-5 off ramp from Eastbound	12.70	varies - AERMAP	I5OFF2	Adjacent	2.00	varies - based on plume width	2.30	22	408.3	**4.5455E-02**
Entrance Road to Site South of Marine Way	23.27	varies - AERMAP	ENT1	Adjacent	2.00	varies - based on plume width	2.30	7	208.7	**1.4286E-01**
Entrance Road Turning East	23.27	varies - AERMAP	ENT2	Adjacent	2.00	varies - based on plume width	2.30	7	122	**1.4286E-01**
Sand Canyon Ave (South of I-5 on ramp Eastbound and North of Irvine Center Dr)	38.60	varies - AERMAP	SAN3	Adjacent	2.00	varies - based on plume width	2.30	23	1010.3	**4.3478E-02**
Marine Way (East of Perimeter Rd and West of Skyhawk)	27.27	varies - AERMAP	MARINE3	Adjacent	2.00	varies - based on plume width	2.30	31	1033.6	**3.2258E-02**
Ridge Valley (North of Marine Way and South of Great Park Blvd)	27.27	varies - AERMAP	RVAL	Adjacent	2.00	varies - based on plume width	2.30	39	1281.6	**2.5641E-02**
I-5 (South of Sand Canyon Ave)	64.40	varies - AERMAP	EASTI5	Adjacent	2.00	varies - based on plume width	2.30	15	1075.6	**6.6667E-02**
I-5 (North of Sand Canyon Ave)	64.40	varies - AERMAP	WESTI5	Adjacent	2.00	varies - based on plume width	2.30	17	1216.9	**5.8824E-02**
Entrance Onsite	7.62	varies - AERMAP	ENT3	Adjacent	2.00	varies - based on plume width	2.30	10	138.8	**1.0000E-01**
Fuel/Sand Loop	7.62	varies - AERMAP	LOOPA1	Adjacent	2.00	varies - based on plume width	2.30	59	801.3	**1.6949E-02**
Delivery Loop	7.62	varies - AERMAP	LOOPB1	Adjacent	2.00	varies - based on plume width	2.30	13	183.6	**7.6923E-02**

Table B-5: HARP2 Emissions for Construction Years

				2023		2024		2025		2026		2027	
				lb/yr	lb/hr	lb/yr	lb/hr	lb/yr	lb/hr	lb/yr	lb/hr	lb/yr	lb/hr
CONST	1	9901	DieselExhPM	1.23E+02	0.00E+00	1.25E+02	0.00E+00	3.33E+01	0.00E+00	4.38E+01	0.00E+00	2.64E+01	0.00E+00
MARINE1	2	9901	DieselExhPM	1.48E-01	0.00E+00	5.04E-02	0.00E+00	3.40E-02	0.00E+00	2.94E-02	0.00E+00	1.40E-02	0.00E+00
MARINE2	3	9901	DieselExhPM	8.87E-02	0.00E+00	3.02E-02	0.00E+00	2.04E-02	0.00E+00	1.76E-02	0.00E+00	8.41E-03	0.00E+00
PERIM1	4	9901	DieselExhPM	5.83E-02	0.00E+00	1.99E-02	0.00E+00	1.34E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
SAN1	5	9901	DieselExhPM	6.48E-02	0.00E+00	2.21E-02	0.00E+00	1.49E-02	0.00E+00	1.29E-02	0.00E+00	6.14E-03	0.00E+00
SAN2	6	9901	DieselExhPM	3.40E-02	0.00E+00	1.16E-02	0.00E+00	7.83E-03	0.00E+00	6.77E-03	0.00E+00	3.22E-03	0.00E+00
I5ON1	7	9901	DieselExhPM	3.12E-02	0.00E+00	1.06E-02	0.00E+00	7.17E-03	0.00E+00	6.27E-03	0.00E+00	2.99E-03	0.00E+00
I5ON2	8	9901	DieselExhPM	5.58E-02	0.00E+00	1.90E-02	0.00E+00	1.28E-02	0.00E+00	1.11E-02	0.00E+00	5.29E-03	0.00E+00
I5OFF1	9	9901	DieselExhPM	1.62E-02	0.00E+00	5.51E-03	0.00E+00	3.72E-03	0.00E+00	3.22E-03	0.00E+00	1.53E-03	0.00E+00
I5OFF2	10	9901	DieselExhPM	3.44E-02	0.00E+00	1.17E-02	0.00E+00	7.90E-03	0.00E+00	6.91E-03	0.00E+00	3.29E-03	0.00E+00
ENT1	11	9901	DieselExhPM	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.56E-02	0.00E+00	7.41E-03	0.00E+00
ENT2	12	9901	DieselExhPM	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	9.09E-03	0.00E+00	4.33E-03	0.00E+00
RAIL_WEL	13	9901	DieselExhPM	2.71E-01	0.00E+00	2.71E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
RAIL_DEL	13	9901	DieselExhPM	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.18E-02	0.00E+00	3.18E-02	0.00E+00	3.18E-02	0.00E+00
RAIL_IDL	14	9901	DieselExhPM	0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.13E-02	0.00E+00	5.13E-02	0.00E+00	5.13E-02	0.00E+00
CONSTP2	15	9901	DieselExhPM	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.19E+01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

Notes: In 2025, source CONST represents final 6 months of Phase 1 construction (Jan. through Jun.). CONSTP2 represents initial 6 months (Jul. through Dec.) of Phase 2 construction. DPM lb/hr emissions are listed as zero since it does not have an acute risk threshold.

Table B-6: Fuel Tank Emissions

Tank	Total Losses (tpy)	Hexane (-n) tpy	Benzene (tpy)	Toluene (tpy)	Ethylbenzene (tpy)	Xylene (-m) (tpy)	1,2,4-Trimethylbenzene (tpy)
Tank 1-30,000	1.48E-02	0.00E+00	0.00E+00	3.23E-04	3.48E-05	8.81E-04	7.15E-04
Tank 2-30,000	1.48E-02	0.00E+00	0.00E+00	3.23E-04	3.48E-05	8.81E-04	7.15E-04
Tank 3-30,000	1.48E-02	0.00E+00	0.00E+00	3.23E-04	3.48E-05	8.81E-04	7.15E-04
Tank 4-30,000	1.48E-02	0.00E+00	0.00E+00	3.23E-04	3.48E-05	8.81E-04	7.15E-04
Tank 5-10,000	1.44E-02	0.00E+00	0.00E+00	3.14E-04	3.37E-05	8.54E-04	6.92E-04
Speciated TACs from SCAQMD storage tank guidance document for diesel.							
http://www.aqmd.gov/docs/default-source/planning/annual-emission-reporting/supplemental-instructions-for-liquid-organic-storage-tanks.pdf							

Table B-7: Sand Silo Emission Estimates

SCC/EIC	YEAR	PM PROFILE NUMBER	PM2.5/TPM	PM10/TPM	OG PROFILE NUMBER	ROG/TOG	VOC/TOG
43042270780000	0	371	0.075	0.5	600	0.6986	0.6986

https://www.arb.ca.gov/app/emsinv/2017/emseic_query.php?F_YR=2020&F_DIV=-4&F_SEASON=A&SP=SIP105ADJ&SPN=SIP105ADJ&F_AREA=CA&F_EICSUM=430

PM10 (lb/yr)	1.652870894	
PM10 (lb/hr)	0.000754736	Assumes 6 hours/day
PM10/PM2.5 (g/s)	9.50951E-05	per silo

PM PROFILE NUMBER	SAROAD	WEIGHT FRACTION OF PM2.5	WEIGHT FRACTION OF PM10	WEIGHT FRACTION OF TPM	CAS	TAC	lb/yr	lb/hr
371	12114	0.0005	0.0005	0.0005	7440508	Copper	8.26E-04	3.77E-07
371	12136	0.0005	0.0005	0.0005	7440020	Nickel	8.26E-04	3.77E-07
371	12165	0.4	0.4	0.4	1175	Silica, crystln	6.61E-01	3.02E-04
371	12403	0.0055	0.0055	0.0055	9960	Sulfates	9.09E-03	4.15E-06

Table B-8: Onsite Locomotive Emission Estimates for HRA

Daily Locomotive Operational Emissions	Daily In-Transit Emissions (lbs/day)		
Operational Activity	**NOx**	**PM10**	**PM2.5**
On-site (2025-2027)	98.30	1.98	1.92
On-site (2028+)	81.15	1.22	1.18

Day/Night Percentage	%
Day	20%
Night	80%

Phase 1 (2025 – 2027)																	
Source	% Allocated	Hours / Day	Daily In-Transit Emissions (lbs/hr)			Daily In-Transit Emissions (lbs/yr)						# of Vol	Daily In-Transit Emissions per source (g/s)			
			NOx	PM10	PM2.5	NOx (Day)	NOx (Night)	PM10 (Day)	PM10 (Night)	PM2.5 (Day)	PM2.5 (Night)		NOx (Day)	NOx (Night)	PM2.5 (Day)	PM2.5 (Night)
Tracks (Idling & In-Transit)	55%	24	2.253	0.05	0.04	3.95E+03	1.58E+04	7.93E+01	3.17E+02	7.70E+01	3.08E+02	682	8.32396E-05	3.32959E-04	1.62307E-06	6.49229E-06
Maintenance Shop	0%	24	0.00	0.00	0.00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	4	0.00000E+00	0.00000E+00	0.00000E+00	0.00000E+00
Wash Station	45%	24	1.84	0.04	0.04	3.23E+03	1.29E+04	6.49E+01	2.60E+02	6.30E+01	2.52E+02	6	7.74129E-03	3.09651E-02	1.50946E-04	6.03783E-04
Phase 2 (2028+)																	
Source	% Allocated	Hours / Day	Daily In-Transit Emissions (lbs/hr)			Daily In-Transit Emissions (lbs/yr)						# of Vol	Daily In-Transit Emissions per source (g/s)			
			NOx	PM10	PM2.5	NOx (Day)	NOx (Night)	PM10 (Day)	PM10 (Night)	PM2.5 (Day)	PM2.5 (Night)		NOx (Day)	NOx (Night)	PM2.5 (Day)	PM2.5 (Night)
Tracks (Idling & In-Transit)	40%	24	1.35	0.02	0.02	2.37E+03	9.48E+03	3.55E+01	1.42E+02	3.45E+01	1.38E+02	781	4.36402E-05	1.74561E-04	6.34964E-07	2.53986E-06
Maintenance Shop	30%	24	1.01	0.02	0.01	1.78E+03	7.11E+03	2.67E+01	1.07E+02	2.59E+01	1.03E+02	4	6.39056E-03	2.55622E-02	9.29826E-05	3.71930E-04
Wash Station	30%	24	1.01	0.02	0.01	1.78E+03	7.11E+03	2.67E+01	1.07E+02	2.59E+01	1.03E+02	6	4.26037E-03	1.70415E-02	6.19884E-05	2.47954E-04

Table B-9: Onsite Point Sources

Equipment Type	Emissions (lbs/year)			Annual Emissions (g/s)			Short-term Emissions (g/s)		
	NO_X	PM_{10} Exhaust	$PM_{2.5}$ Exhaust	NO_X	PM_{10} Exhaust	$PM_{2.5}$ Exhaust	NO_X	PM_{10} Exhaust	$PM_{2.5}$ Exhaust
300KV Backup Generator	9.22E+01	4.85E+00	6.65E+00	1.32604E-03	6.97916E-05	9.56049E-05	2.32323E-01	1.22275E-02	1.67500E-02
Crane	2.01E+02	3.69E+00	3.40E+00						
Forklift	5.11E+01	1.88E+00	1.73E+00						
Crane + Forklift (Model ID: CRANE)	2.52E+02	5.58E+00	5.13E+00	9.06402E-04	2.0051E-05	1.84469E-05	0.01450	0.00032	0.00030

Table B-10: HARP2 Emissions for Operations – Phase 1 (2025 – 2027) & Phase 2 (2028+)

				2025-2027		2028+	
				lb/yr	lb/hr	lb/yr	lb/hr
GEN	1	9901	DieselExhPM	6.65E+00	0.00E+00	6.65E+00	0.00E+00
RAIL_D	2	9901	DieselExhPM	7.70E+01	0.00E+00	3.45E+01	0.00E+00
RAIL_N	3	9901	DieselExhPM	3.08E+02	0.00E+00	1.38E+02	0.00E+00
WASH_D	4	9901	DieselExhPM	6.30E+01	0.00E+00	2.59E+01	0.00E+00
WASH_N	5	9901	DieselExhPM	2.52E+02	0.00E+00	1.03E+02	0.00E+00
MARINE1	6	9901	DieselExhPM	5.77E-02	0.00E+00	5.77E-02	0.00E+00
MARINE2	7	9901	DieselExhPM	3.46E-02	0.00E+00	3.46E-02	0.00E+00
MARINE3	8	9901	DieselExhPM	8.89E-03	0.00E+00	8.89E-03	0.00E+00
ENT1	9	9901	DieselExhPM	3.59E-02	0.00E+00	3.59E-02	0.00E+00
ENT2	10	9901	DieselExhPM	2.10E-02	0.00E+00	2.10E-02	0.00E+00
SAN2	11	9901	DieselExhPM	1.56E-03	0.00E+00	1.56E-03	0.00E+00
SAN3	12	9901	DieselExhPM	1.74E-02	0.00E+00	1.74E-02	0.00E+00
SAN4	13	9901	DieselExhPM	1.09E-02	0.00E+00	1.09E-02	0.00E+00
I5ON1	14	9901	DieselExhPM	1.84E-02	0.00E+00	1.84E-02	0.00E+00
I5ON2	15	9901	DieselExhPM	2.56E-02	0.00E+00	2.56E-02	0.00E+00
I5OFF1	16	9901	DieselExhPM	7.43E-03	0.00E+00	7.43E-03	0.00E+00
I5OFF2	17	9901	DieselExhPM	1.76E-02	0.00E+00	1.76E-02	0.00E+00
RVAL	18	9901	DieselExhPM	2.20E-02	0.00E+00	2.20E-02	0.00E+00
EASTI5	19	9901	DieselExhPM	4.63E-02	0.00E+00	4.63E-02	0.00E+00
WESTI5	20	9901	DieselExhPM	9.42E-02	0.00E+00	9.42E-02	0.00E+00
ENT3	21	9901	DieselExhPM	2.39E-02	0.00E+00	2.39E-02	0.00E+00
LOOPA1	22	9901	DieselExhPM	3.03E-02	0.00E+00	3.03E-02	0.00E+00
LOOPB1	23	9901	DieselExhPM	2.46E-02	0.00E+00	2.46E-02	0.00E+00
TNKVENT1	24	108883	Toluene	6.47E-01	7.39E-05	6.47E-01	7.39E-05
TNKVENT1	24	100414	Ethyl benzene	6.96E-02	7.95E-06	6.96E-02	7.95E-06
TNKVENT1	24	108383	m-Xylene	1.76E+00	2.01E-04	1.76E+00	2.01E-04
TNKVENT1	24	95636	1,2,4TriMeBenze	1.43E+00	1.63E-04	1.43E+00	1.63E-04
TNKVENT2	25	108883	Toluene	6.47E-01	7.39E-05	6.47E-01	7.39E-05
TNKVENT2	25	100414	Ethyl benzene	6.96E-02	7.95E-06	6.96E-02	7.95E-06
TNKVENT2	25	108383	m-Xylene	1.76E+00	2.01E-04	1.76E+00	2.01E-04
TNKVENT2	25	95636	1,2,4TriMeBenze	1.43E+00	1.63E-04	1.43E+00	1.63E-04
TNKVENT3	26	108883	Toluene	6.47E-01	7.39E-05	6.47E-01	7.39E-05
TNKVENT3	26	100414	Ethyl benzene	6.96E-02	7.95E-06	6.96E-02	7.95E-06
TNKVENT3	26	108383	m-Xylene	1.76E+00	2.01E-04	1.76E+00	2.01E-04
TNKVENT3	26	95636	1,2,4TriMeBenze	1.43E+00	1.63E-04	1.43E+00	1.63E-04
TNKVENT4	27	108883	Toluene	6.47E-01	7.39E-05	6.47E-01	7.39E-05
TNKVENT4	27	100414	Ethyl benzene	6.96E-02	7.95E-06	6.96E-02	7.95E-06
TNKVENT4	27	108383	m-Xylene	1.76E+00	2.01E-04	1.76E+00	2.01E-04
TNKVENT4	27	95636	1,2,4TriMeBenze	1.43E+00	1.63E-04	1.43E+00	1.63E-04
DEFTNK	28	108883	Toluene	6.27E-01	7.16E-05	6.27E-01	7.16E-05
DEFTNK	28	100414	Ethyl benzene	6.75E-02	7.70E-06	6.75E-02	7.70E-06

DEFTNK	28	108383	m-Xylene	1.71E+00	1.95E-04	1.71E+00	1.95E-04
DEFTNK	28	95636	1,2,4TriMeBenze	1.38E+00	1.58E-04	1.38E+00	1.58E-04
FUEL_D1	29	108883	Toluene	6.47E-01	7.39E-05	6.47E-01	7.39E-05
FUEL_D1	29	100414	Ethyl benzene	6.96E-02	7.95E-06	6.96E-02	7.95E-06
FUEL_D1	29	108383	m-Xylene	1.76E+00	2.01E-04	1.76E+00	2.01E-04
FUEL_D1	29	95636	1,2,4TriMeBenze	1.43E+00	1.63E-04	1.43E+00	1.63E-04
FUEL_D2	30	108883	Toluene	6.47E-01	7.39E-05	6.47E-01	7.39E-05
FUEL_D2	30	100414	Ethyl benzene	6.96E-02	7.95E-06	6.96E-02	7.95E-06
FUEL_D2	30	108383	m-Xylene	1.76E+00	2.01E-04	1.76E+00	2.01E-04
FUEL_D2	30	95636	1,2,4TriMeBenze	1.43E+00	1.63E-04	1.43E+00	1.63E-04
FUEL_D3	31	108883	Toluene	6.47E-01	7.39E-05	6.47E-01	7.39E-05
FUEL_D3	31	100414	Ethyl benzene	6.96E-02	7.95E-06	6.96E-02	7.95E-06
FUEL_D3	31	108383	m-Xylene	1.76E+00	2.01E-04	1.76E+00	2.01E-04
FUEL_D3	31	95636	1,2,4TriMeBenze	1.43E+00	1.63E-04	1.43E+00	1.63E-04
FUEL_D4	32	108883	Toluene	6.47E-01	7.39E-05	6.47E-01	7.39E-05
FUEL_D4	32	100414	Ethyl benzene	6.96E-02	7.95E-06	6.96E-02	7.95E-06
FUEL_D4	32	108383	m-Xylene	1.76E+00	2.01E-04	1.76E+00	2.01E-04
FUEL_D4	32	95636	1,2,4TriMeBenze	1.43E+00	1.63E-04	1.43E+00	1.63E-04
SKID	33	108883	Toluene	6.27E-01	7.16E-05	6.27E-01	7.16E-05
SKID	33	100414	Ethyl benzene	6.75E-02	7.70E-06	6.75E-02	7.70E-06
SKID	33	108383	m-Xylene	1.71E+00	1.95E-04	1.71E+00	1.95E-04
SKID	33	95636	1,2,4TriMeBenze	1.38E+00	1.58E-04	1.38E+00	1.58E-04
DISPEN	34	108883	Toluene	6.47E-01	7.39E-05	6.47E-01	7.39E-05
DISPEN	34	100414	Ethyl benzene	6.96E-02	7.95E-06	6.96E-02	7.95E-06
DISPEN	34	108383	m-Xylene	1.76E+00	2.01E-04	1.76E+00	2.01E-04
DISPEN	34	95636	1,2,4TriMeBenze	1.43E+00	1.63E-04	1.43E+00	1.63E-04
SAND1	35	7440508	Copper	8.26E-04	3.77E-07	8.26E-04	3.77E-07
SAND1	35	7440020	Nickel	8.26E-04	3.77E-07	8.26E-04	3.77E-07
SAND1	35	1175	Silica, crystln	6.61E-01	3.02E-04	6.61E-01	3.02E-04
SAND1	35	9960	Sulfates	9.09E-03	4.15E-06	9.09E-03	4.15E-06
SAND2	36	7440508	Copper	8.26E-04	3.77E-07	8.26E-04	3.77E-07
SAND2	36	7440020	Nickel	8.26E-04	3.77E-07	8.26E-04	3.77E-07
SAND2	36	1175	Silica, crystln	6.61E-01	3.02E-04	6.61E-01	3.02E-04
SAND2	36	9960	Sulfates	9.09E-03	4.15E-06	9.09E-03	4.15E-06
MAINT_D	37	9901	DieselExhPM	N/A	0.00E+00	2.59E+01	0.00E+00
MAINT_N	38	9901	DieselExhPM	N/A	0.00E+00	1.03E+02	0.00E+00
CRANE	39	9901	DieselExhPM	N/A	0.00E+00	5.13E+00	0.00E+00

Notes: Grey-shaded sources only exist in the Phase 2 (2028+) scenario.
DPM lb/hr emissions are listed as zero since it does not have an acute risk threshold.

Appendix C
Technical Memorandum
Biological Resources

Metrolink Orange County Maintenance Facility

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Revision	Description	Date
0	Draft Biological Resources Technical Memorandum	01/06/21
1	Draft Biological Resources Technical Memorandum Rev 1 (Incorporating OCTA's comments)	02/25/21
2	Draft Biological Resources Technical Memorandum Rev 2 (Incorporating OCTA's comments)	06/17/21
3	Draft Biological Resources Technical Memorandum Rev 3 (Incorporating OCTA's comments)	08/04/21

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Regional Special-Status Wildlife Species

1. INTRODUCTION

The Southern California Regional Railroad Authority (SCRRA) Metrolink Commuter Rail System (Metrolink) is proposing to construct a new Orange County Maintenance Facility (hereafter referred to as "OCMF" or "the Project"). The Project would include several facilities including a transportation building, employee parking area, train-wash building, pump house, utility building, guard booth, equipment booth, sand silos, a maintenance facility, a maintenance facility extension, and 11 tracks. Approximately 80 employees would report to the Project. The Project consists of buildings that would have a total building area of approximately 90,000 square feet when combined. Metrolink currently operates two maintenance facilities across its service area: Central Maintenance Facility (CMF) in Los Angeles and Eastern Maintenance Facility (EMF) in San Bernardino County. Due to projected population expansion within its service area and the agency's goal to be prepared for the 2028 Los Angeles Summer Olympic Games, Metrolink will require an increased number of commuter rail services, as well as additional train storage and maintenance facilities associated with an increased fleet size. As a significant proportion of the expanded services will operate in Orange County, the Project would provide an optimal location for a new Metrolink maintenance facility. Metrolink's member agency, the Orange County Transportation Authority (OCTA), proposes to build this facility on an OCTA-owned parcel in the City of Irvine. OCTA is the lead agency under the California Environmental Quality Act (CEQA). The City of Irvine and SCRRA are the responsible agencies under CEQA.

The Biological Resource Technical Memorandum was prepared for the Project in support of CEQA review process. This memorandum summarizes the results of biological resource database reviews and a site survey conducted for the Project to document existing biological conditions at the site (Project Site), a discussion of potential impacts to biological resources, and mitigation measures identified to minimize and avoid potential impacts to biological resources.

2. PROJECT DESCRIPTION

2.1 PROJECT BACKGROUND

As a result of the projected population expansion within the five-county area (Orange County, Los Angeles County, San Bernardino County, Riverside County, and Ventura County) currently served by the SCRRA, Metrolink will require an increased number of commuter rail services to support the growth. Consequently, the Metrolink system (Figure 2.1-1) would require additional train storage and maintenance facilities to support an increased fleet size.

Figure 2.1-1 Metrolink System Map

Source: SCRRA (2019)

Metrolink's CMF facility is located on the east bank of the Los Angeles River near the Interstate 5 (I-5) and Interstate 10 (I-10) highways, just south of the location of the former Southern Pacific Taylor Yard. The CMF is currently near capacity, which will impact the ability to provide the necessary train servicing for planned service-expansion of various Metrolink lines throughout the system under the Southern California Optimized Rail Expansion (SCORE) program. By transferring a portion of the current fleet from CMF to the proposed OCMF (specifically the Orange County Line trains), capacity for the non-Orange County trains will be increased at CMF. The Orange County Line has the highest ridership within the Metrolink system; therefore, a maintenance facility to serve the Orange County area with sufficient storage and servicing capabilities for both locomotives and rail cars is critical to controlling operating costs. In order to optimize rail service in the region, the proposed facility development would need to be completed by 2028. The SCORE program may also require heavy overhaul capabilities at OCMF, subject to pending decisions regarding fleet technology and management.

The expansion of Orange County and overall Metrolink commuter rail service will ultimately require additional or expanded equipment servicing capabilities for both locomotives and rail cars. Since a significant portion of the fleet will be in Orange County, a maintenance facility located along the Metrolink route through Orange County would be the optimal location as it would reduce operating costs by limiting non-revenue moves to the existing SCRRA storage and maintenance facilities in the cities of Los Angeles and San Bernardino. The proposed maintenance facility would provide equipment to inspect, clean, and maintain cars and locomotives on a regular and efficient basis. Much of the inspection and maintenance activity is federally mandated and must be performed at specific intervals. The OCMF will also provide refueling services thus reducing fuel costs, reducing fuel consumption, and will reduce emissions. Currently trains operating in the Orange County Region must travel either the CMF or EMF for refueling, which are sometimes non-revenue runs. The location of the Project is on a 21.3-acre OCTA-owned parcel on Ridge Valley south of Marine Way in the City of Irvine (Project Site). The Project Site is located within the boundaries of a closed military base (Marine Corps Air Station [MCAS] El Toro) formerly owned by the United States Department of the Navy (DON). After MCAS El Toro was closed, the site was quitclaimed by the Navy to Heritage Fields El Toro, LLC in 2011, and then by way of grant deed conveyed by Heritage Fields to the City of Irvine that same year. OCTA then purchased the fee ownership of the Project Site from the City of Irvine. Regional vehicle access to the Project Site is from I-5 at Sand Canyon Avenue. Local vehicle access is via Marine Way to Ridge Valley.

Prior to the current construction of the storage/set-out track, the Project Site was mostly vacant. The site currently includes 1,000-foot-long storage for miscellaneous rail equipment including temporary railroad bridges, signal houses, railroad ties, and signal components. Although not part of the Project, OCTA is currently installing a single 1,000-foot-long, single-ended storage track and fencing of the perimeter of the property to provide temporary storage of two trainsets and/or track maintenance equipment when necessary.

2.2 PROJECT DESCRIPTION

The OCMF would be located in the City of Irvine, on a 21.3-acre parcel owned by OCTA and adjacent to Marine Way and the Metrolink Orange subdivision between mileposts 183.50 and 184.00 on Metrolink's "Orange" Subdivision (Figure 2.2-1). The Project Site is located within Planning Area 51 of the updated City of Irvine General Plan, adopted in June 2015, and designated for the Great Park (formerly known as the Orange County Great Park (OCGP)) land use under the General Plan. Per the City's zoning ordinance, the proposed use is a conditionally allowable use under the existing zone; therefore, OCTA is submitting a Conditional Use Permit to the City of Irvine for approval.

The Project would be developed in two phases with an anticipated completion date of 2028. Phase 1 focuses on developing facilities needed for the storage and routine cleaning, inspection and servicing of the anticipated trainsets. The total area of the Phase 1 buildout would be approximately 20,996 square feet and would be comprised of the following facilities: the transportation building, employee parking area, train-wash building, pump house, utility building, guard booth, equipment booth and sand silos (Table 0-1). A total of 11 tracks would be built. The Phase 1 layout situates the train wash, fueling/sanding, and service and inspection tracks on the two tracks with the greatest tangent length, which are the ones nearest the railroad right of way ("ROW"). This is important in fitting a second fueling/sanding facility so that there is one at each end of the service and inspection platform to support having the locomotive at either end, all within tangent track. Additionally, six storage tracks and appurtenant features (air, water, head end power and toilet dump facilities) would be constructed. The storage tracks would be built near the middle of the site east of the service and inspection tracks. Phase 1 of the buildout would anticipate approximately 52 employees total throughout the entire day, split across three eight-hour shifts.

Table 0-1 Building Specifications

Building/Facility/Item	Building Area	Building Height
Transportation Building	7,495 sq. ft.	20 ft
Train Wash Building	11,110 sq. ft.	21 ft
Maintenance Building	40,392 sq. ft.	48 ft
Maintenance Building Expansion	27,880 sq. ft.	---
Utility Building	981 sq. ft.	20 ft
Pump House	750 sq. ft.	14 ft
Guard Booth	36 sq. ft.	---
Equipment Booth	48 sq. ft.	---
Sand Silos (2 Total)	576 sq. ft.	---
Total	89,268 sq. ft.	

Source: Gannett Fleming, Metrolink (February 2022)

Note: sq. ft. = square feet; ft = feet

A runaround track would be provided between the service and inspection tracks and storage tracks. Additionally, two temporary stub-ended set out tracks would be provided in the Phase 1 layout that occupies the footprint of the future shop tracks (one at the north and one at the south end of the yard). These set out tracks would be converted to shop access tracks in Phase 2 and therefore, would no longer be available as set out tracks. A new set out track would then be provided as part of Phase 2.

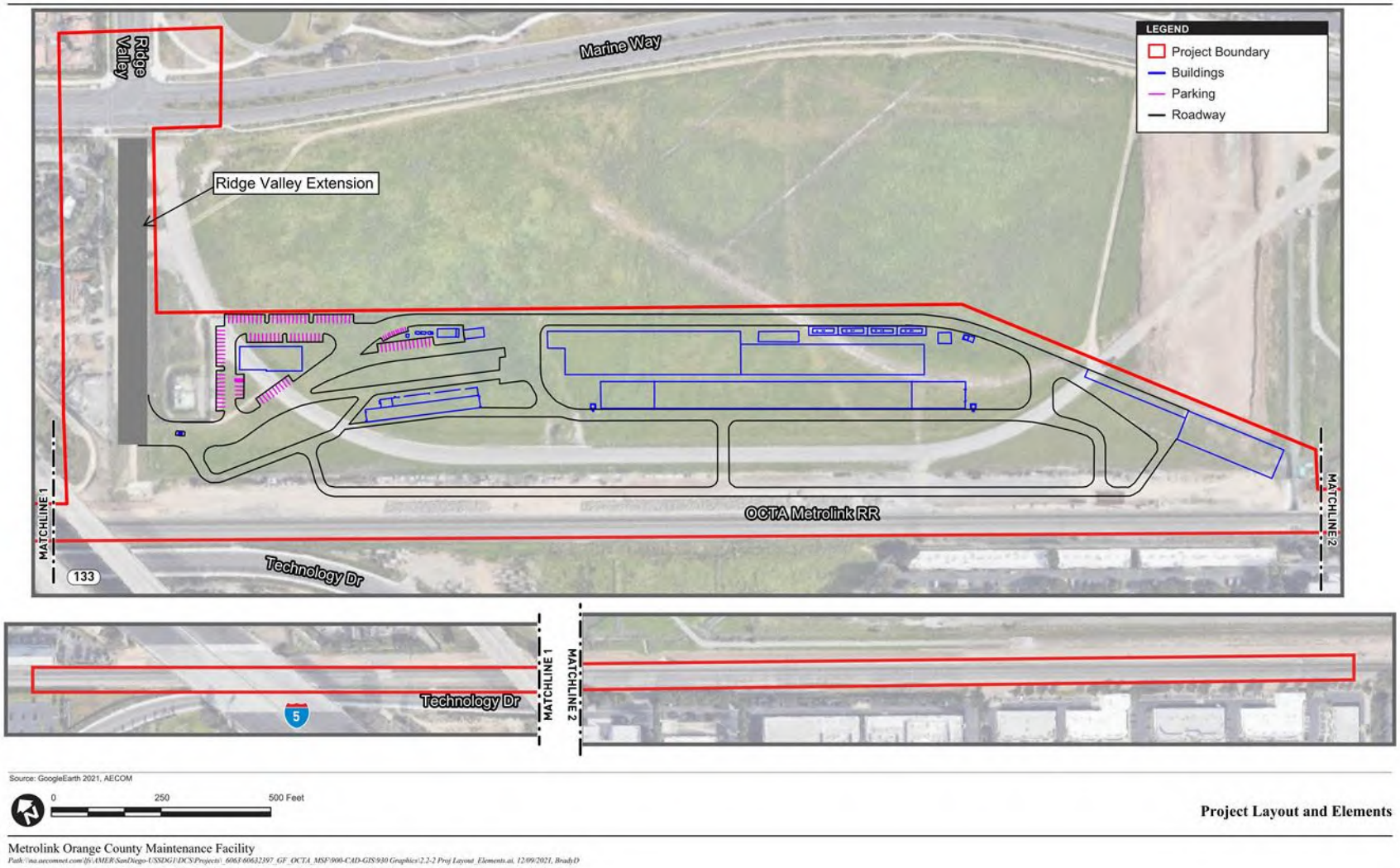
A transportation building that would be utilized for administrative purposes is also included in Phase 1. This building would house managerial offices, welfare spaces for train crews and on-site personnel. This facility would include restrooms, showers, locker rooms, a break/day room, vending space and a kitchenette. Approximately 120 automobile parking spaces would be provided for staff reporting to the site. Fire department compliant roadways would be developed to permit circulation of the site for Metrolink vehicles as well as delivery trucks (sand and fuel).

Phase 2 completes the full buildout of the Project. It would include development of the maintenance shop building and its future extension that would comprise of a total buildout area of 68,272 square feet (Table 0-1). The shop would have capabilities to perform regular three-month, six-month, and one-year preventive maintenance cycles on trainsets. Phase 2 of the buildout would consist of approximately 28 employees. With the full buildout of Phase 1 and Phase 2, approximately 80 employees are expected to access the Project Site daily, split across three eight-hour shifts.

Access to the OCMF would require a roadway extension along Ridge Valley from the intersection of Ridge Valley and Marine Way. The Project includes the southern extension of Ridge Valley Road from Marine Way and associated traffic signal improvements to provide access to the OCMF.

The 11 new east and west lead tracks, as discussed in this section above, would be constructed within the existing railroad corridor between MP 183.0 and MP 184.00 on Metrolink's "Orange" Subdivision to connect the existing mainline railroad to the proposed OCMF rail yard. A new single span concrete bridge over the Bee Canyon Channel (Channel) would be built for the east lead track. A segment of the Channel and utilities that are found to be in conflict would be lowered by approximately 2.5 feet to facilitate the construction of the bridge.

Figure 2.2-1 Project Layout and Elements



Source: ESRI (2021), OCTA (2021)

3. METHODS FOR ASSESSING BIOLOGICAL RESOURCES

A search of relevant regional databases for special-status biological resources in the vicinity of the project area was conducted prior to conducting a field survey. The Project Site is located in the City of Irvine, with most of the Project Site located in the southwest corner of the U.S. Geological Survey's El Toro, California quadrangle and a smaller portion located in the southeast corner of the Tustin, California quadrangle. A search of the El Toro and surrounding eight quadrangles including Tustin, Orange, Black Star Canyon, Corona South, Santiago Peak, Laguna Beach, San Juan Capistrano, and Canada Gobernadora were made of the California Department of Fish and Wildlife's (CDFW) California Natural Diversity Database (CNDDB) (CDFW 2020a), California Native Plant Society's (CNPS) on-line Inventory of Rare and Endangered Plants of California (CNPS 2020), and National Oceanic and Atmospheric Administration's National Marine Fisheries Service (NMFS) California Species List Tool (NMFS 2016). Additionally, the U.S. Fish and Wildlife Service's (USFWS) online Information for Planning and Consultation (IPaC) (USFWS 2020) environmental review process was queried. These desktop reviews provided a list of special-status species, sensitive natural communities, and protected areas known from the project vicinity and are referenced and discussed further in this memorandum.

The area evaluated for biological resources includes the Project Site and a 500-foot survey buffer, known as the Biological Survey Areas (BSA). A buffer around the Project Site was evaluated in order to capture potential indirect effects to biological resources from implementation of the Project. Indirect effects could include elevated noise and dust levels and increased human activity within the BSA. A 500-foot survey buffer is appropriate for capturing potential indirect impacts from a project on biological resources. It is anticipated that indirect impacts beyond 500 feet for this Project are generally diffuse and would not significantly impact biological resources.

Prior to conducting a field survey, aerial imagery of the BSA was reviewed for the presence of areas that could potentially support special-status biological resources. Since most of the BSA is developed by hardscape features (i.e. buildings and a paved lot), the desktop review focused on identifying any significant green or otherwise open spaces in the vicinity of the Project. On July 30, 2020, a field survey of the Project Site and survey buffer was conducted by AECOM biologist Chris Hargreaves to document existing biological resources that occur or have the potential to occur within and adjacent to the BSA, and to evaluate the potential for special-status plant and wildlife species to occur within the BSA. Binoculars were utilized to scan for evidence of wildlife activity in the BSA. Seasonal, species-specific botanical or wildlife surveys were not conducted as part of this evaluation; however, based on the survey conducted and an assessment of conditions in the BSA, it is apparent that special-status plant and wildlife species are not anticipated within the urbanized environment of the BSA.

4. ENVIRONMENTAL SETTING

4.1 EXISTING CONDITIONS

The Project occurs on a 21.3-acre OCTA-owned parcel in the City of Irvine, Orange County. The entire BSA is urbanized or has otherwise been previously disturbed and includes roadways, rail tracks, commercial development, and undeveloped areas covered by weeds and grass. Athletic fields in the Great Park lie to the east and north and commercial development lies to the west and south. Vegetation within the Project Site consists primarily of non-native herbaceous mustard and grass species. The surrounding BSA includes similar ruderal vegetation and ornamental trees and shrubs associated with surrounding commercial and recreational uses. The Project Site is moderately sloped in a southeast to northwest direction, with an elevation of approximately 240 feet above mean sea level (amsl) in the far southern portion of the BSA, to 220 amsl in the northern portion. Bee Canyon Wash flows within an underground concrete box channel northeast to southwest at the southern perimeter of the Project Site. A short, isolated reach of the channel at the southern edge of the Project Site is open. Photographs of the Project Site are included in Attachment A.

4.2 VEGETATION COMMUNITIES AND PLANTS

Vegetation communities are assemblages of plant species that commonly coexist. The classification of vegetation communities is based on the life form of the dominant species within that community and the associated species. No natural vegetation communities exist within the BSA. The nearest areas of natural communities occur approximately four miles to both the northeast in foothills of the Santa Ana Mountains, and to the southwest in the San Joaquin Hills.

Project Site

Onsite habitat can be characterized as upland mustards and other ruderal forbs, as described in A Manual of California Vegetation (MCV) (Sawyer et al. 2009). Plant species within the proposed Project Site consist primarily of non-native herbaceous species, including: wild mustard (*Hirschfeldia incana*), black mustard (*Brassica nigra*), yellow starthistle (*Centaurea solsticialis*), red brome (*Bromus madritensis* spp. *rubens*), and wild oat (*Avena* sp.), with one native herb, doveweed (*Croton setigera*). (Photos 1-4, Attachment A). Some areas of the Project Site containing only patchy vegetative growth composed primarily of black mustard (Photo 5), and areas of bare ground where railroad equipment is currently being stored (Photo 6). It appears that most of the Project Site is regularly mowed to control vegetative growth. Areas at the eastern and western extent of the Project Site, at the bends in Marine Way, appear to be mowed less frequently and contain additional non-native herbaceous plant species (Photo 7). No trees or shrubs exist within the Project Site. A list of the plant species identified during the field survey of the site are provided in Table 4.2-1.

Table 4.2-1 Plant Species Observed Within the Project Site

Common Name	Scientific Name	Native/Non-Native Species
Ragweed	*Ambrosia psilostachya*	Native
Wild oat	*Avena sp.*	Non-Native
Black mustard	*Brassica nigra*	Non-Native
Red brome	*Bromus madritensis spp. rubens*	Non-Native
Yellow starthistle	*Centaurea solsticialis*	Non-Native
Doveweed	*Croton setigera*	Native
Bermuda grass	*Cynodon dactylon*	Non-Native
Jimsonweed	*Datura wrightii*	Native
Canada horseweed	*Erigeron canadensis*	Native
Spotted spurge	*Euphorbia maculata*	Non-Native
Prickly lettuce	*Lactuca seriola*	Non-Native
Telegraph weed	*Heterotheca grandiflora*	Native
White sweetclover	*Melilotus albus*	Non-Native
Fountain grass	*Pennisetum setaceum*	Non-native
Castor bean	*Ricinus communis*	Non-native

A short, open reach of Bee Canyon Wash occurs at the southern edge of the Project Site, where a bridge carrying rail tracks is proposed over the channel. At this location, the channel is a concrete box, with some rip-rap above the channel on the banks (Photo 8). The channel is underground north (upstream) of this reach. There is no vegetative growth in the channel.

Stormwater runoff drains from the Project Site via an open concrete channel that occurs in the northwest corner of the site (Photo 9). From this point, stormwater is further conveyed downstream to the Marshburn Channel, which occurs outside the BSA to the northwest.

Surrounding BSA

The 500-foot survey buffer around the Project Site includes roadways, rail tracks, commercial development to the southwest and athletic fields in Great Park to the northeast. Vegetation within the BSA consists of ornamental pine (*Pinus* sp.), fig (*Ficus* sp.), and sweet gum (*Liquidambar styraciflua*) trees within landscaped areas in the commercial development. These trees are visible in the background of Photos 5-8. Vacant land covered by herbaceous habitat similar to that on the Project Site occurs in the BSA to the east around Voyager Drive and to the south of the Project Site.

A soft-bottom, vegetated stormwater channel drains into the open portion of Bee Canyon channel from the southeast in the BSA. Some growth of native riparian species including willow (*Salix* sp.) and mulefat (*Baccharis salicifolia*) are present in this channel; however, it occurs just outside the Project Site and would not be impacted by the Project.

4.3 WILDLIFE

With most vegetation being less than a foot in height, the Project is generally unsuitable for wildlife nesting and cover. Wildlife activity was minimal during the field survey. Species observed include western fence lizard (*Sceloporus occidentalis*), and observations of mourning dove (*Zenaida macroura*), American crow (*Corvus brachyrhynchos*), and common raven (*Corvus corax*) flying across the Project Site. No active or old bird nests were observed within the Project Site; however, killdeer (*Charadrius vociferous*), a common ground-nester could potentially nest on site.

4.4 WILDLIFE CORRIDORS

In an urban context, a wildlife migration corridor can be defined as a linear landscape feature of sufficient width and buffer to allow animal movement between two comparatively undisturbed habitat fragments, or between a habitat fragment and some vital resource that encourages population growth and diversity. Habitat fragments are isolated patches of habitat separated by otherwise foreign or inhospitable areas, such as urban tracts or highways. Two types of wildlife migration corridors seen in urban settings are regional corridors, defined as those linking two or more large areas of natural open space, and local corridors, defined as those allowing resident wildlife to access critical resources (food, cover, and water) in a smaller area that might otherwise be isolated by urban development.

The BSA occurs within an urbanized area and does not occur within or intersect a recognized or established regional wildlife corridor. Vegetative growth within the Project Site and ornamental trees and shrubs within landscaped areas within the surrounding BSA provide some opportunities for cover, resting, foraging, and nesting to localized bird populations; however, they do not provide functions as a significant wildlife movement corridor.

5. SPECIAL-STATUS SPECIES

5.1 SPECIAL-STATUS PLANT SPECIES

Special-status plant species include those listed as Endangered, Threatened, Rare or those species proposed for listing by the USFWS under the federal Endangered Species Act (FESA), those listed by CDFW under the California Endangered Species Act (CESA), and the CNPS.[1,2,3] The CNPS inventory is sanctioned by the CDFW and essentially serves as the list of candidate plant species for state listing. CNPS's California Rare Plant Ranks (CRPR) 1B and 2 species are considered eligible for state listing as endangered or threatened.

A total of 76 special-status plant species were identified from the El Toro and surrounding eight quadrangles in the CNDDB and CNPS, and from a search of IPaC for the vicinity of the Project Site, including 10 federal and/or state-listed species:

- Munz's onion (*Allium munzii*), federal-listed endangered and state-listed threatened
- Braunton's milk-vetch (*Astragalus brauntonii*), federal-listed endangered
- Thread-leaved brodiaea (*Brodiaea filifolia*), federal-listed threatened and state-listed endangered
- San Fernando Valley spineflower (*Chorizanthe parryi* var. *fernandina*), federal candidate for listing and state-listed endangered
- Slender-horned spineflower (*Dodecahema leptoceras*), federal and state-listed endangered
- Santa Monica dudleya (*Dudleya cymosa* ssp. *ovatifolia*), federal-listed threatened
- Laguna Beach dudleya (*Dudleya stolonifera*), federal and state-listed threatened
- Santa Ana River woollystar (*Eriastrum densifolium* ssp. *sanctorum*), federal and state-listed endangered
- Gambel's water cress (*Nasturtium gambellii*), federal-listed endangered and state-listed threatened
- Big-leaved crownbeard (*Verbesina dissita*), federal and state-listed threatened

The 76 special-status plant species identified during the database reviews, their status, and habitat requirements are provided in Attachment B, Table A.

No special-status plant species were observed during the field survey and no records of special-status plant species were found during the database reviews to coincide with the BSA. Due to the developed nature of the BSA and lack of natural habitats that are potentially suitable to support special-status plants, none are

[1] Species listed or proposed for listing as threatened or endangered under the federal Endangered Species Act (Title 50 Code of Federal Regulations [CFR] 17.12 [listed plants], Title 50 CFR 17.11 [listed animals] and includes notices in the Federal Register for proposed species).

[2] Species listed or proposed for listing by the State of California as threatened or endangered under the California Endangered Species Act (Title 14 California Code of Regulations 670.5).

[3] Plants listed as rare under the California Native Plant Protection Act (California Fish and Game Code Section 1900 *et seq*.).

expected to occur in the BSA. The nearest special-status plant species identified during database reviews are primarily recorded from native habitats two plus miles southwest of the BSA, in the vicinity of Sand Canyon Reservoir.

5.2 SPECIAL-STATUS WILDLIFE SPECIES

Special-status wildlife species include those listed by USFWS under FESA and by CDFW under CESA. USFWS and CDFW officially list species as either threatened, endangered, or as candidates for listing. Additional species receive federal protection under the Bald Eagle Protection Act (e.g., bald eagle, golden eagle), the Migratory Bird Treaty Act (MBTA), and state protection under CEQA Section 15380(d).

All birds, except European starlings, English house sparrows, rock doves (pigeons), and non-migratory game birds such as quail, pheasant, and grouse are protected under the MBTA. However, the nests and eggs of non-migratory game birds are protected under California Fish and Game Code (CFGC) Section 3503. Many other species are considered by CDFW to be California Species of Special Concern (SSC) and others are on a CDFW Watch List (WL). The CNDDB tracks species within California for which there is conservation concern, including many that are not formally listed, and assigns them a CNDDB Rank (CDFW 2020b). Although CDFW SSC and WL species and species that are tracked by the CNDDB but not formally listed are afforded no official legal status, they may receive special consideration during the environmental review process. CDFW further classifies some species as "Fully Protected" (FP), indicating that the species may not be taken or possessed except for scientific purposes, under special permit from CDFW. Additionally, CFGC Sections 3503, 3505, and 3800 prohibit the take, destruction, or possession of any bird, nest, or egg of any bird except English house sparrows and European starlings unless authorization is obtained from CDFW.

A total of 66 special-status wildlife species were identified during a search of the El Toro and surrounding eight quadrangles in the CNDDB and NMFS databases, and from a search of IPaC for the vicinity of the Project, including 20 federal and/or State-listed wildlife species:

- Tricolored blackbird (*Agelaius tricolor*), state-listed threatened
- Arroyo toad (*Anaxyrus californicus*), federal-listed endangered
- Crotch bumble bee (*Bombus crotchii*), state candidate-endangered
- San Diego fairy shrimp (*Branchinecta sandiegonensis*), federal-listed endangered
- Santa Ana sucker (*Catostomus santaanae*), federal-listed threatened
- Western snowy plover (*Charadrius alexandrinus nivosus*), federal-listed threatened
- Western yellow-billed cuckoo (*Coccyzus americanus occidentalis*), federal-listed threatened and state-listed endangered
- Stephens' kangaroo rat (*Dipodomys stephensi*), federal-listed endangered and state-listed threatened
- Southwestern willow flycatcher (*Empidonax traillii extimus*), federal and state-listed endangered
- Tidewater goby (*Eucyclogobius newberryi*), federal-listed endangered
- Quino checkerspot butterfly (*Euphydryas editha quino*), federal-listed endangered
- Bald eagle (*Haliaeetus leucocephalus*), state-listed endangered
- California black rail (*Laterallus jamaicensis coturniculus*), state-listed threatened
- Steelhead – southern California DPS (*Oncorhynchus mykiss pop. 10*), federal-listed endangered
- Belding's savannah sparrow (*Passerculus sandwichensis beldingi*), state-listed endangered
- Pacific pocket mouse (*Perognathus longimembris pacificus*), federal-listed endangered
- Coastal California gnatcatcher (*Polioptila californica californica*), federal-listed threatened
- Light-footed Ridgway's rail (*Rallus obsoletus levipes*), federal and state-listed endangered
- California least tern (*Sternula antilarum browni*), federal and state-listed endangered
- Least Bell's vireo (*Vireo bellii pusillis*), federal and state-listed endangered

The 66 special-status wildlife species identified during the database reviews, their status, and habitat requirements are provided in Attachment B, Table B.

No special-status wildlife species were detected during the field survey and no historical records of special-status wildlife were identified to coincide with the BSA during database reviews. Records of burrowing owl (*Athena cunicularia*), a CDFW SSC, are known from 1-2 miles east of the BSA from 2010, within the former El Toro Air Station, where adults were found overwintering. It was determined at the time that these individuals were not nesting and burrows were collapsed to prohibit reuse (CDFW 2020a). No records of burrowing owl have been made in the vicinity of the Project Site since 2010 and no individuals of this species or burrows suitable for this species were observed onsite during the field survey. Although this species prefers open grassland habitat with low plant growth similar to that within the Project Site, a lack of

recent records and absence of any indication of the species occurrence in the Project Site indicate the species is likely no longer present in the vicinity. CNDDB records from 1999 of tricolored blackbird are known from 1-2 miles west and southwest of the BSA, on the other (west) side of I-5 from the Project Site. Subsequent surveys for this species in 2014 noted it was no longer present and the area had been developed (CDFW 2020a). Due to the developed nature of the BSA, native habitats suitable to support these and other special-status wildlife species are generally absent from the BSA. No special-status invertebrates, reptiles, amphibians, fish, or mammals are expected to occur within the BSA.

Two CDFW WL species, Cooper's hawk (*Accipiter cooperii*) and California horned lark (*Eremphila alpestris actia*) have some potential to occur within the BSA; California horned lark as a potential ground-nester within the Project Site and Cooper's hawk as a transient migrant or forager across the BSA (refer to Attachment B, Table B).

6. SENSITIVE NATURAL COMMUNITIES

Sensitive natural communities are those that are designated as rare in the region by CDFW in the CNDDB, support special-status plant or wildlife species, or are aquatic communities such as wetlands, rivers, streams, and riparian areas that fall under regulatory jurisdiction of the U.S. Army Corps of Engineers (USACE), CDFW, and/or the Regional Water Quality Control Board (RWQCB). Tidal waters around the peninsula are considered sensitive natural communities, falling under the jurisdiction of NMFS. Regulations applicable to sensitive natural communities are discussed further in Section 7 of this memorandum.

Fourteen sensitive vegetative communities were identified during a search of the CNDDB for the El Toro and surrounding eight quadrangles, including the following:

- California Walnut Woodland
- Canyon Live Oak Ravine Forest
- Riversidian Alluvial Fan Sage Scrub
- Southern California Arroyo Chub/Santa Ana Sucker Stream
- Southern Coast Live Oak Riparian Forest
- Southern Coastal Salt Marsh
- Southern Cottonwood Willow Riparian Forest
- Southern Interior Cypress Forest
- Southern Mixed Riparian Forest
- Southern Riparian Forest
- Southern Riparian Scrub
- Southern Sycamore Alder Riparian Woodland
- Southern Willow Scrub
- Valley Needlegrass Grassland

These communities are absent from the BSA and are known from inland mountain ranges and coastal canyons generally occurring within 3-4 miles northeast and southwest of the BSA. No USFWS-designated critical habitats for federally-listed species or any other sensitive, protected, or managed communities or habitats were identified during a review of IPaC to coincide with the Project Site.

As identified in Section 4.1, Bee Canyon Wash (Lower San Diego Creek; Hydrologic Unit Code [HUC] 12 = 180702040102) occurs as a mostly underground channel along the southeastern perimeter of the Project Site, with a short, isolated open portion of the channel at the southern edge of the Project Site. Bee Canyon Wash originates as a headwater channel in the Santa Ana Mountains five to six miles northeast of the BSA in the vicinity of the Frank R. Bowerman Landfill. Round Canyon Wash, a tributary of Bee Canyon Wash, originates to the southeast of Bee Canyon in Limestone Canyon Regional Park. From their source, these streams flow southwest (under the 241 Toll Road) and confluence just south of the Portola Springs area of the City of Irvine. Bee Canyon Wash then flows under the former El Toro Marine Air Station and daylights along the southeast perimeter of the Project Site, before flowing into an underground storm drain system which eventually enters San Diego Creek, approximately one mile southwest of the BSA.

The San Diego Creek watershed drains roughly 112 square miles, most of which is located in the City of Irvine. From its confluence with Bee Canyon Wash, San Diego Creek continues through urbanized portions of the City for approximately eight miles before flowing into Newport Bay, where it contributes nearly all of the freshwater inflow to Newport Bay.

7. BIOLOGICAL RESOURCES REGULATORY FRAMEWORK

Several regulations and standards have been established by federal, state, and local agencies to protect and conserve biological resources. The Project's compliance with the regulations and standards listed below were assessed.

Federal

Federal Endangered Species Act

Enacted in 1973, the FESA provides for the conservation of threatened and endangered species and their ecosystems (United States Code [U.S.C.] Title 16, Chapter 35, Sections 1531–1544). The ESA prohibits the "take" of threatened and endangered species except under certain circumstances and only with authorization from USFWS through a permit under Section 4(d), 7 or 10(a) of the ESA. "Take" under the FESA is defined as "to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct."

Formal consultation under the FESA would be required if the Project had the potential to affect a federally-listed species that has been detected within or adjacent to the BSA. No federally-listed species were detected during the field survey and suitable habitats for such species do not occur in the BSA. Therefore, formal consultation is not expected for the Project.

Migratory Bird Treaty Act (MBTA)

Under the MBTA, it is unlawful at any time, by any means or manner, to pursue, hunt, take, capture, or kill migratory birds. The law applies to the removal of nests occupied by migratory birds during the breeding season. The MBTA (16 U.S.C. 703-71 1), 50 CPR Part 10, protects migratory birds, their occupied nests, and their eggs from disturbance or destruction.

Although unlikely due to the absence of trees and shrubs on site, native migratory bird species protected under the MBTA may nest on site. No permit is issued under the MBTA; therefore, the Project would need to employ measures that would avoid take of protected migratory birds, their occupied nests and their eggs.

Bald and Golden Eagle Protection Act (Eagle Act)

The Eagle Act was originally implemented for the protection of bald eagles. In 1962, Congress amended the Eagle Act to also cover golden eagles, a move that was partially an attempt to strengthen protection of bald eagles, since the latter were often killed by people mistaking them for golden eagles. This act makes it illegal to import, export, take (which includes molest or disturb), sell, purchase, or barter any bald eagle or golden eagle or part thereof.

Although known from the region, bald and golden eagles are not known from the vicinity of the Project, and habitat in the BSA is not suitable for these species. As a result, the Project is not expected to take a bald or golden eagle.

Clean Water Act (CWA)

Under Section 404 of the CWA, the USACE regulates the discharge of dredged or fill material into jurisdictional waters of the U.S., which include those waters listed in 33 CFR 328.3 (Definitions) (U.S.C. Title 33, Chapter 26, Sections 101–607). In June of 2020, the Navigable Waters Protection Rule became effective. The Final Rule modified the definition of Waters of the U.S. 33 CFR 328 3(b)(3) indicates that ephemeral features are not regulated by the CWA. The definitions of intermittent and perennial require surface water flowing continuously for weeks or months during certain times of the year and more than in direct response to precipitation (e.g., ephemeral drainages). The final rule preamble Section III.A.2 does clarify that features with effluent-derived intermittent or perennial flows may be considered jurisdictional as well.

As described in Section 6, Bee Canyon Wash occurs along the southeastern perimeter of the Project Site. Although Bee Canyon Wash's hydrologic regime is not currently known, the analysis assumes that the wash is jurisdictional due to the size of the watershed and urban influence located upstream. This feature constitutes a potential jurisdictional water of the U.S. per USACE regulations. Potential permitting requirements pursuant to Section 404 and 401 of the CWA are discussed in Section 8.

Section 401 of the CWA requires a Water Quality Certification from the state for all permits issued by the USACE under Section 404 of the CWA. The RWQCB is the state agency in charge of issuing a CWA Section 401 Water Quality Certification or waiver.

Magnuson-Stevens Fisher Conservation and Management Act (Magnuson-Stevens Act)

Under the purview of NMFS, amendments in 1996 to the Magnuson-Stevens Act set forth a number of mandates for NMFS, Regional Fishery Management Councils, and federal action agencies to identify and protect important marine and anadromous fish habitat. The Councils, with assistance from NMFS, are required to delineate Essential Fish Habitat (EFH) in fishery management plans for all managed species. As defined by this act, EFH is necessary for fish to spawn, breed, feed, or grow to maturity, and includes subsets of habitats known as Habitat Areas of Particular Concern (HAPC), which are high-priority areas for conservation, management, and research and are necessary for healthy ecosystems and sustainable fisheries. HAPC include estuaries, kelp canopies, rocky reefs, and beds of seagrass, habitats that are rare, stressed by development, provide important ecological functions for federally managed species, and/or are especially vulnerable to anthropogenic (or human impact) degradation. They can cover a specific location (a bank or ledge, spawning location) or a habitat that is found over a wider area, such as coral, nearshore nursery areas, or pupping grounds. The HAPC designation does not provide additional protection or restrictions on an area but helps prioritize conservation efforts (NMFS 2020a).

As described in Section 6, Bee Canyon Wash occurs within the BSA and flows into San Diego Creek and further into Newport Bay. Waters in Newport Bay are identified by NMFS as EFH and a review of HAPC

occurring along and off the coast of Newport Bay indicates the presence of estuary habitat in the Bay (NMFS 2020b). However, due to the distance from the BSA to Newport Bay, coordination with NMFS regarding potential impacts to EFH and HAPC are not anticipated for the Project.

State

California Environmental Quality Act (CEQA)

CEQA requires that biological resources be considered when assessing the environmental impacts resulting from proposed actions. CEQA does not specifically define what constitutes an "adverse effect" on a biological resource. Instead, lead agencies are charged with determining what specifically should be considered an impact. This memorandum has been prepared in support of a review of biological resource pursuant to CEQA.

California Fish and Game Code (CFGC)

CFGC regulates the taking or possession of birds, mammals, fish, amphibians, and reptiles, as well as impacts to natural resources such as wetlands and waters of the state. It includes CESA (Sections 2050–2115) and Lake and Streambed Alteration Agreement (LSAA) regulations (Section 1600 et seq.).

Wildlife "take" is defined by CDFW as "to hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture, or kill." Protection extends to the animals, dead or alive, and all their body parts. Section 2081 of CESA allows CDFW to issue an incidental take permit for state-listed threatened or endangered species, should the Project have the potential to "take" a state-listed species that has been detected within or adjacent to the Project Site. Certain criteria are required under CESA prior to the issuance of such a permit, including the requirement that impacts of the take are minimized and fully mitigated.

Additionally, CFGC Sections 3503, 3505, and 3800 mirror the MBTA, but also prohibit the take, destruction, or possession of any bird, nest, or egg of <u>any</u> bird species except English house sparrows and European starlings unless authorization is obtained from CDFW.

No state-listed species are anticipated to be affected by the Project as habitat potentially suitable for such species does not occur within the BSA, or the species' known distribution does not coincide with the BSA. As a result, a permit under Section 2081 is not anticipated for the Project.

Bee Canyon Wash may constitute a regulated streambed under the jurisdiction of CDFW. As a result, an LSAA will be required for the Project.

Porter-Cologne Water Quality Control Act

Under Section 13000 et seq., of the Porter-Cologne Water Quality Act (Porter-Cologne), the RWQCB is the agency that regulates discharges of waste and fill material within any region that could affect a water of the state (CWC 13260[a]) (including wetlands and isolated waters) as defined by CWC Section 13050(e).

Waste Discharge Requirements (WDR) pursuant to Porter-Cologne may be required if water quality certification pursuant to Section 401 of the CWA is not required. General Waste Discharge Order 2004-2004-DWQ may apply if Bee Canyon Wash would be subject to discharge of fill and is not regulated under CWA.

Local

Orange County Central and Coastal Subregion Natural Community Conservation Plan and Habitat Conservation Plan (NCCP/HCP)

The NCCP/HCP (County of Orange 1996a) was prepared by the County of Orange in cooperation with California Department of Fish and Game (CDFG, now CDFW) and USFWS. The document was prepared in accordance with the provisions of the state Natural Community Conservation Planning Act of 1991 (NCCP Act), Sections 1600 *et seq.* of the CFGC and FESA. The 208,00-acre Central and Coastal Subregion is part of a five-county NCCP Study Area established by the state as part of the Southern California Coastal Sage Scrub NCCP Program. The Project falls within the Central Subregion of the NCCP/HCP.

In addition, a Joint Programmatic Environmental Impact Report and Environmental Impact Statement (Joint EIR/EIS) (County of Orange 1996b) that addresses the effects related to the NCCP/HCP was prepared in accordance with the CEQA, and National Environmental Policy Act (NEPA). The County is the lead agency responsible for preparation of the NCCP/HCP and the EIR. The USFWS is the lead agency responsible for preparation of the HCP and EIS.

The NCCP/HCP focuses on creating a multiple-species, multiple-habitat subregional Reserve System and implementing a long-term "adaptive management" program that will protect coastal sage scrub and other habitats and species located within the coastal sage scrub habitat mosaic, while providing for economic uses that will meet the social and economic needs of the people of the subregion. The primary goal is to protect and manage habitat supporting a broad range of plant and animal populations that are found within the Central and Coastal subregions of Orange County. To accomplish this goal, the NCCP/HCP creates a subregional habitat Reserve System for coastal sage scrub and related habitats and implements a program that manages biological resources within the habitat reserve. The Reserve System would be established by incorporating existing parklands and open space and additional dedications that would occur over 25 years or more.

Two categories of landowners are identified by the NCCP/HCP including, *participating landowners* and *non-participating landowners*. Each of these landowner categories is offered different endangered species habitat mitigation opportunities under the NCCP/HCP. Non-participating landowners, such as OCTA, are those public and private landowners that are not contributing significant land and/or funding toward implementation of the Reserve System and adaptive management program. For non-participating landowners, development activities are required under current law to assure that impacts to listed species resulting from activities on their lands are fully mitigated consistent with the FESA and CESA. Consistency with the FESA and CESA is achieved by 1) onsite avoidance of impacts to listed species; 2) satisfying

applicable FESA and CESA provisions under the consultation and permit provisions of these acts; or 3) payment of a Mitigation Fee to the non-profit management corporation as provided for in the NCCP/HCP.

As presented in Section 8 below, significant impacts to federally and/or State-listed species and non-listed special-status-species and sensitive community will be avoided. Listed species are not expected onsite, sensitive communities are absent from the site, and avoidance and minimization measures would be implemented to reduce potential impacts to nesting birds protected under the MBTA and CFGC. As a result, the Project is not anticipated to conflict with the NCCP/HCP and payment of a Mitigation Fee per the NCCP/HCP is not expected.

8. IMPACTS ON BIOLOGICAL RESOURCES

Biological resources may be either directly or indirectly impacted by a project. Direct and indirect impacts may be either permanent or temporary in nature. These impact categories are defined below.

- **Direct**: Any alteration, physical disturbance, or destruction of biological resources that would result from project-related activities is considered a direct impact. Examples include clearing vegetation, encroaching into wetlands or a stream, and the loss of individual species and/or their habitats.
- **Indirect**: As a result of project-related activities, biological resources may also be affected in a manner that is ancillary to physical impacts. Examples include elevated noise and dust levels, increased human activity, decreased water quality, and the introduction of invasive wildlife (domestic cats and dogs) and plants.
- **Permanent**: All impacts that result in the long-term or irreversible removal of biological resources are considered permanent. Examples include constructing a building or permanent road on an area containing biological resources.
- **Temporary**: Any impacts considered to have reversible effects on biological resources can be viewed as temporary. Examples include the generation of fugitive dust during construction; or removing vegetation for the preparation of stream bank stabilization activities, and either allowing the natural vegetation to recolonize or actively revegetating the impact area. Surface disturbance that removes vegetation and disturbs the soil is considered a long-term temporary impact because of slow natural recovery in arid ecosystems.

8.1 CONSTRUCTION

The anticipated impacts of Project construction on biological resources are described below.

Vegetation

Herbaceous vegetation composed primarily of non-native mustard and grass species occur within the Project Site; no trees or shrubs occur on site. The removal of such vegetation during implantation of the Project does not constitute a significant direct impact.

Indirect impacts to vegetation during the Project's construction could include the accumulation of fugitive dust and further colonization of non-native, invasive plant species. Other indirect impacts could include the potential for surface runoff, increased erosion, and sediment deposition beyond the footprint of disturbance as a result of the use of heavy construction equipment and general construction-related activities. However, standard construction practices related to fugitive dust and erosion control would be implemented. As a result, no significant indirect impacts to vegetation are anticipated.

Special-Status Plant Species

No federal- or state-listed plant species were identified during the field survey and special-status plants are not expected to occur in the BSA due to a lack of potentially suitable habitat. As a result, direct impacts to special-status plant species would not occur.

Likewise, suitable habitat for special-status plants is not present in the urbanized environment surrounding the Project Site. As a result, significant indirect impacts to special-status plant species are not anticipated.

Wildlife

No federal- or state-listed wildlife species were identified during the field survey or are expected to occur in the BSA due to a lack of potentially suitable habitat. As a result, direct impacts to federal- or state-listed wildlife species would not occur.

Although no trees or shrubs occur within the Project Site, the low and sometimes sparse vegetative growth present is potentially suitable for ground-nesting bird species such as California horned lark, a CDFW WL, and killdeer (*Charadrius vociferus*). Additionally, trees in ornamental landscapes within the surrounding BSA at the athletic fields to the northeast and in commercial development to the southwest provide potentially suitable nesting opportunities for birds protected under CFGC. By implementing avoidance and minimization measures outlined in Mitigation Measure BIO-1 in Section 9, direct impacts to any birds protected under the MBTA and by CFGC that may occur in the BSA would be less than significant.

Indirect impacts to nesting birds within the BSA could occur during construction as a result of noise, dust, increased human presence, and vibrations resulting from construction activities. Such disturbances could result in increased nestling mortality due to nest abandonment or decreased feeding frequency; mortalities resulting from such indirect effects would be considered significant. However, implementing and adhering to avoidance and minimization measures outlined in Mitigation Measure BIO-1 in Section 9 would reduce potential indirect impacts to nesting birds protected under the MBTA and by CFGC to a level that is less than significant.

Special-Status Wildlife Species

No federal- or state-listed wildlife species have been identified in the BSA, and potentially suitable habitat for such species is absent from the BSA. However, as presented in Section 5.2, two non-listed special-status bird species identified as CDFW WL species, Cooper's hawk and California horned lark, have some potential to occur within the BSA. As a result, direct and indirect impacts to special-status wildlife could occur. However, by implementing and adhering to avoidance and minimization measures outlined in Mitigation Measure BIO-1 in Section 9, potential impacts to nesting individuals of these special-status birds and any other bird species that could occur on site, would be reduced to a level that is less than significant.

Wildlife Movement Corridor

The BSA does not serve as a regional wildlife corridor and as a result, impacts to a regional wildlife movement corridor would not occur.

Sensitive Natural Communities

No sensitive natural vegetation communities occur within the BSA; however, Bee Canyon Wash, an aquatic feature under regulatory jurisdiction of the USACE, CDFW, and RWQCB, occurs within the BSA. Under the current design, construction of the bridge over Bee Canyon Wash would require a discharge of fill (e.g. soil, concrete) as the channel must be modified (e.g. widened, deepened, realigned, storm drain outlets added or modified) to accommodate the new bridge structure. Such impacts would require permits from USACE, CDFW and RWQCB. The Project occurs within the San Diego Creek (SDC) Watershed Special Area Management Plan (SAMP) area and is located outside of any pre-defined Aquatic Resource Integrity Area. Additionally, this segment of Bee Canyon Wash is not located within the "major streams" category. Construction of the Project would meet the terms and conditions of a Letter of Permission (LOP), and operation and maintenance would potentially meet the criteria for authorization under Regional General Permit (RGP) No. 74.

Construction of a bridge to carry rail tracks over an isolated, open portion of Bee Canyon Wash may be eligible to obtain an LOP from the USACE as a "Road Crossing," which includes construction and/or maintenance of new and existing bridges and culverts. The LOP application process would require:

- Pre-application coordination meeting with USACE to address:
  - CWA Section 404(b)(1) Guidelines alternatives analysis;
  - How avoidance and minimization of discharges to jurisdictional waters were achieved for the Project;
  - Compensatory mitigation plan consistent with the SAMP mitigation framework to address any unavoidable impacts to jurisdictional waters and the program goal of no net loss of wetlands.
- Coordination with RWQCB regarding a Section 401 Water Quality Certification that demonstrates the Project's compliance with water quality standards.

Alternatively, it may be determined during coordination with USACE that the proposed bridge over Bee Canyon Wash would qualify for RGP No. 74 to fulfill CWA Section 404 requirements. A RGP 74 would be issued by the USACE, Los Angeles District. This RGP authorizes discharges of dredged or fill material resulting in temporary impacts up to 0.5 acre of jurisdictional waters of the U.S. in eligible areas, no more than 0.1 acre of which may be vegetated with native riparian and/or wetland vegetation. No permanent impacts to waters of the U.S., including impacts from fills, flooding, excavation beyond a Corps Regulatory Division-approved maintenance baseline, or drainage are permitted under this RGP.

Construction of the proposed bridge over Bee Canyon Wash would require the Project applicant to obtain a permit pursuant to Sections 404 and 401 of the CWA and to Section 1600 et seq of CFGC. The Project would comply with the regulatory framework set forth by the USACE, RWQCB, and CDFW. Following the permitting process and SAMP requirements described below would further reduce the impacts of bridge installation over Bee Canyon Wash at a level less than significant. For CEQA purposes, potentially significant impacts would include those impacts that require mitigation.

Permitting Process:

- If discharge of fill to Bee Canyon Wash cannot be avoided and it is determined to meet the definition of a Water of the U.S., then prior to the start of the Project's construction, the Project Applicant shall coordinate with the USACE to obtain authorization pursuant to Section 404 of the CWA (i.e. LOP or RGP 74 per SAMP permit procedures) and the RWQCB to obtain a Water Quality Certification pursuant to Section 401 of the CWA.
- If discharge of fill to Bee Canyon Wash cannot be avoided and it is determined to NOT meet the definition of a Water of the U.S., then prior to the start of the Project's construction, the Project Applicant shall submit a Notice of Intent to be enrolled under and to comply with General Water Quality Order No. 2004-2004-DWQ.
- If the Project results in substantial modification of the bed or banks of Bee Canyon Wash, then, the Project Applicant shall coordinate with CDFW to determine the need to obtain a LSAA pursuant to Section 1600 et seq. of CFGC.

SAMP Requirements:

- The applicant shall comply with the SAMP Mitigation Framework (see Section 9 below) applicable to the LOP or RGP 74 permit procedures.
- If a permanent loss of regulated waters or streambed occurs because of the Project, compensatory mitigation (purchase of credit at an in-lieu fee or mitigation bank approved by the resource agencies), or applicant proposed enhancement or establishment of waters or streambed) shall be provided at a minimum ratio of 1:1. Temporary impacts shall be restored to pre-Project conditions to the extent practicable.

Local Plans

Although the Project Site falls within the boundary of the Orange County Central/Coastal NCCP/HCP, OCTA is not a participating landowner and as a result, the Project is not eligible for coverage under the NCCP/HCP for impacts to federally and/or state listed species. However, since no federally and/or State-listed species are expected to be impacted, no sensitive communities occur on site, and avoidance and minimization measures will be implemented to reduce impacts to nesting birds protected under the MBTA and CFGC, the Project does not conflict with the NCCP/HCP and will not require payment of a Mitigation Fee per the NCCP/HCP for such impacts.

8.2 OPERATION

Impacts to biological resources during operation and maintenance of the Project are not anticipated as such activities would be conducted within previously disturbed and developed surfaces containing non-native vegetation and would generally not change biological conditions from those present prior to and after the Project's construction. Special-status plant species are not expected to occur due to a lack of suitable habitat within the Project Site and surrounding BSA, and impacts to common wildlife, special-status wildlife species, and wildlife movement are not anticipated. Maintenance activities would be conducted at the Project Site and therefore Impacts would be less than significant.

9. AVOIDANCE AND MINIMIZATION MEASURES

With the potential for ground-nesting birds protected under the MBTA and CFGC to occur within the Project Site and other bird species to occur in the surrounding BSA, implementation of Mitigation Measure BIO-1 presented below would mitigate potential impacts to nesting birds should construction overlap the bird breeding season (February 15 through September 1).

MM-BIO-1 Ground-disturbing activities during construction shall occur outside of the nesting bird season (generally February 15 through September 1). If avoiding the nesting season is not practicable, the following additional measures shall be employed:

- A pre-construction nesting survey shall be conducted by a qualified biologist within three days prior to the start of construction activities to determine whether active nests are present within or directly adjacent to the construction zone. All nests found shall be recorded.
- If construction activities must occur within 300 feet of an active nest of any passerine bird or within 500 feet of an active nest of any raptor, with the exception of an emergency, a qualified biologist shall monitor the nest on a weekly basis, and the activity shall be postponed until the biologist determines that the nest is no longer active.
- If the recommended nest avoidance zone is not feasible, the qualified biologist shall determine whether an exception is possible and obtain concurrence from the resource agencies before construction work can resume within the avoidance buffer zone. All work shall cease within the avoidance buffer zone until either agency concurrence is obtained or the biologist determines that the adults and young are no longer reliant on the nest site.

Additionally, construction of the proposed bridge over Bee Canyon Wash would require the project applicant to obtain a permit pursuant to Sections 404 and 401 of the CWA and to Section 1600 et seq of CFGC. The Project Applicant shall coordinate with the USACE to obtain authorization pursuant to Section 404 of the CWA (i.e. LOP or RGP 74 per SAMP permit procedures) and the RWQCB to obtain a Water Quality Certification pursuant to Section 401 of the CWA. Additionally, If the Project results in any modification of the bed or banks of Bee Canyon Wash, then, the Project Applicant shall coordinate with CDFW to determine the need to obtain a LSAA pursuant to Section 1600 et seq. of CFGC.

Mitigation Measure Bio-2 presented below would mitigate potential impacts of the proposed bridge to Bee Canyon Wash, reducing impacts to this jurisdictional feature to less than significant.

- **MM-BIO-2** Pursuant to SAMP requirements, if a permanent loss of regulated waters or streambed occurs because of the Project, compensatory mitigation (purchase of credit at an in-lieu fee or mitigation bank approved by the resource agencies), or applicant proposed enhancement or establishment of waters or streambed) shall be provided at a minimum ratio of 1:1. Temporary impacts shall be restored to pre-Project conditions to the extent practicable.

10.CONCLUSIONS

No direct impacts to special-status plant species are anticipated, as none were observed during the field survey and the BSA lacks habitat suitable for such species. As a result, the Project would not result in a significant impact on any federally listed or state-listed threatened, endangered, or candidate plant species, or any non-listed special-status plant species occurring or potentially occurring within the Project.

No special-status wildlife species were observed during the field survey; however, as presented in Section 5.2, two CDFW WL bird species have some potential to occur within the BSA. In addition, bird species protected by the MBTA and CFGC have the potential to occur and nest in the BSA. Potential direct impacts to these species or their nests could occur during construction or during the use or transport of the Project's equipment or materials, on which common bird species may nest. Potential indirect impacts are associated with noise, dust, vibration, and increased human activity, which could cause adults to change their behavior, move out of the area, and abandon the nest or conduct less feedings, resulting in nestling mortality. Implementation of the avoidance and minimization measures in Section 9 would avoid disturbance of these species, resulting in less than significant impacts to special-status wildlife species and nesting birds.

Construction and operation of the Project would not affect a wildlife movement corridor. The Project Site itself does not serve as a wildlife movement corridor and vegetation removed during construction does not provide the functions and values to support wildlife movement compared to native vegetation communities. No impacts to a wildlife movement corridor would occur.

The Project would have no impact on any sensitive native vegetation community, USFWS-designated critical habitat, NMFS-managed habitat, or any other managed or protected habitat or community. However, construction of the Project includes a bridge over Bee Canyon Wash, which could result in impacts to a potential jurisdictional aquatic feature under the jurisdiction of USACE, RWQCB, and CDFW. However, by adhering to the avoidance and minimization measures in Section 9 related to coordination with regulatory agencies pursuant to CWA Section 404 and 401 and CFGC Section 1600, impacts to potential jurisdictional features would be less than significant.

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Appendix C Attachments
Technical Memorandum
Biological Resources

Metrolink Orange County Maintenance Facility

Prepared for:

Orange County Transportation Authority

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Orange, CA 92868

Gannett Fleming
20 Pacifica, Suite 430
Irvine, CA 92618

AECOM
Kaiser Center
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Los Angeles, CA 90071

June 2022

Attachment A

Project Site Photos

Photo 1. Southeast-facing view from the northwest corner across Project Site.
Marine Way is visible at left, with miscellaneous rail equipment and materials stored onsite and rail tracks at right.

Photo 2. Southwest-facing view across the Project Site. Marine Way is visible at right.

Photo 3. Northwest-facing view across the Project Site, with Marine Way at left.

Photo 4. North-facing view from the southwest corner of the Project Site. Vehicles in background are parked on Marine Way. Miscellaneous rail equipment and materials stored onsite are visible at left.

Photo 5. South-facing view across patchy vegetative cover in the southern portion of the Project Site.

Photo 6. South-facing view of railroad equipment and materials stored onsite.

Photo 7. South-facing view of unmowed vegetation along Marine Way at the north end of the Project Site.

Photo 8. Southwest-facing view of portion of Bee Canyon Wash at southern edge of the Project Site.

Photo 9 A bridge carrying rail tracks into the site from rail tracks visible in the background would cross over this portion of the Bee Canyon channel.

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Attachment B

Regional Special-Status Plant Species and Sensitive Natural Communities
Regional Special-Status Wildlife Species

Table A
Special-Status Plant Species and Natural Vegetation Communities[1]

Common Name *Scientific Name*	Status[2]	General Habitat Description[3]	Potential for Occurrence in the BSA
PLANTS			
chaparral sand-verbena *Abronia villosa* var. *aurita*	Federal: None State: None CRPR: 1B.1	Prefers sandy soils in chaparral, coastal scrub, and desert dune habitats. Occurs between 75-1,500 meters (250-5,250 feet). Blooms (January) March-September.	**Not Expected.** Potentially suitable habitat for this species is absent from the BSA.
Munz's onion *Allium munzii*	Federal: FE State: ST CRPR: 1B.1	Prefers mesic or clay soils in chaparral, cismontane woodland, coastal scrub, pinyon and juniper woodland, and valley and foothill grassland habitats. Occurs between 295-1,070 meters (965-3,510 feet). Blooms March-May.	**Not Expected.** Potentially suitable habitat for this species is absent from the BSA and the project falls outside the elevation range known for this species.
aphanisma *Aphanisma blitoides*	Federal: None State: None CRPR: 1B.2	Prefers sandy or gravelly soils in coastal bluff scrub, coastal dunes, and coastal scrub habitats. Occurs between 0-305 meters (0-1,000 feet). Blooms February-June.	**Not Expected.** Potentially suitable habitat for this species is absent from the BSA.
western spleenwort *Asplenium vespertinum*	Federal: None State: None CRPR: 4.2	Found in rocky habitats, including chaparral, cismontane woodland, and coastal scrub. Occurs between 180-1,000 meters (590-3,280 feet). Blooms February-June.	**Not Expected.** Potentially suitable habitat for this species is absent from the BSA and the project falls outside the elevation range known for this species.
Braunton's milk-vetch *Astragalus brauntonii*	Federal: FE State: None CRPR 1B.1	Prefers recent burns or disturbed areas, in stiff gravelly clay soils overlying granite or limestone. Found in closed-cone coniferous forest, chaparral, coastal scrub, and valley and foothill grassland habitats. Occurs between 5-640 meters (10-2,100 feet). Blooms January-August.	**Not Expected.** Potentially suitable habitat for this species is absent from the BSA.
Coulter's saltbush *Atriplex coulteri*	Federal: None State: None CRPR 1B.2	Prefers alkaline areas or clay soils in coastal bluff scrub, coastal dune, coastal scrub, and valley and foothill grassland habitats. Occurs between 0-460 meters (10-1,510 feet). Blooms March-October.	**Not Expected.** Potentially suitable habitat for this species is absent from the BSA.

Common Name ***Scientific Name***	**Status[2]**	**General Habitat Description[3]**	**Potential for Occurrence in the BSA**
south coast saltscale *Atriplex pacifica*	Federal: None State: None CRPR 1B.2	Found in alkali sink, coastal sage scrub, wetland-riparian playas and coastal habitats. Occurs between 0-140 meters (0-460 feet). Blooms March-October.	**Not Expected.** Potentially suitable habitat for this species is absent from the BSA.
Parish's brittlescale *Atriplex parishii*	Federal: None State: None CRPR 1B.1	Found in alkaline chenopod scrub, playa, and vernal pool habitats. Occurs between 25-1,900 meters (80-6,230 feet). Blooms June-October.	**Not Expected.** Potentially suitable habitat for this species is absent from the BSA.
Davidon's saltscale *Atriplex serenana* var. *davidsonii*	Federal: None State: None CRPR 1B.2	Found in areas with alkaline soils in coastal bluff scrub and coastal scrub habitats. Occurs between 10-200 meters (30-660 feet). Blooms April-October.	**Not Expected.** Potentially suitable habitat for this species is absent from the BSA.
Malibu baccharis *Baccharis malibuensis*	Federal: None State: None CRPR 1B.1	Found in chaparral, cismontane woodland, coastal scrub, and riparian woodland habitats. Occurs between 150–305 meters (500-1,000 feet). Blooms in August.	**Not Expected.** Potentially suitable habitat for this species is absent from the BSA and the project falls outside the elevation range known for this species.
thread-leaved brodiaea *Brodiaea filifolia*	Federal: FT State: SE CRPR: 1B.1	Prefers clay soils in chaparral (openings), cismontane woodland, coastal scrub, playa, valley and foothill grassland, and vernal pool habitats. Occurs between 25-1,120 meters (85-3,675 feet). Blooms March-June.	**Not Expected.** Potentially suitable habitat for this species is absent from the BSA.
Brewer's calandrinia *Calandrinia breweri*	Federal: None State: None CRPR: 4.2	Prefers sandy or loamy soils, disturbed sites, and burns in chaparral and coastal scrub habitats. Occurs between 10-1,220 meters (35-4,000 feet). Blooms (Jan) March-June.	**Not Expected.** Potentially suitable habitat for this species is absent from the BSA.
Catalina mariposa lily *Calochortus catalinae*	Federal: None State: None CRPR: 4.2, NCCP	Found in chaparral, cismontane woodland, coastal scrub, and valley and foothill grassland habitats. Occurs between 15-700 meters (50-2,300 feet). Blooms February-June.	**Not Expected.** Potentially suitable habitat for this species is absent from the BSA.

Common Name ***Scientific Name***	**Status[2]**	**General Habitat Description[3]**	**Potential for Occurrence in the BSA**
Plummer's mariposa-lily *Calochortus plummerae*	Federal: None State: None CRPR 4.2	Prefers rocky or sandy soils in coastal scrub, chaparral, valley and foothill grassland, cismontane woodland, lower montane coniferous forest habitats. Occurs between 100–1,700 meters (330-5,580 feet). Blooms May-July.	**Not Expected.** Potentially suitable habitat for this species is absent from the BSA and the project falls outside the elevation range known for this species.
intermediate mariposa lily *Calochortus weedii* var. *intermedius*	Federal: None State: None CRPR: 1B.2, NCCP	Found in chaparral, chenopod scrub, cismontane woodland, coastal scrub, lower montane coniferous forest and valley and foothill grassland. Occurs between 30-1,500 meters (100-4,920 feet). Blooms April-June.	**Not Expected.** Potentially suitable habitat for this species is absent from the BSA.
Lewis' evening-primrose *Camissoniopsis lewisii*	Federal: None State: None CRPR: 3	Prefers sandy or clay soils in coastal bluff-scrub, cismontane woodland, coastal dune, coastal scrub, and valley and foothill grassland habitats. Occurs between 0-300 meters (0-985 feet). Blooms March-May (June).	**Not Expected.** Potentially suitable habitat for this species is absent from the BSA.
Payson's jewelflower *Caulanthus simulans*	Federal: None State: None Other: 4.2	Prefers sandy or granitic soils in chaparral and coastal scrub habitats. Occurs between 90-2,200 meters (295-7,215 feet). Blooms (February) March-May (June).	**Not Expected.** Potentially suitable habitat for this species is absent from the BSA and the project falls outside the elevation range known for this species.
southern tarplant *Centromadia parryi* ssp. *australis*	Federal: None State: None CRPR: 1B.1	Found in margins of marshes and swamps, valley and foothill grassland, and vernal pool habitats. Occurs between 0-480 meters (0-1,570 feet). Blooms May-November.	**Not Expected.** Potentially suitable habitat for this species is absent from the BSA.
smooth tarplant *Centromadia pungens* ssp. *laevis*	Federal: None State: None CRPR: 1B.1	Prefers alkaline soils in chenopod scrub, meadows and seeps, playas, riparian woodland, and valley and foothill grassland habitats. Occurs between 0-640 meters (0-2,100 feet). Blooms April-September.	**Not Expected.** Potentially suitable habitat for this species is absent from the BSA.
Orcutt's pincushion *Chaenactis glabriuscula* var. *orcuttiana*	Federal: None State: None CRPR: 1B.1	Found in sandy coastal bluff scrub and coastal dune habitats. Occurs between 0-100 meters (0-330 feet). Blooms January-August.	**Not Expected.** Potentially suitable habitat for this species is absent from the BSA.

Common Name ***Scientific Name***	**Status**[2]	**General Habitat Description**[3]	**Potential for Occurrence in the BSA**
Peninsular spineflower *Chorizanthe leptotheca*	Federal: None State: None CRPR: 4.2	Prefers alluvial fan or granitic areas in chaparral, coastal scrub, and lower montane coniferous forest habitats. Occurs 300-1,900 (980-6,230 feet). Blooms May-August.	**Not Expected.** Potentially suitable habitat for this species is absent from the BSA and the project falls outside the elevation range known for this species.
San Fernando Valley spineflower *Chorizanthe parryi* var. *fernandina*	Federal: FC State: SE CRPR 1B.1	Found in sandy coastal scrub and valley and foothill grassland habitats. Occurs 150-1,220 meters (490-4,000 feet). Blooms April – July.	**Not Expected.** Potentially suitable habitat for this species is absent from the BSA and the project falls outside the elevation range known for this species.
long-spined spineflower *Chorizanthe polygonoides* var. *longispina*	Federal: None State: None CRPR: 1B.2	Prefers clay soils in chaparral, coastal scrub, meadows and seeps, valley and foothill grassland, and vernal pool habitats. Occurs between 30-1,530 meters (100-5,020 feet). Blooms between April-July.	**Not Expected.** Potentially suitable habitat for this species is absent from the BSA.
white-bracted spineflower *Chorizanthe xanti* var. *leucotheca*	Federal: None State: None CRPR: 1B.2	Prefers sandy or gravelly soils in coastal scrub (alluvial fans), Mojavean desert scrub, and pinyon and juniper woodland habitats. Occurs between 300-1,200 meters (980-3,940 feet). Blooms April-June.	**Not Expected.** Potentially suitable habitat for this species is absent from the BSA and the project falls outside the elevation range known for this species.
seaside cisanthe *Cistanthe maritima*	Federal: None State: None CRPR: 4.2	Prefers sandy habitats in coastal bluff scrub, coastal scrub, and valley and foothill grassland habitats. Occurs between 5-300 meters (15-985 feet). Blooms February-August.	**Not Expected.** Potentially suitable habitat for this species is absent from the BSA.
San Miguel savory *Clinopodium chandleri*	Federal: None State: None CRPR: 1B.2	Prefers rocky, gabbroic, or metavolcanic soils in chaparral, cismontane woodland, coastal scrub, riparian woodland, and valley and foothill grassland habitats. Occurs between 120-1,075 meters (390-3,525 feet). Blooms March-July.	**Not Expected.** Potentially suitable habitat for this species is absent from the BSA and the project falls outside the elevation range known for this species.
summer holly *Comarostaphylis diversifolia* ssp. *diversifolia*	Federal: None State: None Other: 1B.2	Found in chaparral and cismontane woodland habitats. Occurs between 30-790 meters (95-2,595 feet). Blooms April-July.	**Not Expected.** Potentially suitable habitat for this species is absent from the BSA.

Common Name ***Scientific Name***	**Status[2]**	**General Habitat Description[3]**	**Potential for Occurrence in the BSA**
small-flowered morning glory *Convolvulus simulans*	Federal: None State: None CRPR: 4.2	Prefers clay soils and serpentine seeps in chaparral, coastal scrub, and valley and foothill grassland habitats. Occurs between 30-700 meters (100-2,300 feet). Blooms March-July.	**Not Expected.** Potentially suitable habitat for this species is absent from the BSA.
paniculate tarplant *Deinandra paniculata*	Federal: None State: None CRPR: 4.2	Usually prefers vernally mesic, sometimes sandy coastal scrub, valley foothill grassland, and vernal pool habitats. Occurs between 25-940 meters (80-3,085 feet). Blooms (March) April-November.	**Not Expected.** Potentially suitable habitat for this species is absent from the BSA.
western dichondra *Dichondra occidentalis*	Federal: None State: None CRPR: 4.2, NCCP	Found in chaparral, cismontane woodland, coastal scrub, and valley and foothill grassland habitats. Occurs between 50-500 meters (160-1,640 feet). Blooms (January) March-July.	**Not Expected.** Potentially suitable habitat for this species is absent from the BSA.
Cleveland's bush monkeyflower *Diplacus clevelandii*	Federal: None State: None CRPR: 4.2	Found in gabbroic or rocky soils, disturbed areas, and openings in chaparral, cismontane woodland, and lower montane coniferous forest habitats. Occurs between 450-2,000 meters (1,475-6,565 feet). Blooms April-July.	**Not Expected.** Potentially suitable habitat for this species is absent from the BSA and the project falls outside the elevation range known for this species.
slender-horned spineflower *Dodecahema leptoceras*	Federal: FE State: SE CRPR 1B.1	Found in sandy chaparral, cismontane woodland, and alluvial fan coastal scrub habitats. Occurs between 200-760 meters (890-2,510 feet). Blooms April-June.	**Not Expected.** Potentially suitable habitat for this species is absent from the BSA and the project falls outside the elevation range known for this species.
Santa Monica dudleya *cymosa* ssp. *ovatifolia*	Federal: FT State: None CRPR 1B.1, NCCP	Prefers volcanic or sedimentary rocky soils in chaparral and coastal scrub habitats. Occurs between 150-1675 meters (495-5,525 feet). Blooms March–June.	**Not Expected.** Potentially suitable habitat for this species is absent from the BSA and the project falls outside the elevation range known for this species.
many-stemmed dudleya *Dudleya multicaulis*	Federal: None State: None CRPR 1B.2	Prefers clay soils in chaparral, coastal scrub, and valley and foothill grassland habitats. Occurs between 15-790 meters (50-2,520 feet). Blooms April-July.	**Not Expected.** Potentially suitable habitat for this species is absent from the BSA.

Common Name ***Scientific Name***	**Status[2]**	**General Habitat Description[3]**	**Potential for Occurrence in the BSA**
Laguna Beach dudleya *Dudleya stolonifera*	Federal: FT State: ST CRPR:1B.1, NCCP	Prefers rocky areas in chaparral, cismontane woodland, coastal scrub, and valley and foothill grassland habitats. Occurs between 10-260 meters (30-855 feet). Blooms May-July.	**Not Expected.** Potentially suitable habitat for this species is absent from the BSA.
sticky dudleya *Dudleya viscida*	Federal: None State: None CRPR: 1B.2	Prefers rocky areas in coastal bluff scrub, chaparral, cismontane woodland, and coastal scrub habitats. Occurs between 10-550 meters (30-1,805 feet). Blooms May-June.	**Not Expected.** Potentially suitable habitat for this species is absent from the BSA.
Santa Ana River woollystar *Eriastrum densifolium* ssp. *sanctorum*	Federal: FE State: SE CRPR:1B.1	Prefers sandy or gravelly soils in chaparral and coastal scrub (alluvial fan) habitats. Occurs between 90-610 meters (300-2,000 feet). Blooms April-September.	**Not Expected.** Potentially suitable habitat for this species is absent from the BSA and the project falls outside the elevation range known for this species.
Palomar monkeyflower *Erythranthe diffusa*	Federal: None State: None CRPR: 4.3	Prefers sandy or gravelly soils in chaparral and lower montane coniferous forest habitats. Occurs between 1,220-1,830 meters (4,000-6,000 feet). Blooms April-June.	**Not Expected.** Potentially suitable habitat for this species is absent from the BSA and the project falls outside the elevation range known for this species.
cliff spurge *Euphorbia misera*	Federal: None State: None CRPR: 2B.2	Prefers rocky areas in coastal bluff scrub, coastal scrub, and Mojavean desert scrub habitats. Occurs between 10-550 meters (30-1,810 feet). Blooms December-August (October).	**Not Expected.** Potentially suitable habitat for this species is absent from the BSA.
Palmer's grapplinghook *Harpagonella palmeri*	Federal: None State: None CRPR 4.2, NCCP	Prefers clay soils in open grassy areas within chaparral, coastal scrub, and valley and foothill grassland habitats. Occurs between 20-955 meters (65-3,130 feet). Blooms March-May.	**Not Expected.** Potentially suitable habitat for this species is absent from the BSA.
Los Angeles sunflower *Helianthus nuttallii* ssp. *parishii*	Federal: None State: None CRPR: 1A	Found in coastal salt and freshwater marshes and swamps. Occurs between 10-1,525 meters (30-5,005 feet). Blooms August-October.	**Not Expected.** Potentially suitable habitat for this species is absent from the BSA.

Common Name ***Scientific Name***	**Status[2]**	**General Habitat Description[3]**	**Potential for Occurrence in the BSA**
Tecate cypress *Hesperocyparis forbesii*	Federal: None State: None CRPR: 1B.1, NCCP	Prefers clay, gabbroic or metavolcanic soils in closed-cone coniferous forest and chaparral habitats. Occurs between 80-1,500 meters (260-4,920 feet).	**Not Expected.** Potentially suitable habitat for this species is absent from the BSA.
vernal barley *Hordeum intercedens*	Federal: None State: None CRPR: 3.2	Found in coastal dune, coastal scrub, valley and foothill grassland (saline flats and depressions), and vernal pool habitats. Occurs between 5-1,000 meters (15-3,280 feet). Blooms March-June.	**Not Expected.** Potentially suitable habitat for this species is absent from the BSA.
mesa horkelia *Horkelia cuneata* var. *puberula*	Federal: None State: None CRPR 1B.1	Prefers sandy or gravelly soils in chaparral, cismontane woodland, and coastal scrub habitats. Occurs between 70-810 meters (230-2,660 feet). Blooms February-September.	**Not Expected.** Potentially suitable habitat for this species is absent from the BSA.
California satintail *Imperata brevifolia*	Federal: None State: None CRPR: 2B.1	Prefers mesic areas in chaparral, coastal scrub, Mojavean desert scrub, alkali meadows and seeps, and riparian scrub habitats. Occurs between 0-1,215 meters (0-3,990 feet). Blooms September-May.	**Not Expected.** Potentially suitable habitat for this species is absent from the BSA.
decumbent goldenbush *Isocoma menziesii* var. *decumbens*	Federal: None State: None CRPR 1B.2	Prefers sandy soils or disturbed areas in chaparral and coastal scrub habitats. Occurs between 10-135 meters (30-450 feet). Blooms April-November.	**Not Expected.** Potentially suitable habitat for this species is absent from the BSA.
Coulter's goldfields *Lasthenia glabrata* ssp. *coulteri*	Federal: None State: None CRPR 1B.1	Found in coastal salt marsh, playa, and vernal pool habitats. Occurs between 0-1,220 meters (0-4,000 feet). Blooms February-June.	**Not Expected.** Potentially suitable habitat for this species is absent from the BSA.
heart-leaved pitcher sage *Lepechinia cardiophylla*	Federal: None State: None CRPR: 1B.2, NCCP	Found in closed-cone coniferous forest, chaparral, and cismontane woodland habitats. Occurs between 520-1370 meters (1,705-4,495 feet). Blooms April-July.	**Not Expected.** Potentially suitable habitat for this species is absent from the BSA and the project falls outside the elevation range known for this species.

Common Name ***Scientific Name***	**Status[2]**	**General Habitat Description[3]**	**Potential for Occurrence in the BSA**
Robinson's pepper-grass *Lepidium virginicum* var. *robinsonii*	Federal: None State: None CRPR: 4.3	Found in chaparral and coastal scrub habitats. Occurs between 0-885 meters (5-2,905 feet). Blooms January-July.	**Not Expected.** Potentially suitable habitat for this species is absent from the BSA.
ocellated Humboldt lily *Lilium humboldtii* ssp. *ocellatum*	Federal: None State: None CRPR: 4.2	Prefers openings in chaparral, cismontane woodland, coastal scrub, lower montane coniferous forest, and riparian woodland habitats. Occurs between 30-1,800 meters (100-6,000 feet). Blooms March-July (August).	**Not Expected.** Potentially suitable habitat for this species is absent from the BSA.
California box-thorn *Lycium californicum*	Federal: None State: None CRPR: 4.2	Found in coastal bluff scrub and coastal scrub habitats. Occurs between 5-150 meters (15-495 feet). Blooms December-August.	**Not Expected.** Potentially suitable habitat for this species is absent from the BSA.
cliff malacothrix *Malacothrix saxatilis* var. *saxatilis*	Federal: None State: None CRPR: 4.2	Found in coastal bluff scrub and coastal scrub habitats. Occurs between 0-200 meters (0-660 feet). Blooms March-September.	**Not Expected.** Potentially suitable habitat for this species is absent from the BSA.
intermediate monardella *Monardella hypoleuca* ssp. *lanata*	Federal: None State: None CRPR: 1B.3	Prefers chaparral, cismontane woodland, and sometimes lower montane coniferous forest habitats. Occurs between 400-1,250 meters (1,310-4,100 feet). Blooms April-September.	**Not Expected.** Potentially suitable habitat for this species is absent from the BSA and the project falls outside the elevation range known for this species.
felt-leaved monardella *Monardella hypoleuca* ssp. *lanata*	Federal: None State: None CRPR: 1B.2	Found in chaparral and cismontane woodland habitats. Occurs between 300-1,575 meters (980-5,170 feet). Blooms June-August.	**Not Expected.** Potentially suitable habitat for this species is absent from the BSA and the project falls outside the elevation range known for this species.
Hall's monardella *Monardella macrantha* ssp. *hallii*	Federal: None State: None CRPR: 1B.3	Found in broadleafed upland forest, chaparral, cismontane woodland, lower montane coniferous forest, and valley and foothill grassland habitats. Occurs between 730-2,195 meters (2,395-7,200 feet). Blooms June-October.	**Not Expected.** Potentially suitable habitat for this species is absent from the BSA and the project falls outside the elevation range known for this species.
mud nama *Nama stenocarpa*	Federal: None State: None CRPR: 2B.2	Prefers marches and swamps along lake margins and riverbanks. Occurs between 5-500 meters (15-1,640 feet). Blooms January-July.	**Not Expected.** Potentially suitable habitat for this species is absent from the BSA.

Common Name ***Scientific Name***	**Status[2]**	**General Habitat Description[3]**	**Potential for Occurrence in the BSA**
Gambel's water cress *Nasturtium gambellii*	Federal: FE State: ST CRPR: 1B.1	Found in freshwater or brackish marshes and swamps. Occurs between 5-330 meters (15-1,085 feet). Blooms April-October.	**Not Expected.** Potentially suitable habitat for this species is absent from the BSA.
prostrate vernal pool navarretia *Navarretia prostrata*	Federal: None State: None CRPR: 1B.1	Found in mesic areas in coastal scrub, meadows and seeps, valley and foothill grassland, and vernal pool habitats. Occurs between 0-1,210 meters (5-3,970 feet). Blooms April- July.	**Not Expected.** Potentially suitable habitat for this species is absent from the BSA.
chaparral nolina *cismontana*	Federal: None State: None CRPR 1B.2	Prefers sandstone or gabbro soils in chaparral and coastal scrub habitats. Occurs between 140-1,275 meters (460-4,180 feet). Blooms (March) May-July.	**Not Expected.** Potentially suitable habitat for this species is absent from the BSA and the project falls outside the elevation range known for this species.
California beardtongue *Penstemon californicus*	Federal: None State: None CRPR: 1B.2	Prefers sandy areas in chaparral, lower montane coniferous forest, or pinyon and juniper woodland habitats. Occurs between 1,170-2,300 meters (3,840-7,545 feet). Blooms May-June (August).	**Not Expected.** Potentially suitable habitat for this species is absent from the BSA and the project falls outside the elevation range known for this species.
Allen's pentachaeta *Pentachaeta aurea* ssp. *allenii*	Federal: None State: None CRPR: 1B.1	Prefers openings in coastal scrub and valley and foothill grassland habitats. Occurs between 75-520 meters (245-1,706 feet). Blooms March-June.	**Not Expected.** Potentially suitable habitat for this species is absent from the BSA.
Santiago Peak phacelia *Phacelia keckii*	Federal: None State: None CRPR: 1B.3	Found in closed-cone coniferous forest and chaparral habitats. Occurs between 545-1,600 meters (1,785-5,250 feet). Blooms May-June.	**Not Expected.** Potentially suitable habitat for this species is absent from the BSA and the project falls outside the elevation range known for this species.
south coast branching phacelia *Phacelia ramosissima* var. *austrolitoralis*	Federal: None State: None CRPR: 3.2	Prefers sandy or rocky areas in chaparral, coastal dune, coastal scrub, and coastal salt marsh and swamp habitats. Occurs between 5-300 meters (15-985 feet). Blooms March-August.	**Not Expected.** Potentially suitable habitat for this species is absent from the BSA.

Common Name ***Scientific Name***	**Status[2]**	**General Habitat Description[3]**	**Potential for Occurrence in the BSA**
woolly chaparral-pea *Pickeringia montana* var. *tomentosa*	Federal: None State: None CRPR: 4.3	Prefers gabbroic, granitic, and clay soils in chaparral habitats. Occurs 0-1,700 meters (0-5,575 feet). Blooms May-August.	**Not Expected.** Potentially suitable habitat for this species is absent from the BSA.
chaparral rein orchid *Piperia cooperi*	Federal: None State: None CRPR: 4.2	Found in chaparral, cismontane woodland, and valley and foothill grassland habitats. Occurs 15-1,585 meters (50-5,200 feet). Blooms March-June.	**Not Expected.** Potentially suitable habitat for this species is absent from the BSA.
narrow-petaled rein orchid *Piperia leptopetala*	Federal: None State: None CRPR: 4.3	Found in cismontane woodland, lower montane coniferous forest, and upper montane coniferous forest habitats. Occurs 380-2,225 meters (1,245-7,300 feet). Blooms May-July.	**Not Expected.** Potentially suitable habitat for this species is absent from the BSA and the project falls outside the elevation range known for this species.
Fish's milkwort *Polygala cornuta* var. *fishiae*	Federal: None State: None CRPR: 4.3	Found in chaparral, cismontane woodland, and riparian woodland habitats. Occurs between 100-1,000 meters (330-3,280 feet). Blooms May-August.	**Not Expected.** Potentially suitable habitat for this species is absent from the BSA and the project falls outside the elevation range known for this species.
white rabbit-tobacco *Pseudognaphalium leucocephalum*	Federal: None State: None CRPR: 2B.2	Prefers sandy, gravelly areas in chaparral, cismontane woodland, coastal scrub, or riparian woodland habitats. Occurs between 0-2,100 meters (0-6,890 feet). Blooms (July) August-November (December).	**Not Expected.** Potentially suitable habitat for this species is absent from the BSA.
Nuttall's scrub oak *Quercus dumosa*	Federal: None State: None CRPR 1B.1, NCCP	Prefers sandy or clay loam soils in closed-cone coniferous forest, chaparral, and coastal scrub habitats. Occurs between 15-400 meters (50-1,310 feet). Blooms February-August.	**Not Expected.** Potentially suitable habitat for this species is absent from the BSA.
Coulter's matilija poppy *Romneya coulteri*	Federal: None State: None CRPR: 4.2, NCCP	Found in chaparral or coastal scrub habitats. Occurs between 20-1,200 meters (65-3,940 feet). Blooms March-July (August).	**Not Expected.** Potentially suitable habitat for this species is absent from the BSA.
chaparral ragwort *Senecio aphanactis*	Federal: None State: None CRPR: 2B.2	Prefers alkaline sites in chaparral, cismontane woodland, and coastal scrub habitats. Occurs 15-800	**Not Expected.** Potentially suitable habitat for this species is absent from the BSA.

Common Name *Scientific Name*	Status[2]	General Habitat Description[3]	Potential for Occurrence in the BSA
		meters (50-2,625 feet). Blooms January-April (May).	
salt spring checkerbloom *Sidalcea neomexicana*	Federal: None State: None CRPR: 2B.2	Prefers alkaline or mesic sites in chaparral, coastal scrub, lower montane coniferous forest, Mojavean desert scrub, and playas. Occurs between 15-1,530 meters (50-5,020 feet). Blooms March-June.	**Not Expected.** Potentially suitable habitat for this species is absent from the BSA.
estuary seablite *Suaeda esteroa*	Federal: None State: None CRPR: 1B.2	Found in coastal salt marshes and swamps. Occurs between 0-5 meters (0-20 feet). Blooms May-January.	**Not Expected.** Potentially suitable habitat for this species is absent from the BSA.
San Bernardino aster *Symphyotrichum defoliatum*	Federal: None State: None CRPR: 1B.2	Prefers sites near ditches, streams, and springs in coastal scrub, meadows and seeps, cismontane woodland, lower montane coniferous forest, and valley and foothill grassland habitats. Occurs between 0-2,040 meters (0-6,690 feet). Blooms July-November.	**Not Expected.** Potentially suitable habitat for this species is absent from the BSA.
Parry's tetracoccus *Tetracoccus dioicus*	Federal: None State: None CRPR: 1B.2	Found in chaparral and coastal scrub habitats. Occurs between 165-1,000 meters (540-3,280 feet). Blooms April-May.	**Not Expected.** Potentially suitable habitat for this species is absent from the BSA and the project falls outside the elevation range known for this species.
big-leaved crownbeard *Verbesina dissita*	Federal: FT State: ST CRPR: 1B.1	Found in maritime chaparral and coastal scrub habitats. Occurs between 45-205 meters (145-675 feet). Blooms (March) April-July.	**Not Expected.** Potentially suitable habitat for this species is absent from the BSA.
Sensitive Natural Communities			
California Walnut Woodland			**Absent**
Canyon Live Oak Ravine Forest			**Absent**
Riversidian Alluvial Fan Sage Scrub			**Absent**
Southern California Arroyo Chub/Santa Ana Sucker Stream			**Absent**
Southern Coast Live Oak Riparian Forest			**Absent**
Southern Coastal Salt Marsh			**Absent**
Southern Cottonwood Willow Riparian Forest			**Absent**
Southern Interior Cypress Forest			**Absent**
Southern Mixed Riparian Forest			**Absent**

Common Name ***Scientific Name***	**Status**[2]	**General Habitat Description**[3]	**Potential for Occurrence in the BSA**
Southern Riparian Forest			**Absent**
Southern Riparian Scrub			**Absent**
Southern Sycamore Alder Riparian Woodland			**Absent**
Southern Willow Scrub			**Absent**
Valley Needlegrass Grassland			**Absent**

[1] Special-status plant species and sensitive natural communities known from the CNDDB and CNPS to occur on the El Toro, Tustin, Orange, Black Star Canyon, Corona South, Santiago Peak, Laguna Beach, San Juan Capistrano, and Canada Gobernadora quadrangles, and from a search of the IPaC for the project vicinity.

[2] Sensitivity Status Codes

Federal
FT - Federally Threatened under the Federal Endangered Species Act
FE - Federally Endangered under the Federal Endangered Species Act
FC – A Federal Candidate for listing under the Federal Endangered Species Act

State
ST - State Threatened under the California Endangered Species Act
SE - State Endangered under the California Endangered Species Act

CRPR
CNPS California Rare Plant Rank (CRPR)
1A: Plants presumed extinct in California
1B: Plants rare, threatened, or endangered in California and elsewhere
2: Plants rare, threatened, or endangered in California, but more common elsewhere
3: Plants more information is needed for
4: Plants of limited distribution – a watch list
0.1: Seriously threatened in California
0.2: Fairly endangered in California
0.3: Not very endangered in California

[3] General Habitat Descriptions from CNPS.

Table B
Special-Status Wildlife Species[1]

Common Name *Scientific Name*	Status[2]	General Habitat Description[3]	Potential for Occurrence in the BSA[4]
Invertebrates			
Crotch bumble bee *Bombus crotchii*	Federal: None State: CE Other: CNDDB	Occurs at relatively warm and dry sites, including the inner Coast Range of California and the margins of the Mojave Desert.	**Not Expected.** Potentially suitable habitat for this species is absent from the BSA.
San Diego fairy shrimp *Branchinecta sandiegonensis*	Federal: FE State: None Other: NCCP	Occurs in vernal pools from 5-30 centimeters deep at temperatures between 10-20°C (50-68°F). Occasionally found in ditches and road ruts that support suitable conditions.	**Not Expected.** Potentially suitable habitat for this species is absent from the BSA.
Riverside fairy shrimp *Streptocephalus wootoni*	Federal: FE State: None Other: NCCP	Occurs in vernal pools at least 30 centimeters in depth. Found in Riverside and San Diego counties, as well as northern Baja California.	**Not Expected.** Potentially suitable habitat for this species is absent from the BSA.
monarch butterfly-California overwintering population *Danaus plexippus pop. 1*	Federal: None State: None Other: CNDDB	Winter roosts occur along California coast from Mendocino County, south to Baja California, Mexico. Roosts in wind-protected tree groves (eucalyptus, Monterey pine, cypress) with nectar and water sources nearby.	**Not Expected.** Potentially suitable tree groves are absent from the BSA and there are no suitable water sources nearby.
quino checkerspot butterfly *Euphydryas editha quino*	Federal: FE State: None Other: NCCP	Occurs in coastal sage scrub habitats in southern California and northern Baja California. Larvae rely on host plants *Plantago erecta* or *Castilleja exserta* found in meadows and upland sage scrub/chaparral.	**Not Expected.** Potentially suitable habitat for this species is absent from the BSA and the host plant for this species was not detected within the BSA.
San Gabriel chestnut *Glyptostoma gabrielense*	Federal: None State: None Other: CNDDB	Found in humid areas in rocky hills and mountains at low elevations.	**Not Expected.** Potentially suitable habitat for this species is absent from the BSA.
mimic tryonia (=California brackishwater snail) *Tryonia imitator*	Federal: None State: None Other: CNDDB	Prefers coarse brackish sediments at the mouths of creeks, streams and rivers of southern California.	**Not Expected.** Potentially suitable habitat for this species is absent from the BSA.
Fish			
Santa Ana sucker *Catostomus santaanae*	Federal: FT State: None	Inhabits permanent streams and rivers, with depths from a few centimeters to over a meter. Water must be cool with variable flows. Substrates of gravel, rubble and boulders are preferred for foraging and required for breeding.	**Not Expected.** Potentially suitable habitat for this species is absent from the BSA.

Common Name ***Scientific Name***	**Status[2]**	**General Habitat Description[3]**	**Potential for Occurrence in the BSA[4]**
tidewater goby *Eucyclogobius newberryi*	Federal: FE State: None Other: SSC	Occurs in small coastal lagoons, lower reaches of streams, and uppermost portions of large bays. Most abundant in the upper ends of lagoons created by small coastal streams. In lower sections of coastal streams, occurs in fresh to brackish water (preferably less than 10 ppt).	**Not Expected.** Potentially suitable habitat for this species is absent from the BSA.
arroyo chub *Gila orcuttii*	Federal: None State: None Other: SSC	Found in headwaters, creeks, and small to medium rivers, often intermittent streams; permanent, small to moderate-sized, moderate to high gradient streams with more than 50% of the habitat as runs and pools < 10 cm deep and reaches of permanent water more than 2 km long; requires some flow.	**Not Expected.** Potentially suitable habitat for this species is absent from the BSA.
steelhead – southern California DPS *Oncorhynchus mykiss irideus pop.10*	Federal: FE State: None	Found in Pacific Ocean tributaries from Aleutian Islands in Alaska south to Southern California. Anadromous forms are known as steelhead, freshwater forms as rainbow trout.	**Not Expected.** Potentially suitable habitat for this species is absent from the BSA.
Santa Ana speckled dace *Rhinichthys osculus ssp. 3*	Federal: None State: None Other: SSC	Inhabits a variety of habitats, including perennial streams, riffles dominated by gravel and cobble, and pools in low-gradient streams. Mainly found in areas that maintain summer water temperatures below 68 °F (20 °C).	**Not Expected.** Potentially suitable habitat for this species is absent from the BSA.
Reptiles			
southern California legless lizard *Anniella stebbinsi*	Federal: None State: None Other: SSC	Found in a broader range of habitats than any of the other species in the genus. Often locally abundant, specimens are found in coastal sand dunes and a variety of interior habitats, including sandy washes and alluvial fans.	**Not Expected.** Potentially suitable habitat for this species is absent from the BSA.
California glossy snake *Arizona elegans occidentalis*	Federal: None State: None Other: SSC	Most common is desert habitats but also occur in chaparral, sagebrush, valley-foothill hardwood, pine-juniper, and annual grass.	**Not Expected.** Potentially suitable habitat for this species is absent from the BSA.
orange-throated whiptail *Aspidoscelis hyperythra*	Federal: None State: None Other: WL, NCCP	Inhabits washes, streams, terraces, and other sandy areas often where there are rocks and patches of brush and rocky hillsides. Frequent coastal chaparral, thorn scrub and streamside growth.	**Not Expected.** Potentially suitable habitat for this species is absent from the BSA.

Common Name *Scientific Name*	Status[2]	General Habitat Description[3]	Potential for Occurrence in the BSA[4]
coastal whiptail *Aspidoscelis tigris stejnegeri*	Federal: None State: None Other: SCC, NCCP	Found in deserts and semiarid areas with sparse vegetation and open areas. Also occurs in woodland and riparian areas. Substrate may be firm, sandy, or rocky soils.	**Not Expected.** Potentially suitable habitat for this species is absent from the BSA.
red-diamond rattlesnake *Crotalus ruber*	Federal: None State: None Other: SSC, NCCP	Occurs in coastal sage scrub, chamise chaparral, redshank, desert slope scrub, desert washes, grassy fields, orchards, cactus patches, and rocky areas.	**Not Expected.** Potentially suitable habitat for this species is absent from the BSA.
western pond turtle *Emys marmorata*	Federal: None State: None Other: SSC	Inhabits permanent or nearly permanent bodies of water in many habitat types, below 1,830 meters (6,000 feet). Requires basking sites such as partially submerged logs, vegetation mats, or open mud banks. Also needs suitable nesting sites.	**Not Expected.** Potentially suitable habitat for this species is absent from the BSA.
coast horned lizard *Phrynosoma blainvillii*	Federal: None State: None Other: SSC, NCCP	Inhabits coastal sage scrub and chaparral in arid and semiarid climates. Prefers friable, rocky, or shallow sandy soils.	**Not Expected.** Potentially suitable habitat for this species is absent from the BSA.
coast patch-nosed snake *Salvadora hexalepis virgultea*	Federal: None State: None Other: SSC	Inhabits brushy chaparral habitats dominated by chamise and redshank, as well as riparian areas.	**Not Expected.** Potentially suitable habitat for this species is absent from the BSA.
two-striped garter snake *Thamnophis hammondii*	Federal: None State: None Other: SSC	Highly aquatic, found in or near permanent freshwater, often along streams with rocky beds and riparian growth. Known from coastal California from the vicinity of Salinas to northwest Baja California, from sea level to about 2,135 meters (7,000 feet).	**Not Expected.** Potentially suitable habitat for this species is absent from the BSA.
Amphibians			
arroyo toad *Anaxyrus californicus*	Federal: FE State: None Other: SSC, NCCP	Requires shallow, slow moving stream and riparian habitat, with extensive braided channels and sediment deposits of sand, gravel, or pebbles, occasionally reworked by flooding. Tadpoles may require 2-4 years to complete their aquatic development.	**Not Expected.** Potentially suitable habitat for this species is absent from the BSA.
western spadefoot *Spea hammondii*	Federal: None State: None Other: SSC, NCCP	Grasslands with shallow temporary pools are optimal habitats for the western spadefoot. Elevations of occurrence extend from near sea level to 1,360 meters (4,460 feet). This species occurs primarily in	**Not Expected.** Potentially suitable habitat for this species is absent from the BSA.

Common Name *Scientific Name*	Status[2]	General Habitat Description[3]	Potential for Occurrence in the BSA[4]
		grasslands, but occasional populations also occur in valley-foothill hardwood woodlands.	
Coast Range newt *Taricha torosa*	Federal: None State: None Other: SSC	Endemic to California. Found in wet forests, oak forests, chaparral, and rolling grasslands. In southern California, drier chaparral, oak woodland, and grasslands are used.	**Not Expected.** Potentially suitable habitat for this species is absent from the BSA.
Birds			
Cooper's hawk *Accipiter cooperii*	Federal: None State: None Other: WL	Inhabits dense stands of live oak, riparian deciduous, or other forest habitats near water. Nests in deciduous riparian areas, usually near streams. Species has become a fairly common urban/suburban bird in southern California.	**Low:** This species is common in urbanized areas across southern California and a CNDDB record of this species from 2016 occurs approximately one mile southwest of the BSA along San Diego Creek. This species may fly over or occur within the BSA as a transient migrant or forager. Mature trees in the BSA may provide suitable nesting habitat; however, this species prefers nesting in riparian habitats and is not expected to nest in the BSA.
tricolored blackbird *Agelaius tricolor*	Federal: None State: ST Other: SSC	Inhabits annual grasslands, wet and dry vernal pools, seasonal wetlands. Frequently found in and around agricultural areas.	**Not Expected.** Potentially suitable habitat for this species is absent from the BSA.
southern California rufous-crowned sparrow *Aimophila ruficeps*	Federal: None State: None Other: WL, NCCP	Resident of southern California coastal sage scrub and sparse mixed chaparral. Frequents relatively steep, often rocky hillsides with grass and forb patches.	**Not Expected.** Potentially suitable habitat for this species is absent from the BSA.
grasshopper sparrow *Ammodramus savannarum*	Federal: None State: None Other: SSC	Prefers moderately open grasslands with scattered shrubs such as California buckwheat and California sagebrush.	**Not Expected.** The BSA lacks scattered native scrubs preferred by this species and the nearest record is from 2003 and is approximately 4-5 miles south of the BSA. As a result, this species is not expected to occur within the BSA. Potentially suitable habitat for this species is absent from the BSA.

Common Name ***Scientific Name***	**Status[2]**	**General Habitat Description[3]**	**Potential for Occurrence in the BSA[4]**
golden eagle *Aquila chrysaetos*	Federal: None State: None Other: BGE, FP, NCCP	Prefers rolling foothills and mountain terrain, wide arid plateaus deeply cut by streams and canyons, open mountain slopes, and cliffs and rock outcrops. Uncommon permanent resident and migrant throughout California, except center of Central Valley. Ranges from 0-3,830 meters (0-11,500 feet). Habitat typically includes rolling foothills, mountain areas, sage-juniper flats, and desert.	**Not Expected.** Potentially suitable habitat for this species is absent from the BSA.
great blue heron *Ardea herodias*	Federal: None State: None Other: CNDDB	Prefers shallow estuaries and fresh and saline emergent wetlands.	**Not Expected.** Potentially suitable habitat for this species is absent from the BSA.
long-eared owl *Asio otus*	Federal: None State: None Other: SSC	Prefers dense foliage, such as willow thickets and evergreen trees. Nests in conifer groves adjacent to open fields and wetlands.	**Not Expected.** Potentially suitable habitat for this species is absent from the BSA.
burrowing owl *Athene cunicularia*	Federal: None State: None Other: SSC	Inhabits open, dry annual or perennial grasslands, deserts, and scrublands characterized by low-growing vegetation. Subterranean nester, dependent upon burrowing mammals, most notably, California ground squirrel.	**Not Expected.** Although two 2010 records of this species occur within 2 miles of the BSA and conditions onsite are marginally suitable, no indications of this species presence onsite (i.e. suitable burrows, owl pellets, white-wash) were observed during the field survey. As a result, this species is not expected to occur within the BSA.
ferruginous hawk *Buteo regalis*	Federal: None State: None Other: WL	Inhabits arid grasslands and adjacent farmlands. Nests in isolated trees or on rock outcrops.	**Not Expected.** Potentially suitable habitat for this species is absent from the BSA.
coastal cactus wren *Campylorhynchus brunneicapillus sandiegensis*	Federal: None State: None Other: SSC, NCCP	Inhabits cactus scrub complexes that can include *Rhus* sp. Presence of cholla cactus is preferred, as well as large dense stands of cactus.	**Not Expected.** Potentially suitable habitat for this species is absent from the BSA.
western snowy plover *Charadrius nivosus*	Federal: FT State: None Other: SSC	Inhabits coastal beaches, coastal dunes, beaches at creek and river mouths, and salt pans at lagoons and estuaries. Less common habitat includes dredged material disposal sites, salt pond levees, dry salt ponds, and river bars.	**Not Expected.** Potentially suitable habitat for this species is absent from the BSA.

Common Name ***Scientific Name***	**Status[2]**	**General Habitat Description[3]**	**Potential for Occurrence in the BSA[4]**
northern harrier *Circus hudsonius*	Federal: None State: None Other: SSC, NCCP	Found in meadows, grasslands, open rangelands, desert sinks, fresh and saltwater emergent wetlands, and occasionally in wooded areas. Occurs from 0-3,000 meters (0-10,000 feet).	**Not Expected.** Potentially suitable habitat for this species is absent from the BSA.
western yellow-billed cuckoo *Coccyzus americanus occidentalis*	Federal: FT State: SE	Found in valley foothill and desert riparian habitats across California. Breeding pairs are known to reside in the Sacramento and Owens valleys and along the Kern, Santa Ana, Amargosa, and San Luis Rey rivers.	**Not Expected.** Potentially suitable habitat for this species is absent from the BSA.
yellow rail *Coturnicops noveboracensis*	Federal: None State: None Other: SSC	Inhabits sedge marshes and meadows with moist soil or shallow standing water.	**Not Expected.** Potentially suitable habitat for this species is absent from the BSA.
white-tailed kite *Elanus leucurus*	Federal: None State: None Other: FP	Inhabits herbaceous and open stages of most habitats, primarily in cismontane California. Prefers undisturbed, open grasslands, meadows, farmlands, and emergent wetlands for foraging.	**Not Expected.** Potentially suitable habitat for this species is absent from the BSA.
southwestern willow flycatcher *Empidonax traillii extimus*	Federal: FE State: SE Other: NCCP	Found in riparian woodlands in Southern California.	**Not Expected.** Potentially suitable habitat for this species is absent from the BSA.
California horned lark *Eremophila alpestris actia*	Federal: None State: None Other: WL	Prefers expansive open areas, with barren or sparsely vegetated ground, such as beaches, plowed fields and occasionally parking lots or runways.	**Low.** Although site conditions may be suitable for this ground-nesting species, the nearest record of this species is from 2003 and occurs approximately 4 miles south of the BSA.
American peregrine falcon *Falco peregrinus anatum*	Federal: Delisted State: Delisted Other: FP, NCCP	Frequents bodies of water in open areas with cliffs and canyons nearby for cover and nesting. Also know to nest on tall buildings or bridges within urban environments.	**Not Expected.** Potentially suitable habitat for this species is absent from the BSA.
bald eagle *Haliaeetus leucocephalus*	Federal: Delisted State: SE Other: BGE, FP	Occurs as a local winter migrant of inland waters in southern California, including at Big Bear Lake, Cachuma Lake, Lake Mathews, Nacimiento Reservoir, San Antonio Reservoir, and along the Colorado River.	**Not Expected.** Potentially suitable habitat for this species is absent from the BSA.
yellow-breasted chat *Icteria virens*	Federal: None State: None Other: SSC	Occurs in dense tangled brushy patches, hedgerows and wood edges, in open sunny areas and along riparian woodland ecotones.	**Not Expected.** Potentially suitable habitat for this species is absent from the BSA.

Common Name ***Scientific Name***	**Status[2]**	**General Habitat Description[3]**	**Potential for Occurrence in the BSA[4]**
California black rail *Laterallus jamaicensis coturniculus*	Federal: None State: ST Other: FP	Inhabits saline, brackish, and fresh emergent wetlands.	**Not Expected.** Potentially suitable habitat for this species is absent from the BSA.
Belding's savannah sparrow *Passerculus sandwichensis beldingi*	Federal: None State: SE	Inhabits southern coastal wetlands.	**Not Expected.** Potentially suitable habitat for this species is absent from the BSA.
coastal California gnatcatcher *Polioptila californica*	Federal: FT State: None Other: SSC, NCCP	Obligate, permanent resident of coastal sage scrub below 2.500 feet (760 meters) in southern California. Inhabits low, coastal sage scrub in arid washes, on mesas and slopes.	**Not Expected.** Potentially suitable habitat for this species is absent from the BSA.
light-footed Ridgway's rail *Rallus obsoletus levipes*	Federal: FE State: SE Other: FP	Resident of coastal wetlands in southern California.	**Not Expected.** Potentially suitable habitat for this species is absent from the BSA.
yellow warbler *Setophaga petechia*	Federal: None State: None Other: SSC	Occupy riparian vegetation in close proximity to water along streams and in wet meadows. Associated with willows and cottonwoods.	**Not Expected.** Potentially suitable habitat for this species is absent from the BSA.
California least tern *Sternula antillarum browni*	Federal: FE State: SE Other: FP	Found along coastal beaches, bays, large rivers, and salt flats. Known to feed in shallow coastal waters and occasionally inland.	**Not Expected.** Potentially suitable habitat for this species is absent from the BSA.
least Bell's vireo *Vireo bellii pusillus*	Federal: FE State: SE Other: NCCP	Summer resident of southern California in low riparian habitat in vicinity of water or in dry river bottoms, below 620 meters (2,000 feet).	**Not Expected.** Potentially suitable habitat for this species is absent from the BSA.
Mammals			
pallid bat *Antrozous palidus*	Federal: None State: None Other: SCC, WBWG-H	Deserts, grasslands, shrublands, woodlands and forests. Most common in open, dry habitats with rock areas for roosting. Roosts must protect bats from high temperatures; very sensitive to disturbance of roosting sites.	**Not Expected.** Potentially suitable habitat for this species is absent from the BSA.
northwestern San Diego pocket mouse *Chaetodipus fallax*	Federal: None State: None Other: SSC	Found in coastal scrub, chamise-redshank chaparral, mixed chaparral, sagebrush, desert wash, desert scrub, desert succulent scrub, pinyon-juniper, and annual grassland habitats. Prefers sandy herbaceous areas with rocks or course gravel. Occurs in Riverside, San Bernardino, and San Diego counties from 0-1,350 meters (0-4,500 feet).	**Not Expected.** Potentially suitable habitat for this species is absent from the BSA.

Common Name ***Scientific Name***	**Status[2]**	**General Habitat Description[3]**	**Potential for Occurrence in the BSA[4]**
Mexican long-tongued bat *Choeronycteris mexicana*	Federal: None State: None Other: SSC, WBWG-H	In California, mostly known from urban habitats in San Diego county. In New Mexico and Arizona, found in desert and montane riparian, desert succulent shrub, desert scrub, and pinyon-juniper habitats from 0-2,400 meters (0-6,000 feet).	**Not Expected.** Potentially suitable habitat for this species is absent from the BSA.
Stephens' kangaroo rat *Dipodomys stephensi*	Federal: FE State: ST	Found from San Jacinto Valley in Riverside County to the vicinity of Vista in San Diego County. Prefers grassland habitats, but also found in open coastal scrub or sagebrush and disturbed areas.	**Not Expected.** Although onsite habitat is potentially suitable for this species, it is not known to occur in Orange County.
western mastiff bat *Eumops perotis californicus*	Federal: None State: None Other: SCC, WBWG-H	Known from open semiarid to arid habitats, including conifer and deciduous woodlands, coastal scrub, grassland, and chaparral. Roosts in crevices in cliff faces, high buildings, trees, and tunnels. Roost locations are generally high above the ground providing a 3-meter minimum clearance below the entrance for flight. Requires large open-water drinking sites.	**Not Expected.** Potentially suitable habitat for this species is absent from the BSA.
western red bat *Lasiurus blossevillii*	Federal: None State: None Other: SCC, WBWG-H	Prefers edges or habitat mosaics that have trees for roosting and open areas for foraging. Roosting habitat includes forests and woodlands from sea level up through mixed conifer forests. Feeds over a wide variety of habitats including grasslands, shrublands, open woodlands and forests, and croplands. Not found in desert areas	**Not Expected.** Potentially suitable habitat for this species is absent from the BSA.
western yellow bat *Lasiurus xanthinus*	Federal: None State: None Other: SSC, WBWG-H	Occurs below 600 meters (2,000 feet) in valley foothill riparian, desert riparian, desert wash, and palm oasis habitats. Roosts in trees and palms.	**Not Expected.** Potentially suitable habitat for this species is absent from the BSA.
Yuma myotis *Myotis yumanensis*	Federal: None State: None Other: WBWG-LM	Distribution is closely tied to bodies of water, which it uses as foraging sites and sources of drinking water. Found in a wide variety of habitats ranging from sea level to 3,300 meters (11,000 feet), but it is uncommon to rare above 2,560 meters (8,000 feet). Optimal habitats are open forests and woodlands with sources of water over which to feed.	**Not Expected.** Potentially suitable habitat for this species is absent from the BSA.

Common Name ***Scientific Name***	**Status[2]**	**General Habitat Description[3]**	**Potential for Occurrence in the BSA[4]**
San Diego desert woodrat *Neotoma lepida intermedia*	Federal: None State: None Other: SCC, NCCP	Found in coastal scrub of southern California from San Diego County to San Luis Obispo County. Moderate to dense canopies preferred. They are particularly abundant in rock outcrops and rocky cliffs and slopes.	**Not Expected.** Potentially suitable habitat for this species is absent from the BSA.
pocketed free-tailed bat *Nyctinomops femorosaccus*	Federal: None State: None Other: SSC, WBWG-M	Occurs in pinyon-juniper woodlands, desert scrub, desert succulent scrub, desert riparian, desert wash, alkali desert scrub, Joshua tree, and palm oasis habitats. Roost in rock crevices, caverns, or buildings.	**Not Expected.** Potentially suitable habitat for this species is absent from the BSA.
big free-tailed bat *Nyctinomops macrotis*	Federal: None State: None Other: SSC, WBWG-MH	Often found in urban areas. Roost in buildings, caves, hollow trees, high cliffs, and rocky outcrops.	**Not Expected.** Potentially suitable habitat for this species is absent from the BSA.
southern grasshopper mouse *Onychomys torridus ramona*	Federal: None State: None Other: SSC	Prefers alkali desert scrub and other desert scrub habitats. Also occurs in succulent shrub, wash, riparian, coastal scrub, mixed chaparral, sagebrush, low sage, and bitterbrush habitats.	**Not Expected.** Potentially suitable habitat for this species is absent from the BSA.
Pacific pocket mouse *Perognathus longimembris pacificus*	Federal: FE State: None Other: SSC, NCCP	Inhabits areas with fine-grained sandy substrates in coastal dunes, river alluvium, and coastal sage scrub habitats within 3 miles of the ocean.	**Not Expected.** Potentially suitable habitat for this species is absent from the BSA.
southern California saltmarsh shrew *Sorex ornatus salicornicus*	Federal: None State: None Other: SSC	Occurs in coastal salt marshes, preferring those dominated by pickleweed and saltgrass.	**Not Expected.** Potentially suitable habitat for this species is absent from the BSA.
American badger *Taxidea taxus*	Federal: None State: None Other: SCC	Uncommon, permanent resident found throughout most of the state, except in the northern North Coast area. Most abundant in drier open stages of most shrub, forest, and herbaceous habitats, with friable soils.	**Not Expected.** Potentially suitable habitat for this species is absent from the BSA and burrows suitable for the species were not observed during the field survey.

[1] Special-status wildlife species known from the CNDDB and NMFS databases to occur in the El Toro, Tustin, Orange, Black Star Canyon, Corona South, Santiago Peak, Laguna Beach, San Juan Capistrano, and Canada Gobernadora quadrangles, and from a search of IPaC for the project vicinity.

[2] Sensitivity Status Codes

Federal — **FT** – Federally Threatened under Federal Endangered Species Act (FESA)
FE – Federally Endangered under FESA

State — **ST** – State Threatened under California Endangered Species Act (CESA)
SE – State Endangered under CESA
SC – State Candidate for listing under CESA

Other — **BGE** – Bald and Golden Eagle Protection Act
SSC – Designated as a Species of Special Concern by CDFW

WL – Designated as a Watch List species by CDFW
CNDDB – Tracked by CDFW in the CNDDB or considered locally sensitive
WBWG-H – Designated by the Western Bat Working Group (WBWG) as High Priority - species that are imperiled or are at high risk of imperilment
WBWG-M – Designated by the WBWG as Medium Priority – a level of concern that should warrant closer evaluation, more research, and conservation actions of both species and possible threats
WBWG-L – Designated by the WBWG as Low Priority – an indication that existing data supports stable populations of the species and that the potential for major changes in status in the future is considered unlikely

[3] General Habitat Descriptions from CDFW and NMFS.

[4] References to historical species occurrences taken from the CNDDB (CDFW 2020a).

Appendix D
Technical Memorandum
Cultural Resources

Metrolink Orange County Maintenance Facility

Prepared for:

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June 2022

REVISION	DESCRIPTION	DATE
0	Draft Cultural Resources Technical Memorandum	01/08/21
1	Draft Cultural Resources Technical Memorandum (Incorporating OCTA's comments)	03/17/21
2	Draft Cultural Resources Technical Memorandum (Incorporating Independent Reviewer's comments)	08/24/21
3	Draft Cultural Resources Technical Memorandum (Incorporating Independent Reviewer's comments and results of Native American AB 52 consultation)	10/04/21
4	Draft Cultural Resources Technical Memorandum (Incorporating comments from OCTA)	11/18/2021
5	Draft Cultural Resources Technical Memorandum (Incorporating comments from OCTA)	12/13/2021
6	Update of Mitigation Measures per coordination with Kizh Nation	5/2/2022

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1. INTRODUCTION

The Southern California Regional Railroad Authority (SCRRA) Metrolink Commuter Rail System (Metrolink) is proposing to construct a new Orange County Maintenance Facility (hereafter referred to as "OCMF" or "the Project"). The Project would include several facilities including a transportation building, employee parking area, train-wash building, pump house, utility building, guard booth, equipment booth, sand silos, a maintenance facility, a maintenance facility extension, and 11 tracks. Approximately 80 employees would report to the Project. The Project consists of buildings that would have a total building area of approximately 90,000 square feet when combined. Metrolink currently operates two maintenance facilities across its service area: Central Maintenance Facility (CMF) in Los Angeles and Eastern Maintenance Facility (EMF) in San Bernardino County. Due to projected population expansion within its service area and the agency's goal to be prepared for the 2028 Los Angeles Summer Olympic Games, Metrolink will require an increased number of commuter rail services, as well as additional train storage and maintenance facilities associated with an increased fleet size. As a significant proportion of the expanded services will operate in Orange County, the Project would provide an optimal location for a new Metrolink maintenance facility. Metrolink's member agency, the Orange County Transportation Authority (OCTA), proposes to build this facility on an OCTA-owned parcel in the City of Irvine. OCTA is the lead agency under the California Environmental Quality Act (CEQA). The City of Irvine and SCRRA are the responsible agencies under CEQA.

The purpose of this memorandum is to present the results of a cultural resources investigation and to describe the potential impacts to historic properties as defined by Section 106 of the National Historic Preservation Act (NHPA), or cultural resources as defined by CEQA, that may be associated with the Project.

2. PROJECT DESCRIPTION

2.1 PROJECT BACKGROUND

As a result of the projected population expansion within the five-county area (Orange County, Los Angeles County, San Bernardino County, Riverside County, and Ventura County) currently served by the SCRRA, Metrolink will require an increased number of commuter rail services to support the growth. Consequently, the Metrolink system (Figure 2.1-1) would require additional train storage and maintenance facilities to support an increased fleet size.

Metrolink's CMF facility is located on the east bank of the Los Angeles River near the Interstate 5 (I-5) and Interstate 10 (I-10) highways, just south of the location of the former Southern Pacific Taylor Yard. The CMF is currently near capacity, which will impact the ability to provide the necessary train servicing for planned service-expansion of various Metrolink lines throughout the system under the Southern California Optimized Rail Expansion (SCORE) program. By transferring a portion of the current fleet from CMF to the proposed OCMF (specifically the Orange County Line trains), capacity for the non-Orange County trains will be increased at CMF. The Orange County Line has the highest ridership within the Metrolink system; therefore, a maintenance facility to serve the Orange County area with sufficient storage and servicing capabilities for both locomotives and rail cars is critical to controlling operating costs. In order to optimize

rail service in the region, the proposed facility development would need to be completed by 2028. The SCORE program may also require heavy overhaul capabilities at OCMF, subject to pending decisions regarding fleet technology and management.

Figure 2.1-1 Metrolink System Map

Source: SCRRA (2019)

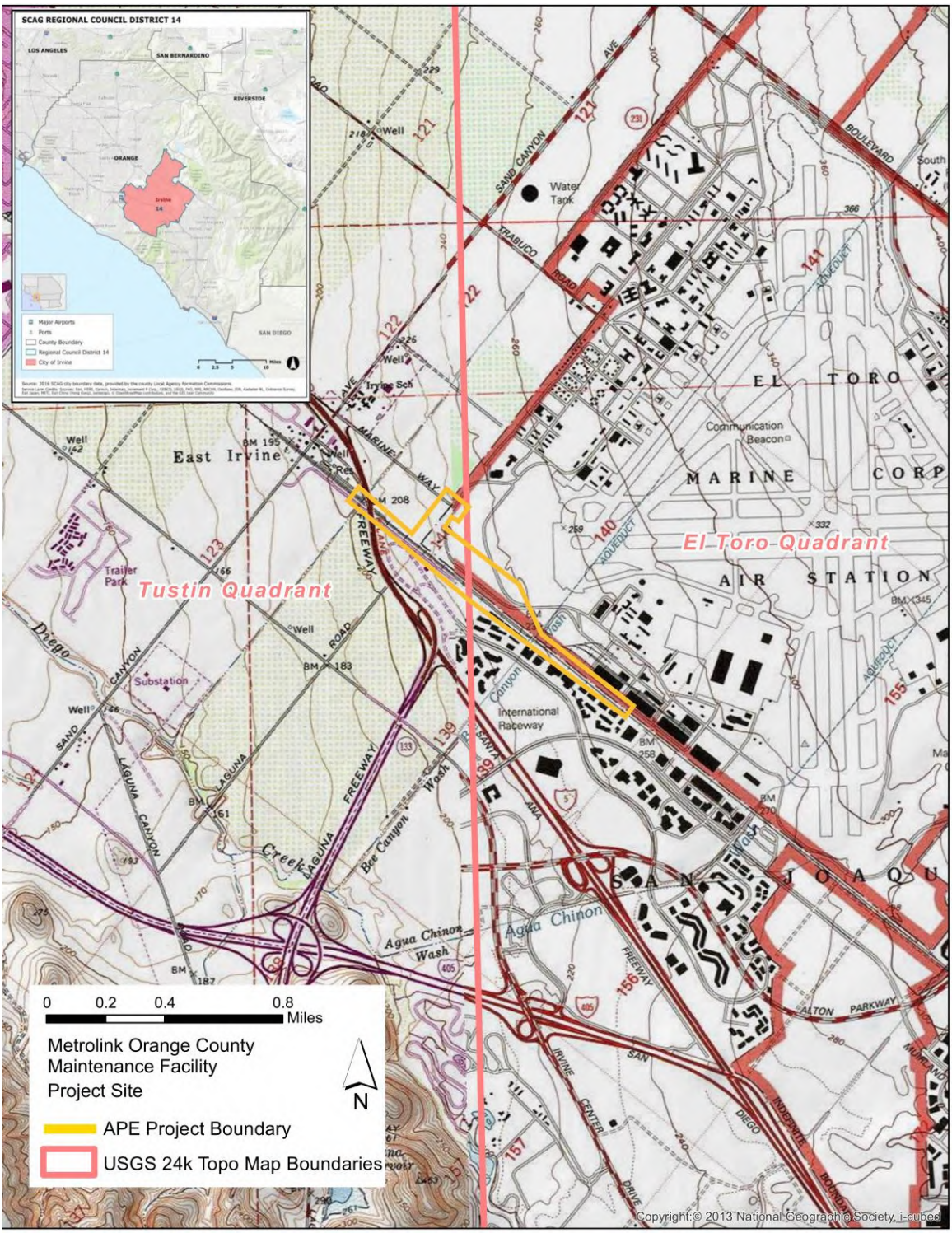
The expansion of Orange County and overall Metrolink commuter rail service will ultimately require additional or expanded equipment servicing capabilities for both locomotives and rail cars. Since a significant portion of the fleet will be in Orange County, a maintenance facility located along the Metrolink route through Orange County would be the optimal location as it would reduce operating costs by limiting non-revenue moves to the existing SCRRA storage and maintenance facilities in the cities of Los Angeles and San Bernardino. The proposed maintenance facility would provide equipment to inspect, clean, and maintain cars and locomotives on a regular and efficient basis. Much of the inspection and maintenance activity is federally mandated and must be performed at specific intervals. The OCMF will also provide refueling services thus reducing fuel costs, reducing fuel consumption, and will reduce emissions. Currently trains operating in the Orange County Region must travel either the CMF or EMF for refueling, which are sometimes non-revenue runs. The location of the Project is on a 21.3-acre OCTA-owned parcel on Ridge Valley south of Marine Way in the City of Irvine (Project Site). The Project Site is located within the boundaries of a closed military base (Marine Corps Air Station [MCAS] El Toro) formerly owned by the United States Department of the Navy (DON). After MCAS El Toro was closed, the site was quitclaimed by the Navy to Heritage Fields El Toro, LLC in 2011, and then by way of grant deed conveyed by Heritage Fields to the City of Irvine that same year. OCTA then purchased the fee ownership of the Project Site from the City of Irvine. Regional vehicle access to the Project Site is from I-5 at Sand Canyon Avenue. Local vehicle access is via Marine Way to Ridge Valley.

Prior to the current construction of the storage/set-out track, the Project Site was mostly vacant. The site currently includes 1,000-foot-long storage for miscellaneous rail equipment including temporary railroad bridges, signal houses, railroad ties, and signal components. Although not part of the Project, OCTA is currently installing a single 1,000-foot-long, single-ended storage track and fencing of the perimeter of the property to provide temporary storage of two trainsets and/or track maintenance equipment when necessary. There is a segment of an abandoned road, stormwater drains, and underground water transfer vault with a network of pipelines, valves and associated vents, that are currently not in use.

2.2 PROJECT DESCRIPTION

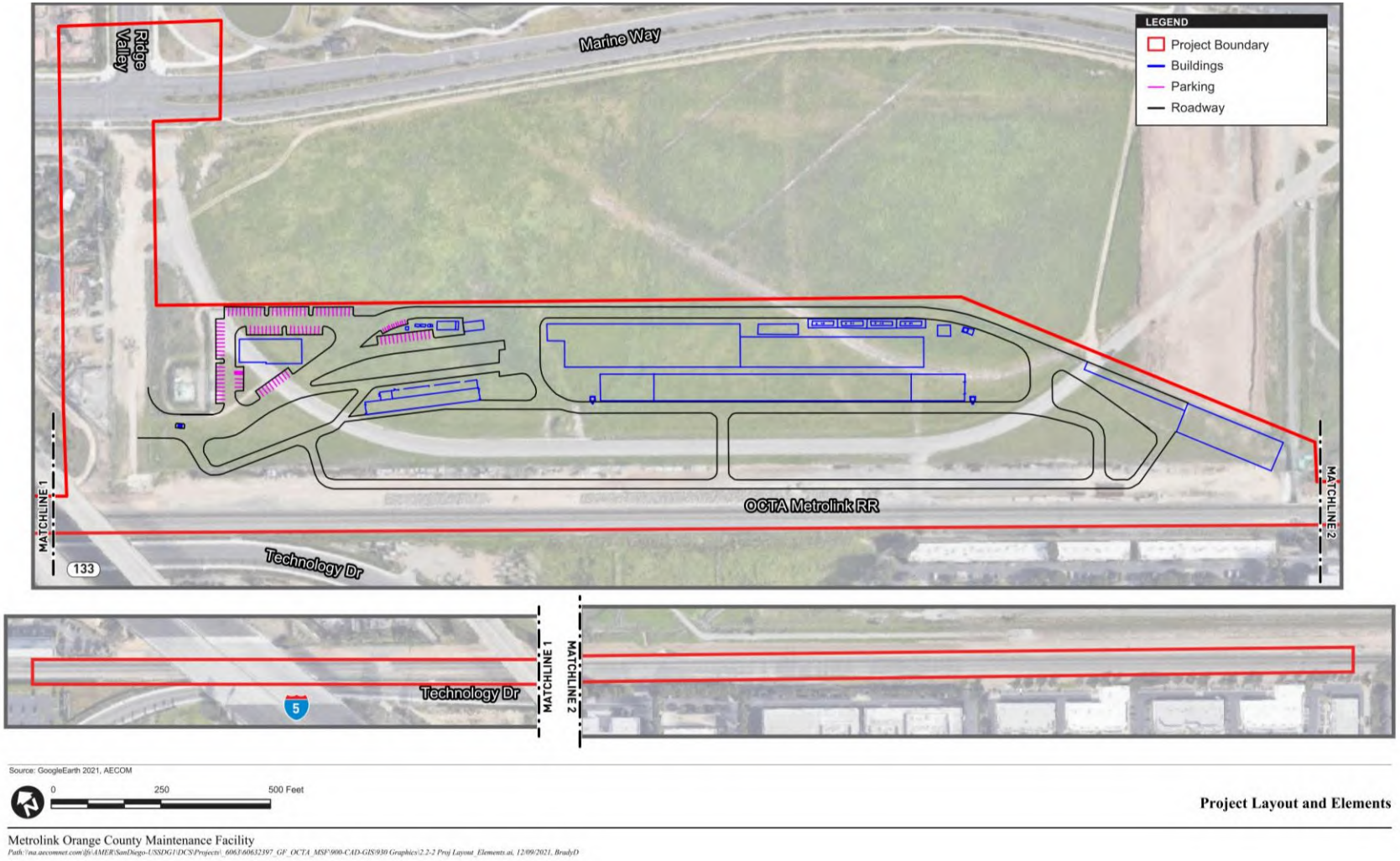
The OCMF would be located in the City of Irvine, on a 21.3-acre parcel owned by OCTA and adjacent to Marine Way and the Metrolink Orange subdivision between mileposts 183.50 and 184.00 on Metrolink's "Orange" Subdivision (Figure 2.2-1 and Figure 2.2-2). The Project Site is located within Planning Area 51 of the updated City of Irvine General Plan, adopted in June 2015, and designated for the Great Park (formerly known as the Orange County Great Park (OCGP)) land use under the General Plan. Per the City's zoning ordinance, the proposed use is a conditionally allowable use under the existing zone; therefore, OCTA is submitting a Conditional Use Permit to the City of Irvine for approval.

Figure 2.2-1 Project Location



Source: ESRI (2021), OCTA (2021)

Figure 2.2-2 Project Layout and Elements



Source: ESRI (2021), OCTA (2021)

The Project would be developed in two phases with an anticipated completion date of 2028. Phase 1 focuses on developing facilities needed for the storage and routine cleaning, inspection and servicing of the anticipated trainsets. The total area of the Phase 1 buildout would be approximately 20,996 square feet and would be comprised of the following facilities: the transportation building, employee parking area, train-wash building, pump house, utility building, guard booth, equipment booth and sand silos (Table 0-1). A total of 11 tracks would be built. The Phase 1 layout situates the train wash, fueling/sanding, and service and inspection tracks on the two tracks with the greatest tangent length, which are the ones nearest the railroad right of way ("ROW"). This is important in fitting a second fueling/sanding facility so that there is one at each end of the service and inspection platform to support having the locomotive at either end, all within tangent track. Additionally, six storage tracks and appurtenant features (air, water, head end power and toilet dump facilities) would be constructed. The storage tracks would be built near the middle of the site east of the service and inspection tracks. Phase 1 of the buildout would anticipate approximately 52 employees total throughout the entire day, split across three eight-hour shifts.

Table 0-1 Building Specifications

Building/Facility/Item	Building Area	Building Height
Transportation Building	7,495 sq. ft.	20 ft
Train Wash Building	11,110 sq. ft.	21 ft
Maintenance Building	40,392 sq. ft.	48 ft
Maintenance Building Expansion	27,880 sq. ft.	---
Utility Building	981 sq. ft.	20 ft
Pump House	750 sq. ft.	14 ft
Guard Booth	36 sq. ft.	---
Equipment Booth	48 sq. ft.	---
Sand Silos (2 Total)	576 sq. ft.	---
Total	89,268 sq. ft.	

Source: Gannett Fleming, Metrolink (February 2022)
Note: sq. ft. = square feet; ft = feet

A runaround track would be provided between the service and inspection tracks and storage tracks. Additionally, two temporary stub-ended set out tracks would be provided in the Phase 1 layout that occupies the footprint of the future shop tracks (one at the north and one at the south end of the yard). These set out tracks would be converted to shop access tracks in Phase 2 and, therefore, would no longer be available as set out tracks. A new set out track would then be provided as part of Phase 2.

A transportation building that would be utilized for administrative purposes is also included in Phase 1. This building would house managerial offices, welfare spaces for train crews and on-site personnel. This facility would include restrooms, showers, locker rooms, a break/day room, vending space and a kitchenette.

Parking would be provided for staff reporting to the site. Fire department compliant roadways would be developed to permit circulation of the site for Metrolink vehicles as well as delivery trucks (sand and fuel).

Phase 2 completes the full buildout of the Project. It would include development of the maintenance shop building and its future extension that would comprise of a total buildout area of 68,272 square feet (Table 0-1). The shop would have capabilities to perform regular three-month, six-month, and one-year preventive maintenance cycles on trainsets. Phase 2 of the buildout would consist of approximately 28 employees. With the full buildout of Phase 1 and Phase 2, approximately 80 employees are expected to access the Project Site daily, split across three eight-hour shifts.

Access to the OCMF would require a roadway extension along Ridge Valley from the intersection of Ridge Valley and Marine Way. The Project includes the southern extension of Ridge Valley Road from Marine Way and associated traffic signal improvements to provide access to the OCMF.

The 11 new east and west lead tracks, as discussed in this section above, would be constructed within the existing railroad corridor between MP 183.0 and MP 184.00 on Metrolink's "Orange" Subdivision to connect the existing mainline railroad to the proposed OCMF rail yard. A new single span concrete bridge over the Bee Canyon Channel (Channel) would be built for the east lead track. A segment of the Channel and utilities that are found to be in conflict would be lowered by approximately 2.5 feet to facilitate the construction of the bridge.

3. ENVIRONMENTAL SETTING

3.1 REGULATORY FRAMEWORK

3.1.1 National Environmental Policy Act and National Historic Preservation Act

Federal agencies must consider the effects of proposed projects on historic properties and natural resources. Lead agencies evaluate potential impacts under the National Environmental Policy Act (Public Law 91-190; NEPA) and potential effects under the NHPA (16 USC 470) to "historic properties," which are defined as resources that are listed in or eligible for listing in the National Register of Historic Places (NRHP), in an effort to avoid potential significant impacts and adverse effects. Resources that may be eligible for listing in the NRHP include districts, sites, buildings, structures, and objects that are at least 50 years old and are significant in American history, prehistory, architecture, archaeology, engineering, and/or culture. To be eligible for listing, the resource must meet one of the NRHP Criteria for Evaluation (A–D) (36 Code of Federal Regulations [CFR] 60.4), as follows:

A. A property is associated with events that have made a significant contribution to the broad patterns of our history; or

B. A property is associated with the lives of a person or persons significant in our past; or

C. A property embodies the distinctive characteristics of a type, period, or method of construction, or that represent the work of a master, or that possesses high artistic values, or that represents a significant and distinguishable entity whose components may lack individual distinction; or

D. A property has yielded, or may be likely to yield, information important in prehistory or history.

In addition, historic properties must possess integrity of location, design, setting, material, workmanship, feeling, and association.

Resources younger than 50 years may be eligible if they have exceptional importance and meet Criteria Consideration G, as described in Bulletin No. 22 from the National Park Service (NPS), *How to Evaluate and Nominate Potential National Register Properties that have Achieved Significance Within the Last 50 Years* (Sherfy and Luce 1998). Other types of resources that are typically not eligible for the NRHP, including religious properties, moved properties, birthplaces or graves, cemeteries, reconstructed properties, and commemorative properties, may be eligible under other specific NRHP criteria considerations.

NEPA requires that environmental impacts to historic properties be evaluated and addressed during the environmental review process in coordination with procedures established by Section 106 of the NHPA to address effects on historic properties. A significant impact and/or an adverse effect would occur if a project would directly or indirectly diminish any of the characteristics that qualify a historic property for NRHP eligibility or listing. Under NEPA, a significant impact may be resolved with mitigation measures to avoid the impact or to reduce the impact to a level of less than significant. Under Section 106 of the NHPA, adverse effects must be resolved through a consultation process between the federal lead agency, the State Historic Preservation Office, interested parties, and the Advisory Council on Historic Preservation (ACHP). If an adverse effect cannot be avoided, mitigation may be agreed upon and documented in a signed Memorandum of Agreement to resolve the adverse effect. If mitigation is not agreed upon through the Section 106 process, consultation is terminated and the ACHP may make comments on the procedure.

3.1.2 California Environmental Quality Act

CEQA (Public Resources Code [PRC] Sections 21000–21177) is intended to prevent significant avoidable impacts to the environment by requiring feasible alternatives or mitigation measures. If cultural resources are identified within the Project Site, the sponsoring agency must take those resources into consideration when evaluating project effects. The level of consideration may vary with the importance of the cultural resource.

A cultural resource is considered to be a "historical resource" under CEQA if the resource meets the criteria for listing in the California Register of Historical Resources (CRHR) (PRC Section 5024.1, Title 14 California Code of Regulations [CCR], Section 4852). The CRHR was designed to be used by state and local agencies, private groups and citizens to identify existing historical resources within the state and to indicate which of those resources should be protected, to the extent prudent and feasible, from substantial adverse change. The criteria for the CRHR (PRC Section 5024.1, Title 14 CCR, Section 4852) are consistent with the criteria for the NRHP, but generally focus on resources of statewide, rather than national, significance. To be eligible for listing in the CRHR, a property generally must be at least 50 years of age and possess significance at the local, state, or national level, under one or more of the following four criteria:

1. It is associated with events that have made a significant contribution to the broad patterns of local or regional history, or the cultural heritage of California or the United States;
2. It is associated with the lives of persons important to local, California, or national history;
3. It embodies the distinctive characteristics of a type, period, or method of construction or represents the work of a master, or possesses high artistic values; and/or
4. It has yielded, or has the potential to yield, information important in the prehistory or history of the local area, California, or the nation.

Potential historical resources eligible for listing in the CRHR may include buildings, sites, structures, objects and historic districts. A resource less than 50 years of age may be eligible if it can be demonstrated that sufficient time has passed to understand its historic importance. While the criteria for the CRHR is less rigorous than the NRHP with regard to the issue of integrity, there is the expectation that properties reflect their appearance during their period of significance (Title 14 CCR, Section 4852).

Archaeological resources identified as "unique archaeological resources" are similarly protected by Division 13, Chapter 2.6, of the Public Resources Code. A "unique archaeological resource" is defined as an archaeological resource that:

1. Contains information needed to answer important scientific research questions and that there is a demonstrable public interest in that information.
2. Has a special and particular quality such as being the oldest of its type or the best available example of its type.
3. Is directly associated with a scientifically recognized important prehistoric or historic event or person. (PRC Division 13, Chapter 2.6, 21083.2[g])

An archaeological resource that is considered nonunique need be given no additional consideration other than its existence being recorded, unless it is determined to be a tribal cultural resource.

3.1.3 Public Resources Code Section 5097.5

PRC Section 5097.5 states that no person shall knowingly and willfully excavate upon, or remove, destroy, injure, or deface any historic or prehistoric ruins, burial grounds, archaeological or vertebrate

paleontological site, including fossilized footprints, inscriptions made by human agency, or any other archaeological, paleontological, or historical feature, situated on public lands, except with the express permission of the public agency having jurisdiction over such lands. Violation of this section is a misdemeanor. "Public lands" refers to land owned by, or under the jurisdiction of, the state, or any city, county, district, authority, or public corporation, or any agency thereof.

3.1.4 Public Resources Code Section 5097.9-5097.991

PRC Section 5097.9 protects the free expression of Native American religion. Section 5097.91 creates the Native American Heritage Commission (NAHC) to coordinate with state agencies. Section 5097.94 empowers the NAHC to identify and catalog Native American sacred sites, including graves, thereby creating the Sacred Lands File. The NAHC is also empowered to make recommendations to public agencies to ensure their access and protection. Section 5097.98 mandates County Coroners to notify the NAHC when human remains of Native American origin are identified and provides for the identification of a Most Likely Descendant to advise the respectful treatment of such remains. Section 5097.99 makes it illegal to obtain Native American artifacts or human remains from a burial or cairn except by following the legal process outlined in Section 5097.98, and Section 5097.991 indicates that it is the policy of the State that Native American human remains and grave artifacts be repatriated.

3.1.5 Public Resources Code Section 21074

PRC Section 21074 was added as one of the amendments to CEQA enacted in Assembly Bill (AB) 52. This section creates a new category of resources called tribal cultural resources, which are defined as either of the following:

1. Sites, features, places, cultural landscapes, sacred places, and objects with cultural value to a California Native American tribe that are either of the following:
    a. Included or determined to be eligible for inclusion in the CRHR.
    b. Included in a local register of historical resources as defined in subdivision (k) of Section 5020.1.

A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Section 5024.1. In applying the criteria set forth in subdivision (c) of Section 5024.1 for the purposes of this paragraph, the lead agency shall consider the significance of the resource to a California Native American tribe.

3.1.6 Public Resources Code Section 21080.3.1

PRC Section 21080.3.1 was also added to the Public Resources Code by AB 52. Section 21080.3.1 recognizes that California Native American tribes which are traditionally and culturally affiliated with a geographic area may have expertise regarding potential tribal cultural resources that may be impacted by proposed projects. Section 21080.3.1 also mandates that a lead agency consult with geographically and culturally affiliated Native American tribes prior to the release of a negative declaration, mitigated negative declaration, or environmental impact report for a project in order to identify potential impacts to tribal

cultural resources and, if necessary, craft mitigation measures to reduce impacts to tribal cultural resources.

3.1.7 Local Regulations - City of Irvine General Plan

The City of Irvine General Plan includes Element E on Cultural Resources. It recognizes the importance of historical, archaeological and paleontological resources in the City and establishes a process for their early identification, consideration, and where appropriate, preservation. It requires assessment of potential resources on projects and utilizes planning policies, ordinances, approval conditions and mitigation measures to protect the resources.

Cultural resources are the physical remains of the City's historic and prehistoric heritage (City of Irvine, 2015). Historical resources include sites established after 1542 A.D., the date when European contact with California began, which may be significant to history, architecture, or culture. Archaeological resources include any location containing evidence of human activities which took place prior to 1750 A.D. Historical sites established prior to 1750 A.D. are also archaeological sites. Paleontological resources include any location containing a trace of plants or animals from past ages.

3.2 AREA OF POTENTIAL EFFECTS

The Area of Potential Effects (APE or “Project APE”) is defined in 36 CFR 800.16(d) as “the geographic area or areas within which an undertaking may directly or indirectly cause alterations in the character or use of historic properties, if any such properties exist. The APE is influenced by the scale and nature of an undertaking and may be different for different kinds of effects caused by the undertaking.”

The APE consists of the area where the proposed undertaking has the potential to cause effects on historic properties, and has been delineated to reflect the nature, scale, and location of the Project. The proposed APE includes built resources and historic and cultural landscapes and all areas that could be directly (caused by an action and occurring at the same time and place) or indirectly (caused by an action and are later in time or farther removed in distance but are still reasonably foreseeable) affected by the proposed project, as defined in 40 CFR § 1508.8(a)-(b). The APE has been delineated to include the Project Site and a portion of railroad and right-of-way (which includes access roads, new roads and intersections, new track leads along the rail alignment, and construction staging areas), in which impacts on both archaeological and built environment resources are possible, and adjacent areas to consider the Project’s potential visual, atmospheric, and audible effects on built environment resources near the Project Site. The vertical extent of the APE encompasses the maximum depth of excavation and grading, which may extend up to 10 feet beneath the existing ground surface for the building foundations, and the maximum height of construction, which will extend no more than 30 feet above the existing ground surface for the proposed administration building. The APE, showing historic built resources, is shown in Figure 3.2-1. The APE showing all resources, including previously documented archaeological resources, is depicted in the map in Attachment A.

3.3 EXISTING CONDITIONS

3.3.1 Prehistoric Overview

Geologic maps indicate that the entire Project APE is covered with surficial deposits of Qyf (Morton and Miller 2006). These deposits consist of young Quaternary alluvial fan deposits. They consist of slightly consolidated to cemented deposits of unsorted boulders, cobbles, gravels, and sands deposited by fluvial processes. Shallow Qyf deposits date to the Holocene (approximately 11,650 calibrated radiocarbon years before present to today). These younger Quaternary deposits can be tens of feet thick and overlie older Quaternary alluvium at varying depths.

The earliest occupation of Southern California may be associated with the peoples who first colonized North America in the terminal Pleistocene and earliest Holocene (Arnold et al., 2004). A key indicator of these early cultures are fluted points, which have been reported at a number of locations in Southern California (Rondeau, 2008). Closest to the Project APE, the Farpoint Site (CA-LAN-451) in Malibu, Los Angeles County, has yielded a fluted point, and its excavator argues the site should be associated with the Clovis culture (Stickel, 2008). Clovis is the earliest universally recognized material culture in North America, and dates to approximately 11,500 radiocarbon years before present (B.P.).

However, scholarly consensus holds that the earliest unambiguous evidence of human occupation in the Los Angeles area dates to at least 9000 B.P. and is associated with a period known as the Millingstone Cultural Horizon (Wallace 1955; Warren 1968). Millingstone populations established permanent settlements that were located primarily on the coast and in the vicinity of estuaries, lagoons, lakes, streams, and marshes where a variety of resources, including seeds, fish, shellfish, small mammals, and birds, were exploited. Early Millingstone occupations are typically identified by the presence of handstones (manos) and millingstones (metates), while those Millingstone occupations dating later than 5000 B.P. contain a mortar and pestle complex as well, signifying the exploitation of acorns in the region.

Figure 3.2-1 Area of Potential Effects Map

Source: ESRI, AECOM

0 842 1,684 Feet

1 inch = 842 feet 1:10,100

Metrolink Orange County Maintenance Facility

Although many aspects of Millingstone culture persisted, by 3500 B.P., a number of socioeconomic changes occurred (Erlandson 1994; Wallace 1955; Warren 1968). These changes are associated with the period known as the Intermediate Horizon (Wallace 1955). Increasing population size necessitated the intensification of existing terrestrial and marine resources (Erlandson 1994). This was accomplished in part through use of new technological innovations such as the circular shell fishhook on the coast and, in inland areas, use of the mortar and pestle to process an important new vegetal food staple (acorns); and the dart and atlatl, which resulted in a more diverse hunting capability. Evidence for shifts in settlement patterns has been noted as well at a variety of locations at this time and is seen by many researchers as reflecting increasingly territorial and sedentary populations. The Intermediate Horizon marks a period in which specialization in labor emerged, trading networks became an increasingly important means by which both utilitarian and nonutilitarian materials were acquired, and travel routes were extended.

The Late Prehistoric period, spanning from approximately 1500 years B.P. to the Spanish mission era, is the period associated with the florescence of contemporary Native American groups. The group occupying the southern Channel Islands and adjacent mainland areas of Los Angeles and Orange Counties came to be known as the Gabrielino, after Mission San Gabriel. They are reported to have been second only to their Chumash neighbors in terms of population size, regional influence, and degree of sedentism (Bean and Smith 1978). The boundary between these two groups is commonly believed to be in the area by Topanga Canyon, with the Chumash living along the beaches of Malibu up to the area of Paso Robles and the Gabrielino residing along the coast to southern Orange County. The Gabrielino are estimated to have numbered around 5,000 in the pre-contact period (Kroeber 1925). Maps produced by early explorers indicate the existence of at least 40 Gabrielino villages, but as many as 100 may have existed prior to contact with Europeans (Bean and Smith 1978; McCawley 1996; Reid 1939 [1852]).

Subsistence during the Late Prehistoric period consisted of hunting, fishing, and gathering. Small terrestrial game was hunted with deadfalls and rabbit drives, and by burning undergrowth, while larger game such as deer were hunted using bows and arrows. Fish were taken by hook and line, nets, traps, spears, and poison (Bean and Smith 1978; Reid 1939 [1852]). The primary plant resources were acorns gathered in the fall and processed with mortars and pestles, and various seeds that were harvested in late spring and summer and ground with manos and metates. The seeds included chia and other sages, various grasses, and Islay or holly-leafed cherry (Reid 1939 [1852]).

3.3.2 Historic Overview

Spanish explorers made brief visits to Gabrielino territory in 1542 and 1602, and on both occasions the two groups exchanged trade items (McCawley 1996). Sustained contact with Europeans did not commence until the onset of the Spanish period, which began in 1769 when Gaspar de Portola and a small Spanish contingent began their exploratory journey along the California coast from present-day San Diego to Monterey. The Portola expedition crossed today's Orange County and forded the Santa Ana River on July 28, 1769. On the banks of the river they encountered "a populous village of Indians, who received us with great friendliness" (quoted in McCawley 1996:60).

Several Native American villages are known to have existed on the Santa Ana River plain at about the time of contact. The village encountered by the Portola expedition was probably *Hotuuknga*, which was located near the former location of the Bernardo Yorba adobe, in today's Yorba Linda (McCawley 1996:60). A village named *Pasbengna* was located on the Santa Ana River in the vicinity of today's Santa Ana (McCawley 1996:60). A place called *Moyo* or *Moyoonga*, which may have been a village, was located on what became the Rancho San Joaquin near Newport Bay (McCawley 1996:72). Other villages, some of the names of which were recorded by missionaries or early anthropologists, are known to have existed throughout today's Orange County, but no village centers are known to have existed within the APE.

In the years following the Portola expedition, missions were established across California. Mission San Gabriel Arcàngel was established in 1771 in what is now Whittier Narrows in Los Angeles County. Another location considered for the mission was near the Santa Ana River (McCawley 1996:189). The natives that occupied the northern areas of present-day Orange County became known as the *Gabrieleño* (later anglicized to Gabrielino) because of the mission. Mission San Juan Capistrano was established in 1776 in present-day San Juan Capistrano, and the Native American group in the vicinity became known as the *Juaneño* (Koerper et al. 2002: 64). Missionization brought with it significant and detrimental changes in *Gabrieleño* and *Juaneño* health and cultural integrity.

Alta California became a state when Mexico won its independence from Spain in 1821, and Los Angeles selected its first city council the following year. The authority of the California missions gradually declined, culminating with their secularization in 1834. Although the Mexican government directed that each mission's lands, livestock, and equipment be divided among its converts, the majority of these holdings quickly fell into non-Indigenous hands. Mission buildings were abandoned and quickly fell into decay.

The first party of U.S. immigrants arrived in Los Angeles in 1841, although surreptitious commerce had previously been conducted between Mexican California and residents of the United States and its territories. As the possibility of a takeover of California by the United States loomed large, the Mexican government increased the number of land grants in an effort to keep the land in the hands of upper-class *Californios* such as the Avila, Domínguez, Lugo, and Sepúlveda families (Wilkman and Wilkman 2006:14–17). Governor Pío Pico and his predecessors made more than 600 rancho grants between 1833 and 1846, putting most of the state's lands into private ownership for the first time (Gumprecht 1999).

The project APE lay in the southern portion of the sphere of influence of Mission San Gabriel from its establishment in 1771. In 1842, Governor Juan Bautista Alvarado granted lands that included the project APE to José Sepúlveda as part of Rancho San Joaquin. Throughout the Spanish and Mexican periods the local Native American populations continued to use the land. They also served as the labor on the mission lands and ranchos (Phillips 2010). Writing about a rancho in the San Fernando Valley, one mission father observed in 1795, "These Indians are the cowherds, cattlemen, irrigators, bird-catchers, foremen, horsemen, etc." (Englehardt 1927:5). As time went by the Native Americans were taught additional specialists' skills such as masonry, blacksmithing, carpentry, painting, and Mexican-style ceramics (Frierman 1992; Schuetz-Miller 1994). The same was true of today's Orange County, where Native Americans labored, often with the skills and knowledge of specialists, building wealth for the missions and the rancheros.

The United States took control of California after the Mexican–American War of 1846, and seized Monterey, San Francisco, San Diego, and Los Angeles (then the state capital) with little resistance. Hostilities officially ended with the signing of the Treaty of Guadalupe Hidalgo in 1848, in which the United States agreed to pay Mexico $15 million for the conquered territory, which included California, Nevada, and Utah, and parts of Colorado, Arizona, New Mexico, and Wyoming. The conquered territory represented nearly one-half of Mexico's pre-1846 holdings. California joined the United States in 1850 as the 31st state (Wilkman and Wilkman 2006:15).

The discovery of gold at Sutter's Mill in 1849 led to an enormous influx of people from other parts of the United States in the 1850s and 1860s; these "forty-niners" rapidly displaced the old rancho families. Southern California's prosperity in the 1850s was largely a result of the increased demand for cattle for meat and hides, which was created by the gold rush, and the local ranching community profited handsomely (Bell 1881:26).

James Irvine emigrated from Ireland to California in 1846. Between 1864 and 1876, Irvine created the Irvine Ranch (the predecessor to The Irvine Company) by purchasing three, large, Spanish-Mexican land grants: San Joaquin, Santiago de Santa Ana, and Lomas de Santiago. The Irvine Ranch was initially used for agriculture; farming fruits and vegetables, such as lima beans and oranges, and raising cattle. Irvine also developed water infrastructure by drilling wells and developing the Irvine Ranch water system.

During the 1880s, railroad development in the region put the Irvine Ranch landholdings at the focus of debate. The Southern Pacific Railroad (SPRR) wanted to build a line south to connect to San Diego before its rival the Atchison, Topeka, and Santa Fe Railroad (AT&SF). However, James Irvine despised one of the SPRR's primary investors, Collis Huntington, and refused to allow the railroad a convenient right-of-way across his property. The California Southern Railroad, a subsidiary of the AT&SF, laid a line from San Diego to Oceanside which routed northeast to Temecula, thereby avoiding the Irvine Ranch. However, this line was washed out shortly after its opening in 1882. The more ideal corridor passed through the Irvine Ranch. In 1887, the California Southern Railroad attempted to sue the ranch to obtain a right-of-way. Ultimately, the Irvine family agreed to grant the AT&SF passage, as long as the railroad would build a depot to serve the property. The railroad segment that passes through the ranch was laid in 1887 (Amtrak 2019; Cleland 1952; Liebeck 1988). The AT&SF railroad ceased operating passenger trains in 1971 with the establishment of the National Railroad Passenger Corporation (Amtrak). In 1995, the AT&SF ceased operations and the entire company's holdings were acquired by the Burlington Northern Santa Fe (BNSF). Within the APE, the Orange County Transportation Authority is the current owner of the SCRRA Orange Subdivision railroad tracks.

In 1942, a military pilot's fleet operational training facility was established on 2,340 acres of the Irvine Ranch Corporation. In the following year, the facility was commissioned as MCAS El Toro. During World War II, MCAS El Toro was a major debarkation location and served as a training base for pilots, aircrews, and ground personnel (City of Irvine 2003).

During the 1950s, the Irvine Company donated land to the University of California system, and the campus became the new focus of development in the periphery. The Irvine Company hired architect and planner William Pereira to develop a master plan. The master-planned community was defined by architectural themes among neighborhoods, roadway connections to shopping centers, and open spaces. The I-5 bridge crossing Bee Canyon Channel, located south of the APE, was constructed in 1958, and later reconstructed in 1969 (NBI 2020). The Irvine Ranch Water District (IRWD) was formed in 1961. The IRWD tiered off much of the existing water infrastructure developed during the 1930s and 1940s including Irvine Lake (formerly Santiago Reservoir) which was constructed in 1931.

MCAS El Toro was decommissioned in 1999. The roadways to the northwest and south of the APE were further developed in the 1990s. The I-5 bridge crossing the AT&SF was constructed in 1992, the State Route 133 (SR-133) bridge crossing Marine Way was constructed in 1997, and the SR-133 bridge over the former AT&SF was constructed in 1998 (NBI 2020). In 2001, Measure W was passed which authorized the former air station's use as a park and multi-use development, now known as the Great Park area.

Based on review of historical topographic maps and aerial photographs, the APE itself has undergone some development in the past 100 years. The earliest topographic map from 1901 shows the railroad alignment, but no buildings are depicted. A 1938 aerial photograph shows the area as agricultural fields bound to the southwest by the former AT&SF alignment (NETR 2020). From 1942 to 1950, a rail siding was added bisecting the APE. In 1952, the water transfer vault located at the northwestern end of the APE is present. The current footprint of the perimeter road is present by 1963, and trees were planted alongside the perimeter road by 1994 (NETR 2020). Additional fencing and water transfer equipment structures were constructed at the northwestern end of the APE during the mid-2000s. The former AT&SF alignment southwest of the APE boundaries has been altered over time for modern use, with modifications accommodating technological developments and commercial demands (e.g., larger trains, second track, automated switches), and other ongoing maintenance.

3.3.3 Archival Research

On April 30, 2020, AECOM requested a California Historical Resources Information System records search from the South Central Coastal Information Center (SCCIC) housed at California State University, Fullerton. The research focused on the identification of previously recorded cultural resources within the APE and a 0.5-mile radius around the Project site. The SCCIC responded via email on August 19, 2020.

The records search revealed that 37 cultural resources investigations were previously conducted within a 0.5-mile radius of the Project site (Table 3.3.3-1). Four of these investigations overlap the APE in whole or in part. The entirety of the APE has been subject to previous archaeological study.

Table 3.3.3-1 Previous Surveys Conducted within 0.5-Mile of the Project Site

Author	Report # (OR-)	Description	Date
Schroth, Adella	00305	The History of Archaeological Research on Irvine Ranch Property: The Evolution of a Company Tradition	1979
Douglas, Ronald D.	00586	Assessment of Cultural/Scientific Resources, Village 12, SCE HVtl Relocation, Irvine, California	1980
Padon, Beth	00754	Cultural Resource Assessment, Irvine Center Project, Orange County, California	1984
Padon, Beth	00787	Archaeological and Paleontological Monitoring for the Irvine Center Project	1985
Anonymous	00808	Final Environmental Impact Report Regional Domestic Water Storage and Transmission Facilities from Diemer/SAC and Wellfield Systems to Existing Distribution Network	1979
Romani, John F.	00814	Archaeological Survey Report for the Route I-5 Santa Ana Transportation Corridor, Route 405 in Orange County to Route 65 in Los Angeles County, PM 21.30/44.38; 0.00/6.85	1982
Padon, Beth	00847	Archaeological Resource Inventory, City of Irvine and Its Sphere of Influence	1985
Padon, Beth and Pat Jertberg	00906	Cultural Resources Report for the San Diego Creek Drainage Basin Project Level Facilities Orange County	1988
Jertberg, Patricia R.	00972	Archaeological and Paleontological Monitoring at Spectrum I Parcel #87-212	1989
Padon, Beth	01098	Cultural/Scientific Resources Assessment for Planning Area 13	1991
Cooley, Theodore G.	01099*	Archaeological Resources Assessment Conducted for Proposed Irvine Ranch Water District Pipeline Right-of-Ways	1979
Brock, James P.	01402*	Cultural Resources Assessment for the Irvine Desalter Project, Irvine California	1994
Webb, Lois M.	01844	Request for Finding of Effect for the Proposed Eastern Transportation Corridor	1991
Anonymous	01902	Historic Property Survey 07ORA-133	1985
Padon, Beth	01941	Archaeological and Paleontological Monitoring of Preliminary Grading for Jack-in-the-Box Restaurant 3278, Permit No. 34126 CCG, Irvine, California	1999
Anonymous	01944	Draft Environmental Impact Report, East Irvine Historical Site, Irvine, California	1991
Strozier, Hardy	02225	The Irvine Company Planning Process and California Archaeology—A Review and Critique	1978
Hunt, Kevin P.	02267	An Archaeological and Paleontological Survey of the Irvine Spectrum GPA Project	2000
Demcak, Carol, and Milos Vlechovsky	02337	Final Report on Archaeological and Paleontological Monitoring Program Conducted at Spectrum 6, City of Irvine, Orange County, California	2000
Anonymous	02534	Annual Report to the Irvine Company from Archaeological Research, Inc.	1976
Brown, Joan C.	02636	A Cultural Resources Literature Study and Field Reconnaissance for the Natural Treatment System Master Plan Facilities, Orange County, California	2003

Table 3.3.3-1 Previous Surveys Conducted within 0.5-Mile of the Project Site

Author	Report # (OR-)	Description	Date
Allen, Rebecca	02649*	Archaeological Survey Report Marine Corps Air Station, El Toro	1997
Mason, Roger D.	03293	Historic Property Survey Report for the Sand Canyon Grade Separation Project in the City of Irvine, Orange County, California	2003
Bonner, Michael A.	03347	Supplemental Environmental Impact Statement for the Eastern Transportation Corridor TCA EIS 2-1	1992
Marvin, Judith	03355	Historical Resources Evaluation Report for the Interstate 5/S and Canyon Avenue Interchange Improvement Project, City of Irvine, Orange County, California	2005
Padon, Beth	03380	Cultural Resource Assessment for Traveland Project, Irvine, Orange County	2007
Strudwick, Ivan H.	03392*	Cultural Resource Survey for the Proposed Irvine Desalter Project, City of Irvine, Orange County, California	2004
Bonner, Wayne H.	03357	Cultural Resources Records Search and Site Visit for Royal Street Communications, California LLC Candidate LA2516B—La Quinta	2008
Drover, Christopher	03825	A Cultural Resources Inventory of Planning Area 9B and 9C, Irvine, California	2000
McKenna, Jeanette A.	03917	Historic Resource Evaluation Report: Hangar 244 of the Former El Toro Marine Corps Air Station (MCAS) and Now Located Within the Great Park, Orange County, California (Project No. B-09-SP-CA-0359)	2010
Fitzgerald, Maggie	03933	Great Park, Cultural Resources Monitoring Report	2010
Fulton, Terri, and Deborah McLean	04084	Cultural Resource Assessment of 22 Natural Treatment System Facility Sites Within the San Diego Creek Watershed – Natural Treatment System Project, Irvine Ranch Water District, Orange County, California	2005
Flynn, Chris	04223	Notification of Finding of No Adverse Effect with Standard Conditions for the Bridge Deck Maintenance and Sealing at 30 Locations Throughout Orange County, California	2011
Strudwick, Ivan	04403	Cultural Resource Monitoring Report for the Sand Canyon Avenue Undercrossing Project, City of Irvine, County of Orange, California	2014
Strudwick, Ivan	04478	Cultural Resource Analysis for the Technology Drive Extension Project in the City of Irvine, Orange County, California	2013

In addition to the reports reviewed at the SCCIC, the 1998 *Architectural Survey of Marine Corps Air Station, El Toro* (JRP 1998) and the 2000 *California Historic Military Buildings and Structures Inventory* (USACE 2000) were reviewed. The 1998 study included an inventory and evaluation of the buildings and structures at MCAS El Toro and determined that there are no NRHP eligible buildings, structures, or districts within the former base (JRP 1998).

The SCCIC records search identified 14 previously recorded cultural resources within a 0.5-mile radius of the Project Site (Table 3.3.3-2). These resources include one isolated lithic flake and one isolated shell that, although unmodified, was transported to the APE by human activity, possibly during the prehistoric period. The remaining 12 resources include nine historic buildings dating from the 1890s to the 1950s, one historic district encompassing some of those buildings, and two historic railroad alignments. The majority of the historic buildings are associated with Old Town Irvine Historic District, which is located approximately 0.40-mile northeast of the APE.

Two of the resources overlap the APE in whole or in part and are detailed below in Table 3.3.3-2.

Table 3.3.3-2 Previously Recorded Resources within 0.5 Mile of the Project APE

Primary Number (P-30-)	Permanent Trinomial (CA-ORA-)	Description/Historic Name	Period of Significance	NRHP/CRHR Eligibility
100124	None	Isolated metavolcanic flake	Prehistoric	Not eligible for CRHR or NRHP
100372*	None	Isolated Venus clam shell	Prehistoric	Not eligible for CRHR or NRHP
157788	None	Irvine Blacksmith Shop	1915-1916	Listed on CRHR and NRHP
161870	None	Worker's Cottage	1904	Appears ineligible for NRHP; not evaluated for CRHR
161871	None	Irvine Hotel	1913	Appears ineligible for NRHP; not evaluated for CRHR
161872	None	Agricultural Storage Shed	1930	Appears ineligible for NRHP; not evaluated for CRHR
161875	None	Irvine Garage	1923	Appears ineligible for NRHP; not evaluated for CRHR
161889	None	Irvine Bean Growers Association Building	1895-1947	Listed in NRHP and CRHR
161894	None	Old Town Irvine Historic District	1887-1947	Listed in CRHR
176663*	None	Former AT&SF	1885-1888	Appears ineligible for NRHP, CRHR, or local designation
176838	None	Irvine Community Church	1952	Appears ineligible for NRHP, CRHR, or local designation
176945	None	Irvine General Store	1911	Appears ineligible for NRHP
177038	None	El Toro MCAS Hanger 244	1943-1945	Found ineligible for NRHP by consensus through the Section 106 process
179855*	None	Former AT&SF Railroad	1885-1888	Appears ineligible for NRHP

*Intersects with Project APE.

Resource P-30-100372

This resource is an isolated Venus clam shell. The shell was observed next to a gopher hole with no other shell or artifacts in the vicinity (Garcia and Vader 2006). A shovel test pit was excavated next to the shell to a depth of 30 centimeters with negative results. Because of the distance from the coast, it was assumed that the shell was transported to this location by human activity. However, it is impossible to determine

when or how the shell was transported, or whether the shell's transportation to this location was intentional or accidental. By their nature, isolated resources are in general not eligible for inclusion in the CRHR or NRHP.

Resource P-30-176663

This resource is an approximately 14.7-mile-long segment of the SCRRA Orange Subdivision railroad tracks (originally part of the AT&SF Railway and subsequently BNSF Railway) and is within Orange and Los Angeles Counties. While originally constructed between 1885 and 1888, the railroad has been continuously used, resulting in replacement of all or most of its historic fabric. Because of its lack of integrity, this resource has been repeatedly recommended ineligible for listing in the NRHP (see Attachment A, Records Search Results Map). The eligibility of this segment has not been formally determined via State Historic Preservation Officer (SHPO) consensus.

3.3.4 Sacred Lands File Search and Native American Consultation

On July 8, 2020, AECOM contacted the NAHC and requested the Sacred Lands File be searched for documented sacred sites within the APE or its vicinity. The NAHC responded in a letter dated July 9, 2020. According to the NAHC letter, "The results were positive [meaning that there are known sacred lands or resources in the vicinity of the APE]. Please contact the Juaneno Band of Mission Indians and the Juaneno Band of Mission Indians Acjachemen Nation - Belardes on the attached list for more information." The response also included a list of 11 Native American representatives of nine State-recognized tribal governments who may have interest in and knowledge of resources that may be impacted by the Project. Two of these tribal governments are also Federally-recognized.

OCTA is conducting consultation under AB 52.

Assembly Bill 52 Consultation

OCTA contacted each of the tribal contacts by mail on June 2, 2021, to invite them to consult under AB 52. One of these letters was returned by the U.S. Postal Service as undeliverable. Follow-up emails were sent on June 30, 2021, to each tribal contact who did not respond to the mailing.

To date, one tribal representative has responded to the request for AB 52 consultation. Chairperson Andrew Salas of the Gabrieleno Band of Mission Indians-Kizh Nation requested a meeting with OCTA to discuss his tribe's concerns regarding the project. On September 9, 2021, a meeting was held between OCTA representatives and Chairperson Salas and Tribal Archaeologist John Torres representing the Kizh Nation. At the meeting, Chairperson Salas expressed that the Project APE is sensitive for buried tribal cultural resources. He pointed out that his tribe, and his family in particular, have ties to the region. He noted that railroads often followed traditional Native American trails, and also observed that military bases often encompassed ancient village sites. Moreover, he informed OCTA that his monitors are currently involved in projects elsewhere in the Irvine area where buried human remains were identified by his tribal monitors. Chairperson Salas recommended tribal monitoring during ground-disturbing activities in order to identify and protect any tribal cultural resources that may exist within the APE. Chairperson Salas provided OCTA with more historical information regarding the general project region, the project APE, as well sample

language to help guide mitigation measures to be developed for this project. Consultation is ongoing (see Confidential Attachment B for files associated with consultation).

3.3.5 Field Survey

An archaeological and built environment survey was conducted on July 30, 2020, by AECOM personnel Marc Beherec, Ph.D., RPA, and Frank Humphries, M.S., RPA, who both meet the Secretary of the Interior's Professional Qualifications Standards in Archaeology (36 CFR Part 61). The two surveyors walked over the entire APE, with the exception of the active railroad right-of-way and a segment of Ridge Valley Road that is paved or covered in imported gravel (see Figure 3.2-1), in a series of transects spaced 15 meters apart. Part of the APE is obscured by a paved access road. Ground visibility in the rest of the APE ranged from approximately 10 to 50 percent. Non-native grasses obscured much of the ground surface, but the area was mowed at the time of visit.

Evidence of superficial disturbances included abundant gopher holes and evidence of an irrigation system in the form of 3/4-inch polyvinyl chloride (PVC) pipes and sprinkler heads. The ground also appeared recently disced or plowed and has been historically plowed based on historic aerial photographs.

Archaeological Resources

No archaeological resources were observed within the APE. The previously recorded isolated clam shell (P-30-100372) was not located during the survey. The resource was documented in 2006 (Garcia and Vader 2006); however, the single clam shell may have been misplotted, or it may have been removed or reburied by human or animal activity in the 14 years since it was recorded.

Built Environment Resources

The archival research and survey identified two built resources that are greater than 50 years of age within the APE. Resource information is included on California Department of Parks and Recreation (DPR) 523 forms included in Attachment C.

P-30-176663 Former AT&SF Segment

The portion of resource P-30-176663, the former AT&SF railroad within the APE, is a double track which runs northwest to southeast (Figure 3.3.5-1). The profile approaches one percent grade, rising from the north (west) end of the site as the tracks pass under the SR-133 overhead structure, to the south (east) end of the site where the mainline tracks cross over the Bee Canyon Channel on a double track bridge. This portion of the former AT&SF is a standard gauge railroad which sits on a bed of large-medium ballasts. The rails sit on wooden ties and are fastened via metal railroad spikes. This segment has been altered over time for modern use, with modifications accommodating technological developments and commercial demands (e.g., larger trains, second track, automated switches), and other ongoing maintenance. The original elements of the rail line have been repaired and replaced.

Figure 3.3.5-1 Cultural Resources within APE

Source: ESRI, AECOM

0 842 1,684 Feet

1 inch = 842 feet 1:10,100

Metrolink Orange County Maintenance Facility

Figure 3.3.5-2 Overview of P-30-176663, Former AT&SF Railroad from Project APE, View to West

Source: AECOM (2020)

NRHP and CRHR Evaluation

Resource P-30-176663 was originally recorded in 2002, and updated in 2007 (Ballester and Tang, 2002; McCormick, 2007; Smith and Harper, 2007). The resource was found to have been upgraded and substantially altered since its original construction and did not retain sufficient historical integrity to reflect its original historical association (Figure 3.3.5-2). Therefore, the railroad was recommended as not eligible for listing on the NRHP or CRHR due to its lack of integrity of materials, workmanship, and setting. The records do not note whether Section 106 consultation with the SHPO was performed for these undertakings. It does not appear that a formal determination of eligibility with SHPO concurrence has been completed for this resource. After review of the previous recordation and current field check and research, AECOM concurs with the previous eligibility assessments.

Water Transfer Vault

Within the APE and approximately 350 feet northeast of the SR-133 bridge over the former AT&SF railroad is a rectangular water transfer vault constructed circa 1950 and abandoned in 2006 (Figure 3.3.5-3). The resource is a concrete domestic water intake structure originally used for MCAS El Toro. The vault located on the western periphery of the former MCAS El Toro property does not have any distinct associations with the United States Marine Corps' mission operations during the 1950s and is a minor and vernacular water infrastructure element. The entrance to the subterranean structure is by way of stairs covered by a metal grate. The vault measures approximately 46 feet long and 27 feet wide; the interior is approximately 10 feet tall. The vault's footprint appears unchanged since construction; however, a low concrete interior

partition appears to have been removed in order to install new piping. Additional fencing and water transfer equipment structures were constructed adjacent to the vault during the mid-2000s.

Figure 3.3.5-3 Overview of Water Transfer Vault from surface, View to West

Source: AECOM (2020)

NRHP and CRHR Evaluation

Under NRHP Criterion A and CRHR Criterion 1, the water transfer vault has no significant association with the broad patterns of local, state, or national history. This structure was constructed during the 1950s and is associated with MCAS El Toro's expansion and development but does not convey an important association with the base. The water transfer vault's components, which include concrete construction and piping, are representative of utilitarian work. Since the water transfer vault has no association with the broad patterns of local, state, or national history, it is not eligible for the NRHP under Criterion A or CRHR under Criterion 1.

Under NRHP Criterion B and CRHR Criterion 2, this structure is not significant for any associations with the lives of persons important to history. Research did not identify any important associations between the water transfer vault and any notable persons or their work. Therefore, this property is not eligible under NRHP under Criterion B or CRHR Criterion 2.

Under NRHP Criterion C and CRHR Criterion 3, the water transfer vault is not an important example of a type, period, or method of construction. The vault's design and construction is typical of utilitarian

construction and does not appear to possess any unique characteristics; therefore, it is not eligible for the NRHP under Criterion B or CRHR under Criterion 3.

Under NRHP Criterion D and CRHR Criterion 4, the water transfer vault is not significant as a source (or likely source) of important information regarding history. It does not appear to have any likelihood of yielding important information about historic construction materials or technologies. It is not eligible for the NRHP under Criterion D or CRHR under Criterion 4.

The water transfer vault does not appear to meet the criteria for listing in the NRHP or CRHR, either as an individual resource or as a contributor to a larger resource such as the former MCAS El Toro. In addition, a 1998 inventory and evaluation of the buildings and structures at MCAS El Toro determined that there are no NRHP eligible buildings, structures, or districts within the former base (JRP 1998).

4. EXTENDED PHASE I

An Extended Phase I (XPI) cultural resources identification was completed within the APE in 2021 by HDR (HDR 2021). The XPI was conducted because the APE was determined to have a moderate sensitivity to encounter buried cultural resources. The purpose of the XPI was to determine the presence or absence of buried historic or prehistoric cultural resources and to further assess the overall archaeological sensitivity in portions of the OCMF project area where deep Project-related excavations are proposed. XPI investigations consisted of 40 subsurface shovel and hand auger test probe excavations to confirm the presence or absence of buried cultural materials. All tests were negative for the presence of prehistoric cultural material. No historic properties, historic resources, unique archaeological resources, or tribal cultural resources were identified during the XPI. Based on the results of the XPI, it is not anticipated that the Project will impact buried cultural resources. A copy of the XPI is included in Attachment E.

5. METHODOLOGY

Archival research, Native American consultation, and survey activities were conducted to identify archaeological or historic built resources within the Project APE that may be considered historical resources for the purposes of CEQA or historic properties for the purposes of Section 106 of the NHPA. In addition, this study sought to evaluate the potential to encounter unknown buried archaeological resources within the APE that may meet the criteria to be considered historical resources and/or historic properties. Because of the Project APE's sensitivity, an XPI study was also conducted to probe the APE for subsurface archaeological deposits. The section above contains the environmental setting, cultural history, previous archaeological studies, results of archival research and records search, survey results, and the results of the XPI for the Project APE.

Archival research was conducted to determine the nature and substance of existing documentation or archaeological resources within the APE. The research was conducted at the South Central Coastal Information Center, located at California State University, Fullerton. In addition, published and unpublished archival material was consulted as appropriate. The NAHC was contacted to provide their input regarding known tribal resources and contacts, and every tribal contact identified by the NAHC was invited to consult

upon the Project. However, no significant resources were identified within the Project APE as a result of the archival research, surface survey, or XPI. Mitigation measures are proposed for the treatment of potential buried resources that may be located within the APE.

6. IMPACTS ANALYSIS

Under Section 106 of the NHPA, an adverse effect is found when an undertaking may alter, directly or indirectly, any of the characteristics of a historic property as defined by 36 CFR 60.4 that qualify the property for inclusion in the NRHP in a manner that would diminish the integrity of the property's location, design, setting, materials, workmanship, feeling, or association. Consideration must be given to all qualifying characteristics of a historic property, including those that may have been identified subsequent to the original evaluation of the property's eligibility for the NRHP. Adverse effects may include any reasonably foreseeable effects caused by the undertaking, including not only immediate effects, but also effects that may occur later in time, be farther removed in distance, or be cumulative.

As detailed in Appendix G of the CEQA Guidelines, a project would have an adverse impact to a historical resource if it would:

> a) Cause a substantial adverse change in the significance of a historical resource as defined in § 15064.5;
>
> b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to § 15064.5; or
>
> c) Disturb any human remains, including those interred outside of formal cemeteries.

The archival research and survey identified two built environment resources that are greater than 50 years of age within the Project APE. P-30-176663 is a segment of the former AT&SF that was previously recorded and evaluated as not eligible for the NRHP or CRHR; however, the records do not note whether a formal determination of eligibility was made. In addition, the survey identified a previously unrecorded historic-period resource, a water transfer vault. The water transfer vault is evaluated in Section 3.3.5 of this document and is recommended not eligible for inclusion in the CRHR or NRHP. Both resources do not appear to be historic properties as defined by 36 CFR 60.4 historical resource in accordance with Section 15064.5(a)(2)-(3) of the CEQA Guidelines, using the criteria outlined in Section 5024.1 of the California Public Resources Code.

The archival research identified one isolated archaeological resource within the Project APE. Resource P-30-100372 is a Venus clam shell that was documented within the boundaries of the APE in 2006 but could not be relocated during the recent survey. By its nature, this isolated shell is not eligible for inclusion in the NRHP or CRHR. No archaeological resources were identified within the Project APE that meet the criteria to be considered historic properties as defined by 36 CFR 60.4. No archaeological resources were identified within the Project APE that can be considered a historical resource in accordance with Section 15064.5(a)(2)-(3) of the CEQA Guidelines, using the criteria outlined in Section 5024.1 of the California

Public Resources Code, or a unique archaeological resource in accordance with Section 15064.5(c) of the CEQA Guidelines, using the criteria outlined in Section 21083.2 of the California Public Resources Code.

However, based on the results of the archival research, field survey, Native American consultation, and past documented land use of the APE, the Project has a moderate to high sensitivity to encounter buried cultural resources. The single isolated Venus clam shell, while not itself significant and possibly not prehistoric, indicates an elevated sensitivity for resources within the APE. The APE is located near to water sources that both would have been attractive as natural resource procurement areas and could have contributed to burying archaeological resources beneath fluvial sediments. Native American authorities have pointed out their tribes; close ties to the project APE, the possibility that the existing railroad right-of-way was placed on an Native American trade route, and the fact that the project lay within the territory of nearby villages. Although the entire Project APE has been subject to surficial ground disturbance including farming and the construction of Marine Corps Station El Toro and despite the negative findings of the XPI, the likelihood of encountering native sedimentary deposits that may preserve significant archaeological remains increases with depth.

7. RECOMMENDATIONS

Based on the results of the archival research, field survey, and Native American consultation, the Project has a moderate to high sensitivity to encounter significant intact buried cultural resources. While the XP1 that was conducted was negative for the presence of subsurface cultural deposits, there is still the potential to encounter resources during construction as the Project will impact native soils. The possibility exists for the Project to encounter unknown archaeological resources in the course of ground-disturbing construction in native soils. The following mitigation measures are recommended to reduce any impacts to unknown archaeological resources encountered during excavations to a less than significant level.

MM-CUL-1 Prior to construction, OCTA shall retain a qualified archaeologist who meets the Secretary of the Interior's Guidelines for Archaeology (36 CFR Part 61). The qualified archaeologist shall prepare a Cultural and Tribal Cultural Resources Awareness Training as part of the Project Worker Environmental Awareness Program (WEAP). The training will instruct workers as to the laws protecting cultural and tribal cultural resources and also give examples of the kinds of resources that can be reasonably expected to be found in the Area of Potential Effect (APE). An environmental compliance contact responsible for enforcing mitigation measures and who is to be notified in the event of a find will be identified in the training. Training will be delivered to all staff involved in ground-disturbing activities prior to their working on the project.

MM-CUL-2 Prior to construction, a project-specific cultural resources monitoring, and discovery plan (CRMDP) will be developed by a qualified archaeologist who meets the Secretary of the Interior's Guidelines for Archaeology (36 CFR Part 61). The monitoring plan should identify what construction activities that occur in native soils would require archaeological and tribal monitoring, describe monitoring procedures, and outline the protocol to be followed in the event of a find. Criteria will be defined, and triggers identified as to when further consultation is required for the treatment of finds. Plans of treatment of typical finds will be detailed, as will a plan of treatment for any human remains that are inadvertently encountered. If a potentially significant discovery is made and cannot feasibly be avoided, then additional work, potentially including data recovery excavations, may be required. Key staff will be identified, and the process of notification and consultation will be specified within the CRMDP. A curation plan will also be outlined within the CRMDP. All work should be conducted under the direction of a qualified archaeological Principal Investigator who meets the Secretary of the Interior's standards for archaeology. Consulting tribes under AB52 for the Project shall have the opportunity to review and comment on the draft CRMDP.

MM-TCR-1 Retain a Native American Monitor Prior to Commencement of Ground-Disturbing Activities.

A. The project applicant/lead agency shall retain a Native American Monitor from or approved by the Gabrieleño Band of Mission Indians – Kizh Nation. The monitor shall be retained prior to the commencement of any "ground-disturbing activity" for the subject project at all project locations (i.e., both on-site and any off-site locations that are included in the project description/definition and/or required in connection with the project, such as public improvement work). "Ground-disturbing activity" shall include, but is not limited to, demolition, pavement removal, potholing, auguring, grubbing, tree removal, boring, grading, excavation, drilling, and trenching.

B. A copy of the executed monitoring agreement shall be submitted to the lead agency prior to the earlier of the commencement of any ground-disturbing activity, or the issuance of any permit necessary to commence a ground-disturbing activity.

C. The monitor will complete daily monitoring logs that will provide descriptions of the relevant ground-disturbing activities, the type of construction activities performed, locations of ground-disturbing activities, soil types, cultural-related materials, and any other facts, conditions, materials, or discoveries of significance to the Tribe. Monitor logs will identify and describe any discovered TCRs, including but not limited to, Native American cultural and historical artifacts, remains, places of significance, etc., (collectively, tribal cultural resources, or "TCR"), as well as any discovered Native American (ancestral) human remains and burial goods. Copies of monitor logs will be provided to the project applicant/lead agency upon written request to the Tribe.

D. On-site tribal monitoring shall conclude upon the latter of the following (1) written confirmation to the Kizh from a designated point of contact for the project applicant/lead agency that all ground-disturbing activities and phases that may involve ground-disturbing activities on the project site or in connection with the project are complete; or (2) a determination and written notification by the Kizh to the project applicant/lead agency that no future, planned construction activity and/or development/construction phase at the project site possesses the potential to impact Kizh TCRs.

E. Upon discovery of any TCRs, all construction activities in the immediate vicinity of the discovery shall cease (i.e., not less than the surrounding 50 feet) and shall not resume until the discovered TCR has been fully assessed by the Kizh monitor and/or Kizh archaeologist. The Kizh will recover and retain all discovered TCRs in the form and/or manner the Tribe deems appropriate, in the Tribe's sole discretion, and for any purpose the Tribe deems appropriate, including for educational, cultural and/or historic purposes.

MM-TCR-2 Unanticipated Discovery of Human Remains and Associated Funerary Objects.

A. Native American human remains are defined in PRC 5097.98 (d)(1) as an inhumation or cremation, and in any state of decomposition or skeletal completeness. Funerary objects, called associated grave goods in Public Resources Code Section 5097.98, are also to be treated according to this statute.

B. If Native American human remains and/or grave goods discovered or recognized on the project site, then all construction activities shall immediately cease. Health and Safety Code Section 7050.5 dictates that any discoveries of human skeletal material shall be immediately reported to the County Coroner and all ground-disturbing activities shall immediately halt and shall remain halted until the coroner has determined the nature of the remains. If the coroner recognizes the human remains to be those of a Native American or has reason to believe they are Native American, he or she shall contact, by telephone within 24 hours, the Native American Heritage Commission, and Public Resources Code Section 5097.98 shall be followed.

C. Human remains and grave/burial goods shall be treated alike per California Public Resources Code section 5097.98(d)(1) and (2).

D. Construction activities may resume in other parts of the project site at a minimum of 200 feet away from discovered human remains and/or burial goods, if the Kizh determines in its sole discretion that resuming construction activities at that distance is acceptable and provides the project manager express consent of that determination (along with any other mitigation measures the Kizh monitor and/or archaeologist deems necessary). (CEQA Guidelines Section 15064.5(f).)

E. Preservation in place (i.e., avoidance) is the preferred manner of treatment for discovered human remains and/or burial goods. Any historic archaeological material that is not Native American in origin (non-TCR) shall be curated at a public, non-profit institution with a research interest in the materials, such as the Natural History Museum of Los Angeles County or the Fowler Museum, if such an institution agrees to accept the material. If no institution accepts the archaeological material, it shall be offered to a local school or historical society in the area for educational purposes.

F. Any discovery of human remains/burial goods shall be kept confidential to prevent further disturbance.

MM-TCR-3 Procedures for Burials and Funerary Remains.

A. As the Most Likely Descendant ("MLD"), the Koo-nas-gna Burial Policy shall be implemented. To the Tribe, the term "human remains" encompasses more than human bones. In ancient as well as historic times, Tribal Traditions included, but were not limited to, the preparation of the soil for burial, the burial of funerary objects with the deceased, and the ceremonial burning of human remains.

B. If the discovery of human remains includes four or more burials, the discovery location shall be treated as a cemetery and a separate treatment plan shall be created.

C. The prepared soil and cremation soils are to be treated in the same manner as bone fragments that remain intact. Associated funerary objects are objects that, as part of the death rite or ceremony of a culture, are reasonably believed to have been placed with individual human remains either at the time of death or later; other items made exclusively for burial purposes or to contain human remains can also be considered as associated funerary objects. Cremations will either be removed in bulk or by means as necessary to ensure complete recovery of all sacred materials.

D. In the case where discovered human remains cannot be fully documented and recovered on the same day, the remains will be covered with muslin cloth and a steel plate that can be moved by heavy equipment placed over the excavation opening to protect the remains. If this type of steel plate is not available, a 24-hour guard should be posted outside of working hours. The Tribe will make every effort to recommend diverting the project and keeping the remains in situ and protected. If the project cannot be diverted, it may be determined that burials will be removed.

E. In the event preservation in place is not possible despite good faith efforts by the project applicant/developer and/or landowner, before ground-disturbing activities may resume on the project site, the landowner shall arrange a designated site location within the footprint of the project for the respectful reburial of the human remains and/or ceremonial objects.

F. Each occurrence of human remains and associated funerary objects will be stored using opaque cloth bags. All human remains, funerary objects, sacred objects and objects of cultural patrimony will be removed to a secure container on site if possible. These items should be retained and reburied within six months of recovery. The site of reburial/repatriation shall be on the project site but at a location agreed upon between the Tribe and the landowner at a site to be protected in perpetuity. There shall be no publicity regarding any cultural materials recovered.

G. The Tribe will work closely with the project's qualified archaeologist to ensure that the excavation is treated carefully, ethically and respectfully. If data recovery is approved by the Tribe, documentation shall be prepared and shall include (at a minimum) detailed descriptive notes and sketches. All data recovery data recovery-related forms of documentation shall be approved in advance by the Tribe. If any data recovery is performed, once complete, a final report shall be submitted to the Tribe and the NAHC. The Tribe does NOT authorize any scientific study or the utilization of any invasive and/or destructive diagnostics on human remains.

8. IMPACTS AFTER MITIGATION MEASURES

There are no known historic properties, cultural resources, or tribal cultural resources that would be impacted by the Project. In the event that any unknown resources that may meet the criteria to be considered historic properties, cultural resources, or tribal cultural resources are found during construction, implementation of Mitigation Measures MM-CUL-1 and MM-CUL-2 and MM-TCR-1, MM-TCR-2, and MM-TCR-3 would reduce any potential impacts to less than significant.

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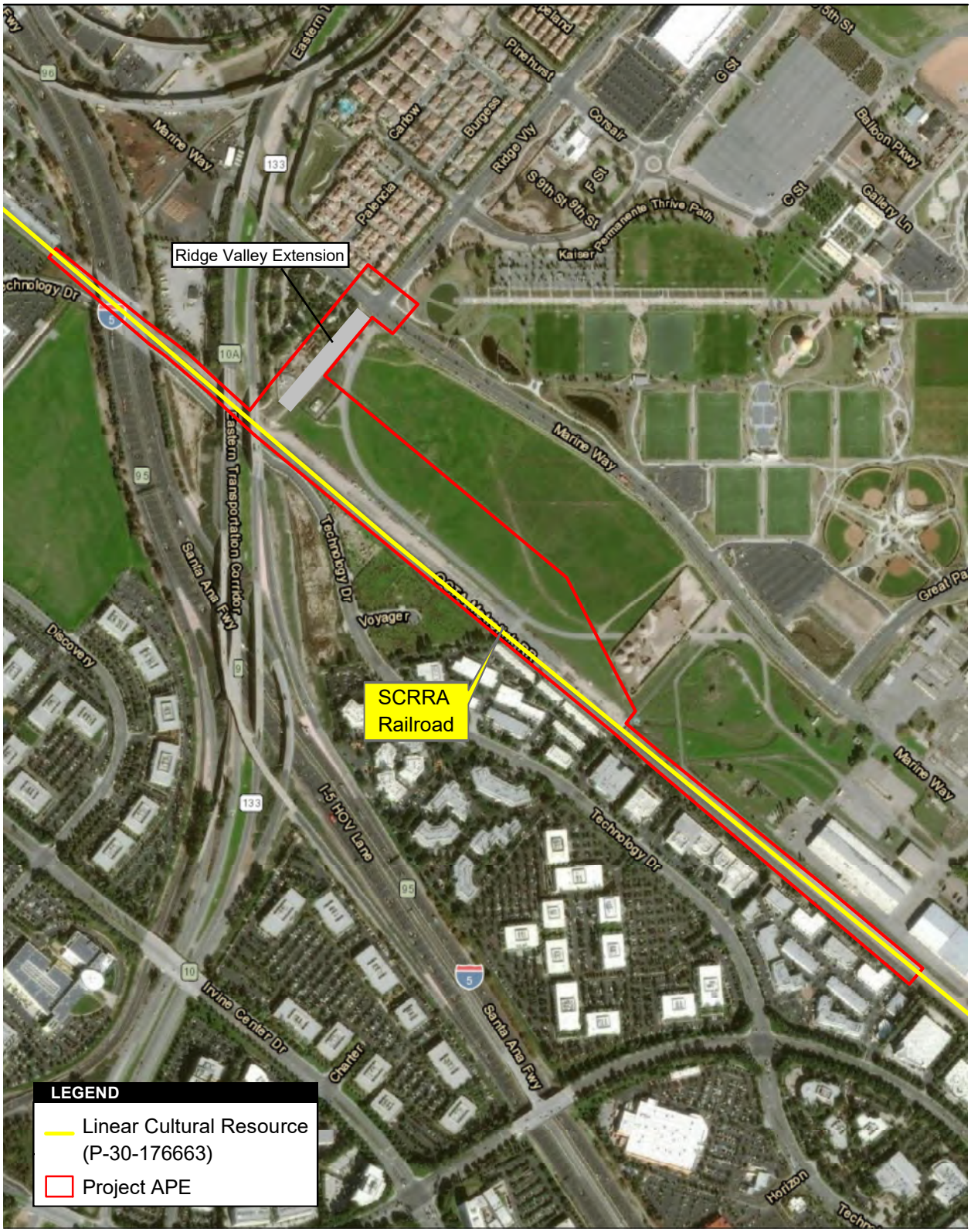
Attachment A

Area of Potential Effects Map



Source: ESRI, AECOM

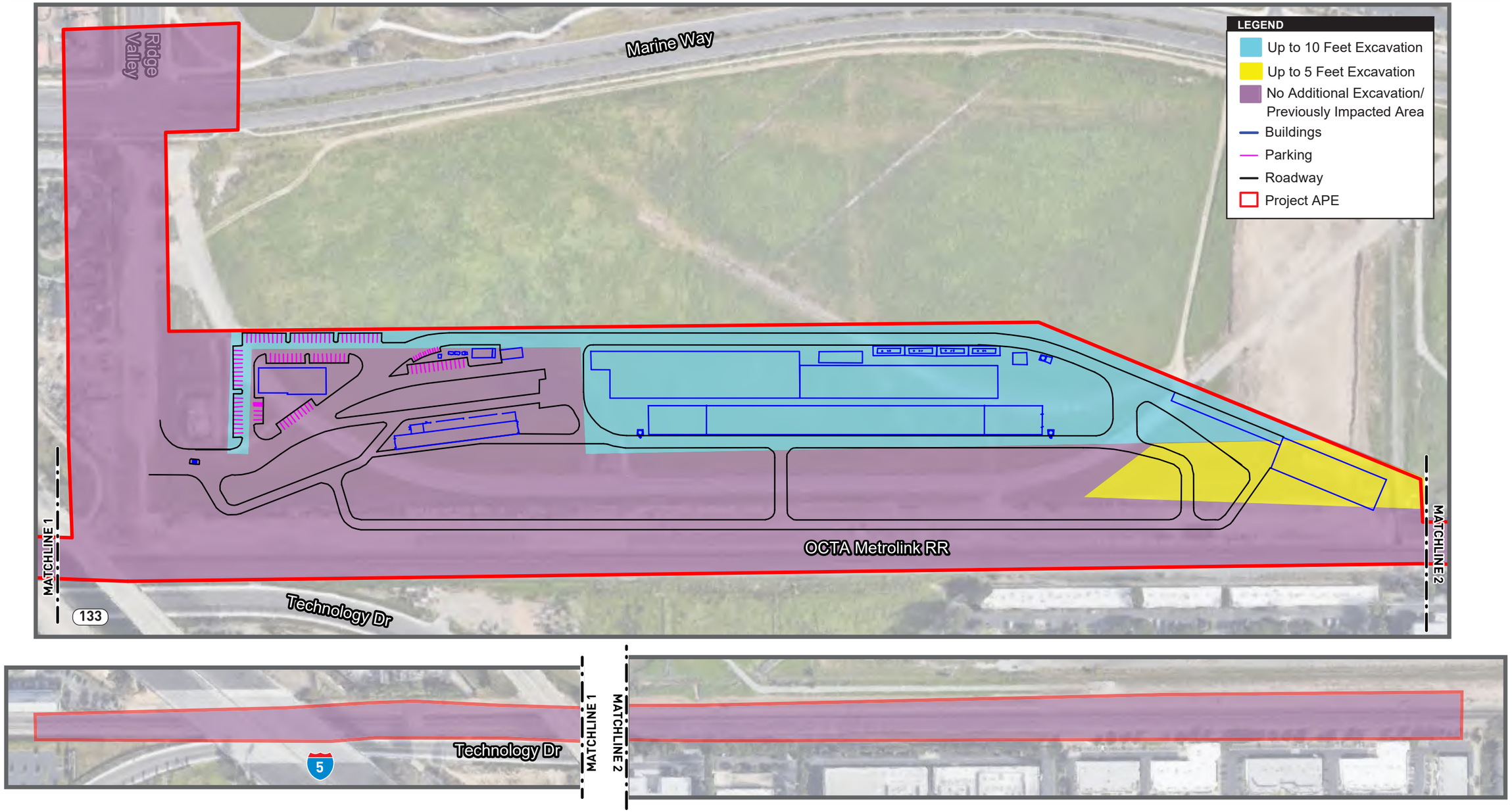
0 842 1,684 Feet

1 inch = 842 feet 1:10,100

FIGURE A1: RECORDS SEARCH RESULTS WITHIN APE

Metrolink Orange County Maintenance Facility

Path: \\na.aecomnet.com\lfs\AMER\SanDiego-USSDG1\DCS\Projects_6063\60632397_GF_OCTA_MSF\900-CAD-GIS\920 GIS\map_docs\mxd\OCTA MFF_Figure2_APE.mxd, 10/1/2021, Jessica.Koon



Source: GoogleEarth 2021, AECOM

0 250 500 Feet

FIGURE A2: PROPOSED EXCAVATION DEPTHS WITHIN APE

Metrolink Orange County Maintenance Facility

Path:\\na.aecomnet.com\lfs\AMER\SanDiego-USSDG1\DCS\Projects_6063\60632397_GF_OCTA_MSF\900-CAD-GIS\920GIS\map_docs\mxd\OCTAMFF_APE.ai, 11/02/2021, BradyD

Attachment B

Records Search Results

Confidential

Attachment C

AB 52 Consultation

Confidential

Attachment D

DPR 523 Forms

Confidential

Attachment E

Extended Phase I

Technical Memorandum

To:	Lora Cross, Project Manager, Orange County Transportation Authority
From:	Daniel Leard, Archaeologist, HDR
Date:	November 29, 2021
Subject:	**OCTA OCMF Extended Phase I Cultural Resource Survey**

1. Introduction

HDR completed Extended Phase I (XPI) cultural resources identification work in support of Orange County Transit Authority's (OCTA) Orange County Maintenance Facility (OCMF) Project (Project). In compliance with the requirements of the California Environmental Quality Act and Section 106 of the National Historic Preservation Act, AECOM cultural resources specialists completed a Phase I cultural resources investigation of the designated Area of Potential Effects (APE) as defined in 36 CFR 800.16(d), that included archival research at the California Historical Resources Information System records search from the South Central Coastal Information Center, a search of the Sacred Lands File, Native American Consultation, and completion of archaeological and built environment field surveys. The results of the cultural resources investigations were presented in a technical memorandum prepared for OCTA by AECOM in 2021. Archaeological field survey was limited to pedestrian surface inspection of the APE. Based on the results of the survey, no historic properties, historical resources, or unique archaeological resources were identified within the APE. However, the Project area was determined to have a moderate sensitivity to encounter buried cultural resources.

The purpose of the XPI was to determine the presence or absence of buried historic or prehistoric cultural resources and to further assess the overall archaeological sensitivity in portions of the OCMF project area where deep Project-related excavations are proposed. Cultural resource presence-and-absence testing was conducted by HDR from October 25 to November 4, 2021. This technical memorandum documents the results of the XPI to append to the archaeological survey report previously prepared by AECOM.

2. Study Area

The proposed OCMF is planned to be located on a 21.3-acre parcel owned by OCTA in the City of Irvine. The site is adjacent to the Metrolink Orange subdivision between mileposts 183.50 and 184.00 and the future Ridge Valley Road extension, and approximately 400 feet south of Marine Way (**Figure 1**). The APE includes the Project Site (which includes access roads and construction staging areas) and adjacent areas. The vertical extent of the APE encompasses the maximum depth of excavation and grading, which may extend up to 10 feet beneath the existing ground surface. Scoping for the XPI effort was based an aerial exhibit showing anticipated areas of

Project cut (deeper than 2 feet) produced by OCTA consultant Gannett Fleming and transmitted to the Project Delivery Team on October 14, 2021. The XPI area includes approximately 8.4 acres where ground excavation was expected, primarily along the northeast side of the 21.3-acre Project APE (**Figure 1** and **Figure 2**).

3. Methods

Professional services were performed by individuals who meet the Secretary of the Interior's Professional Qualification Standards for Archaeology (48 Federal Register 44716). Field efforts were led by Daniel Leonard, PhD, and Daniel Leard, both of whom are Registered Professional Archaeologists. Katherine Lemberg provided geographical information system and global positioning system support.

XPI investigations consisted of excavation of subsurface shovel test probes (STPs) to confirm the presence or absence of buried cultural materials. STPs were placed at 30-meter (100-foot) intervals across the 8.4-acre XPI area and numbered sequentially (**Figure 1**). Initially, 41 STPs were planned within the 30 m grid. Each STP measured approximately 50 centimeters (cm) in diameter and was excavated with hand tools (e.g., picks, shovels, trowels, augers) to a maximum depth of 2 meters (6.5 feet) below surface level or upon reaching culturally sterile sediments. Shovels were primarily used to excavate to a maximum workable depth of approximately 80 cm. Hand augers, using either a 4-inch diameter (sand auger) or 6-inch diameter (clay auger) bucket depending on the soil texture, were used for deeper testing. All soils recovered were dry-sifted through 1/8-inch wire mesh screens. All cultural material discovered during testing was recorded and reburied. Data from the testing—including location, depth of excavation, soil type and consistency, stratigraphy, and descriptions of any cultural materials recovered—was recorded on standardized forms. Photographs were taken of each STP prior to backfilling with the excavated soils. The location of each STP was recorded using a hand-held global positioning system unit with sub-meter accuracy capabilities.

4. Results

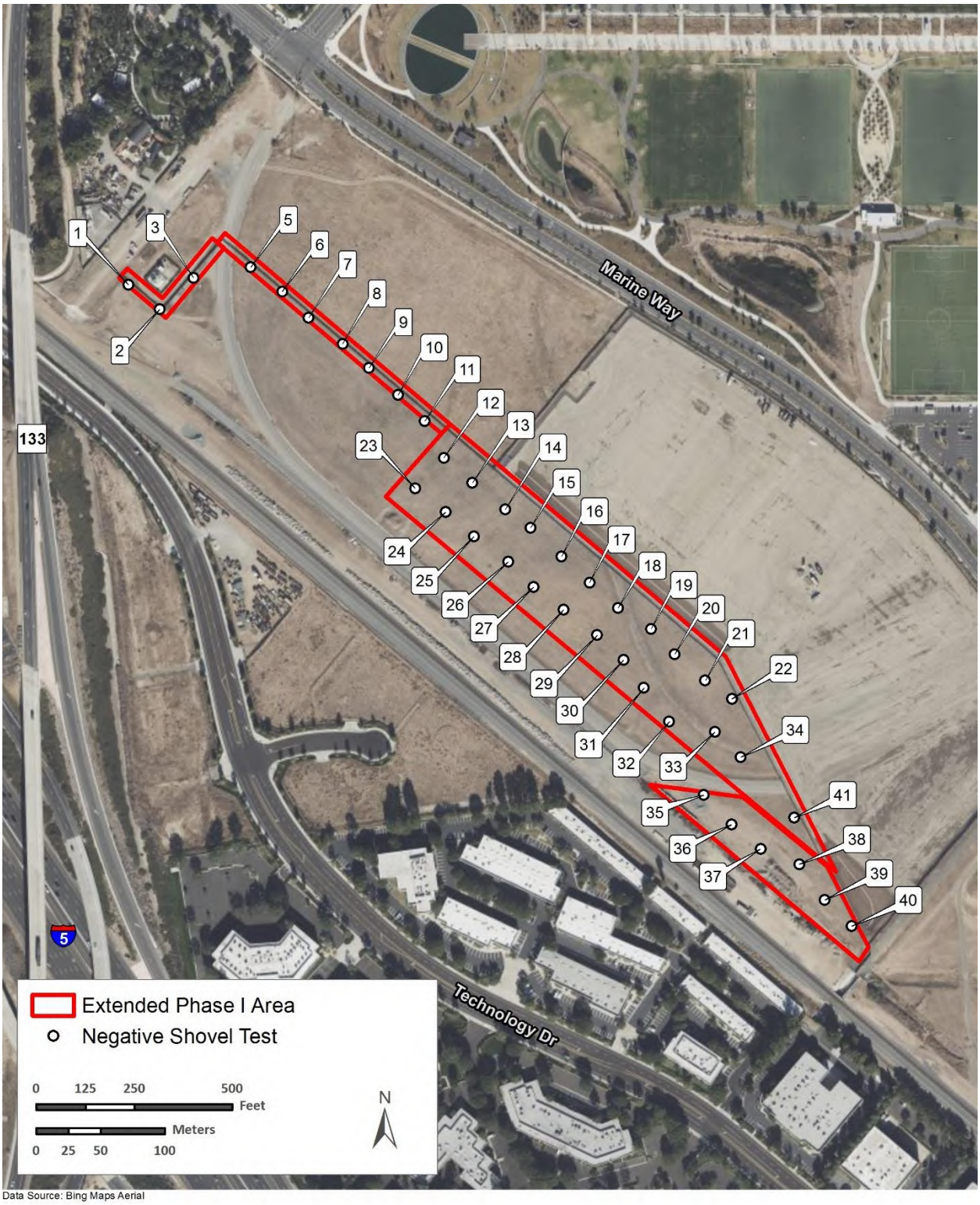
As a result of the survey, HDR archaeologists completed 40 STPs within the 8.4-acre XPI area. STP 4 was planned between STP 3 and STP 5 but not excavated because of the existing roadway at this location. Full descriptions of each test are presented in Error! Reference source not found.. Soil types varied from silty or sandy loams to dense clays or silty clay loam with varying trace gravels. Layers of fine loamy silt or sand and loose gravelly sands were found at depths below approximately 150 cm. As expected, moderate to significant soil disturbance was observed across the testing area, likely resulting from the development of Marine Corps Air Station El Toro between 1942 and 1999 or previous historic plowing. Depth of visible disturbance varied from 20 cm to as much as 80 cm below surface level depending on location. Areas with the most significant disturbance were found at the southeastern and northwestern ends of the XPI area at STPs 1-5, 10 11, 18, 19, and 33-41. These tests exhibited top layers of highly compacted artificial fill consisting of mixed sandy sediments with concrete slurry and imported gravel with chunks of asphalt and concrete/mortar, or, in some cases loose sand and gravel road base (**Figure 3** and

Figure 4). In the remaining tests, disturbance was less obvious; however, possible grading or historic plowing and compaction of the soil was still evident to depths varying between 15 cm and 40 cm below surface level. Natural disturbance from rodent burrowing was also visible across the site. Soil disturbance at STPs 16 (**Figure 5**), 17 and 20-30 appeared relatively minimal.

All tests were negative for the presence of prehistoric cultural material. A small amount of likely modern debris was identified in eighteen of the tests (STPs 2, 5, 7, 8, 12, 13, 14, 19, 23, 24, 25, 32, 36, 37, 38, 39, 40, and 41). This included small bottle glass fragments, window glass fragments, several plastic fragments, green PVC pipe pieces, several wire nails, an aluminum can tab, one piece of wire, and one possible piece of asbestos, all found at shallow depths and within disturbed soils. All material was analyzed in the field and reburied upon completion of the test. None of the material recovered could be identified as older than 50 years in age.

5. Recommendations

No historic properties, historic resources, or unique archaeological resources were identified during the XPI. Based on the results of the XPI, it is not anticipated that the Project will impact buried cultural resources. Implementation of mitigation measures MM-CUL-1 through MM-CUL-3 recommended in the *Technical Memorandum Cultural Resources* for the Metrolink Orange County Maintenance Facility completed by AECOM in 2021 would reduce any impacts to unknown archaeological resources encountered during excavations to a less than significant level.



Data Source: Bing Maps Aerial

Figure 1. Extended Phase I Study Area and Subsurface Test Locations

Figure 2. Overview of XPI area from location of STP 34, viewing northwest

Figure 3. Soil profile at STP 36 showing layer of compacted fill beneath loose overburden

Figure 4. Soil profile at STP 3 showing deep layer of road base

Figure 5. Soil profile at STP 16

Table 1. Excavation notes for STPs 1 through 41

STP#	Depth (cm)	Munsell Soil Color	Soil Description	Cultural Material	Disturbance	Comments
1	0-22	10YR5/3 brown	Sandy loam, high compaction, with 40-50% poorly sorted gravels	None	Possible artificial fill or reworked and compacted topsoil	None noted
	22-55	10YR4/2 dark grayish brown	Clayey silt loam, very compact	None	None noted	None noted
	55-120	10YR4/3 brown	Silty loam, moderate compaction	None	None noted	Gradual soil transition; sand auger after 80 cm
	120-160	10YR3.5/2 very dark grayish brown	Silty clay loam	None	None noted	None noted
	160-200	10YR4/3 brown	Clayey silt loam, less compact	None	None noted	None noted
2	0-9	10YR4/3 brown	Sandy loam, moderate compaction with 15% gravel	None	None noted	None noted
	9-45	10YR5/3 brown	Sandy loam, rock hard fill with slurry mix, 20-25% gravel	Bits of asphalt; colorless glass fragments; 1 wire nail	None noted	None noted
	45-80	10YR3/2 very dark grayish brown	Sandy Clay, high compaction	None	None noted	None noted
3	0-60		Coarse sand and gravel road base	None	Artificial fill	None noted

STP#	Depth (cm)	Munsell Soil Color	Soil Description	Cultural Material	Disturbance	Comments
	60-75	10YR3/2 very dark grayish brown	Loamy clay	None	None noted	None noted
	75-80	10YR4/3 brown	Gravelly coarse sand with clay	None	None noted	Too much large gravel to auger through
4	Not excavated because of the existing roadway at this location					
5	0-7	10YR4/2 dark grayish brown	Loamy loose sediments	None	Recently spread dirt	None noted
	7-45	10YR5/3 brown	Sandy clay loam, rock hard, dry, with 30-50% gravel content	Several small pieces of asphalt	Appears to be artificial fill with slurry/gravel mix	None noted
	45-80	10YR3/3 dark brown	Sandy loam, compact, with varying amounts of gravel	Small bits of asphalt and several pieces of green PVC plastic from 45-60cm	Likely disturbed to 60 cm depth	No clear soil transition
	80-180	10YR3/3 dark brown	Silty clay loam getting sandier after 150 cm; medium compaction	None	None noted	Sand auger after 80 cm
	180-200	10YR4/4 dark yellowish brown	Silty loam to very fine sandy loam	None	None noted	None noted
6	0-30	10YR4/3 brown	Sandy loam, high compaction	None	None noted	None noted

STP#	Depth (cm)	Munsell Soil Color	Soil Description	Cultural Material	Disturbance	Comments
	30-60	10YR3/3 dark brown	Silty clay loam, medium compaction	None	None noted	None noted
	60-80	10YR4/3 brown	Loam, medium compaction	None	None noted	Subtle soil transition
7	0-20		Mix of wood chip debris and loose sediments	None	Not natural	None noted
	20-35	10YR3/2 very dark grayish brown	Very compact sandy clay loam with small gravels	1 possible asbestos tile	Likely artificial fill or plowed and recompacted	None noted
	35-100	10YR3/2 very dark grayish brown	Clay loam or loamy clay, speckled with light sand or carbonates	None	None noted	None noted
	100-160	10YR5/3 brown	Clayey loam to silty clay loam, getting gradually lighter in color and less compact	None	None noted	None noted
	160-200	10YR6/3 pale brown	Sandy silt, loosely compacted	None	None noted	None noted
8	0-25	10YR4/3 brown	Clayey loam with imported shale gravel, compact	Plastic	Likely previously plowed or graded and recompacted	None noted
	25-80	10YR4/3 brown	Loam, medium compaction	None	None noted	Appears to be natural horizon
	80-130	10YR3/3 dark brown	Loamy clay with carbonate stringers	None	None noted	None noted

STP#	Depth (cm)	Munsell Soil Color	Soil Description	Cultural Material	Disturbance	Comments
9	0-30	10YR4/3 brown	Clayey loam with imported shale gravel, compact	None	Likely previously plowed or graded and recompacted	None noted
	30-90	10YR3/3 dark brown	Clayey loam, medium compaction	None	None noted	Appears to be natural horizon
	90-130	10YR3/2 very dark grayish brown	Loamy clay with speckles of light sand or carbonates	None	None noted	None noted
	130-150	10YR3/3- 4/3 dark brown	Mottled loamy clay with carbonate stringers	None	None noted	None noted
	150-190	10YR5/3 brown	Clayey silt loam	None	None noted	None noted
	190-200	10YR6/3 pale brown	Silt, very soft	None	None noted	Possible E horizon
10	0-37	10YR7/3 very pale brown	60-70% imported gravel with compact sand and silt	None	Looks like slurry fill	None noted
	37-75	10YR4/3 brown	Clayey silt loam, very compact	None	None noted	<10% gravel
	75-120	10YR4/3 brown	Silty loam, moderate compaction	None	None noted	Sand auger after 80 cm
11	0-30		Crushed shale base (no soil)	None	Artificial fill	None noted
	30-80	10YR4/3 brown	Clayey sandy loam, compact	None	None noted	None noted

STP#	Depth (cm)	Munsell Soil Color	Soil Description	Cultural Material	Disturbance	Comments
	80-100	10YR5/3 brown	Fine sandy silt, loosely compacted	None	None noted	Sand auger after 80 cm
	100-150	10YR4/3 brown	Clayey loam, compact	None	None noted	Too difficult to auger past 150 cm
12	0-5	10YR4/2 dark grayish brown	Loose loamy sediments	1 piece of window glass; lumber pieces	Loose dirt spread over surface	None noted
	5-25	10YR5/3 brown	Silty clay loam, compact, with 25% large gravels	None	Likely artificial fill or plowed and recompacted	None noted
	25-150	10YR4/3 - 3/2 dark brown	Clayey silt loam, medium compaction	None	None noted	Sand auger after 80 cm
	150-200	10YR4/4 - 5/4 yellowish brown	Fine sandy silt, loosely compacted; changing to 5/4 after 180 cm	None	None noted	Gradual soil transition
13	0-10	10YR5/3 brown	Loose mixed sediments	10-15 pieces of tinted flat glass; 1 piece of colorless glass; 2 pieces of white plastic	Loose dirt spread over surface	None noted
	10-25	10YR4/3 brown	Compacted mixed sand and silt with some clay	Several pieces of plastic	Reworked and compacted soil	None noted
	25-70	10YR3/4 dark yellowish brown	Silty loam, medium compaction	None	None noted	Appears to be natural horizon
	70-120	10YR3/2 very dark grayish brown	Loamy clay or clay loam, compact	None	None noted	Sand auger after 80 cm

STP#	Depth (cm)	Munsell Soil Color	Soil Description	Cultural Material	Disturbance	Comments
	120-150	10YR5/4 yellowish brown	Sandy silt loam, loosely compacted	None	None noted	Gradual soil transitions
	150-200	7.5YR5/4 brown	Loose, dry silty sand	None	None noted	None noted
14	0-20	10YR5/3-4/3 brown	Mixed sediments, very compact but lacks structure	Plastic PVC pipe fragment	Reworked and compacted soil	None noted
	20-75	10YR4/3 brown	Sandy clay loam, medium compaction	None	None noted	Appears to be natural horizon
	75-170	10YR5/3 brown	Silty sand loam, medium compaction. A greenish mudstone surface is present at around 110 cm with pockets of clay beneath.	None	None noted	None noted
	170-200	10YR5/4 yellowish brown	Silty sand, loosely compacted	None	None noted	None noted
15	0-25	10YR5/3 brown	Mixed sediments, very compact but lacks structure	None	Reworked and compacted soil	None noted
	25-70	10YR4/3 brown	Silty loam, compact	None	None noted	Appears to be natural horizon
	70-90	10YR4.5/3 brown	Sandy silt loam, medium compaction	None	None noted	Sand auger after 80 cm

STP#	Depth (cm)	Munsell Soil Color	Soil Description	Cultural Material	Disturbance	Comments
	90-200	10YR5/4 yellowish brown	Fine silty sand, loosely compacted, transitioning to lighter color and sandier with depth	None	None noted	None noted
16	0-25	10YR5/3 brown	Silty loam, very compact	None	Likely plowed or graded and recompacted	None noted
	25-80	10YR4/3 brown	Sandy silt loam, medium compaction	None	None noted	Appears to be natural horizon
	80-180	10YR4/4 dark yellowish brown	Clayey sand, loosely compacted	None	None noted	Sand auger after 80 cm
	180-200	10YR5/4 yellowish brown	Gravelly fine sand	None	None noted	None noted
17	0-65	10YR4/3 brown	Silty sand loam, dry and compact from 0-20 cm; slightly less compact 20-65 cm	None	Appears minimal but likely historically plowed (0-20 cm)	None noted
	65-100	10YR4/4 dark yellowish brown	Loamy sand, low compaction	None	None noted	Sand auger after 80 cm
	100-130	7.5YR5/3 brown	Clayey silt, compact, with carbonate stringers after 120 cm	None	None noted	None noted

STP#	Depth (cm)	Munsell Soil Color	Soil Description	Cultural Material	Disturbance	Comments
18	0-15		Loose sand and large gravel overburden	None	Road berm buildup	None noted
	15-40		75% gravel cemented with yellow sand/slurry mix	None	Road base	None noted
	40-60		75% gravel with compact sand and clay	None	Road base	Impenetrable with hand tools
19	0-10	10YR5/3 brown	Gravelly loose loam	None	Rodent burrowing	None noted
	10-40	10YR5/3 brown	Silty loam, very compact	1 colorless glass fragment	Likely plowed or graded and recompacted	None noted
	40-75	10YR4/3 brown	Silty loam, compact	None	None noted	Appears to be natural horizon
	75-160	10YR4/4 dark yellowish brown	Clayey silt, getting lighter in color with depth	None	None noted	None noted
	160-200	10YR5/4 yellowish brown	Fine sand, loosely compacted	None	None noted	None noted
20	0-50	10YR5/3 brown	Silty loam, very compact, dry	None	Likely plowed/recompacted	None noted
	50-75	10YR4/3 brown	Silty loam, compact	None	None noted	None noted

STP#	Depth (cm)	Munsell Soil Color	Soil Description	Cultural Material	Disturbance	Comments
	75-130	10YR4/3 brown	Sandy loam, medium compaction	None	None noted	None noted
	130-200	10YR5/4 yellowish brown	Fine sand, loosely compacted	None	None noted	None noted
21	0-40	7.5YR3/2 dark brown	Silty loam, damp and soft	None	Rodent burrowing	Appears relatively undisturbed
	40-100	7.5YR3/3 dark brown	Silty loam, damp and soft	None	None noted	Sand auger after 90 cm
	100-120	7.5YR4/4 brown	Clayey sand loam, moist and loosely compacted	None	None noted	None noted
	120-160	7.5YR5/4 brown	Loamy sand, low compaction	None	None noted	None noted
	160-200	10YR5/4 yellowish brown	Fine sandy silt, loosely compacted	None	None noted	None noted
22	0-90	10YR4/3 brown	Silty loam, compact	None	None noted	Sand auger after 80 cm
	90-180	10YR5/4 yellowish brown	Sandy silt	None	None noted	None noted
	180-200	10YR6/4 light yellowish brown	Loamy silt, loose compaction	None	None noted	15% angular shale gravel

STP#	Depth (cm)	Munsell Soil Color	Soil Description	Cultural Material	Disturbance	Comments
23	0-15	10YR4/3 brown	Gravelly sand and silt, very compact, lacks soil structure	Modern plastic and glass fragments	Graded and recompacted dirt	None noted
	15-40	7.5YR3/2 dark brown	Clayey loam, compact	None	None noted	None noted
	40-70	10YR5/3 brown	Loamy silt, medium compaction	None	None noted	None noted
	70-120	10YR3/2 very dark grayish brown	Clay loam to loamy clay with carbonate stringers below 90 cm, compact	None	None noted	Hand auger after 80 cm
	120-200	7.5YR5/4 brown	Loamy silt, compact	None	None noted	None noted
24	0-20	10YR4/3 brown	Gravelly sand and silt, very compact, lacks soil structure	None	Graded and recompacted dirt	None noted
	20-150	7.5YR3/2 dark brown	Silty clay loam to clayey silt, compact	1 piece of plastic that may have fallen from above	None noted	Hand auger after 80 cm
	150-120	10YR5/4 yellowish brown	Fine sandy silt, loosely compacted	None	None noted	None noted
25	0-28	10YR5/3 brown	Sandy loam to sandy clay loam, dry with moderate compaction	Piece of plastic	None noted	<10% gravel
	28-50	10YR4/3 brown	Silty clay loam, moderate compaction	None	None noted	None noted

STP#	Depth (cm)	Munsell Soil Color	Soil Description	Cultural Material	Disturbance	Comments
	50-70	10YR3/2 - 5/3	Compact silty loam mottled with 20% soft silt	None	None noted	None noted
	70-80	10YR4/2 dark grayish brown	Silty clay loam, moderate compaction	None	None noted	None noted
	80-180	10YR4/3 brown	Fine sandy loam, low compaction	None	None noted	Sand auger after 80 cm
	180-200	10YR4/4 dark yellowish brown	Fine sandy loam with increasing gravel content, loose	None	None noted	None noted
26	0-30	10YR4/3 brown	Silty loam, dry and compact	None	Likely plowed or graded and recompacted	None noted
	30-80	7.5YR4/2 brown	Clayey loam, compact	None	None noted	None noted
	80-150	10YR5/4 yellowish brown	Clayey sand, loosely compacted	None	None noted	None noted
	150-200	10YR6/3 pale brown	Gravelly sand, loosely compacted	None	None noted	None noted
27	0-80	10YR4/3 brown	Clayey silt loam, compact	None	Bioturbation from 0-30 cm	None noted
	80-140	7.5YR6/3 pale brown	Loamy silt, compact	None	None noted	Hand auger after 80 cm

STP#	Depth (cm)	Munsell Soil Color	Soil Description	Cultural Material	Disturbance	Comments
28	0-5	10YR4/2 dark grayish brown	Loose loamy sediments	None	None noted	None noted
	5-30	10YR4/3 brown	Silty clay loam, medium compaction	None	None noted	None noted
	30-70	10YR4/2 dark grayish brown	Silty loam, medium compaction	None	None noted	None noted
	70-150	10YR5/4 yellowish brown	Silty loam, medium compaction	None	None noted	Sand auger after 80 cm
	150-180	10YR4/3 brown	Silty loam, transitioning to 10YR5/3 -6/3 with depth	None	None noted	None noted
	180-200	10YR5/4 yellowish brown	Fine sand, loosely compacted	None	None noted	None noted
29	0-30	10YR4/3 brown	Gravelly silty loam, very compact	None	Likely graded and recompacted soil	None noted
	30-80	10YR3/2 very dark grayish brown	Silty clay loam, compact	None	None noted	Unable to auger through clay
30	0-100	10YR4/3 brown	Sandy Clay Loam or clayey loam; very compact but softens after 60 cm	pieces of asphalt and concrete and 1 large cobble between 0 and 40 cm	Likely plowed and possible reworked and compacted dirt from 0-40 cm	None noted

STP#	Depth (cm)	Munsell Soil Color	Soil Description	Cultural Material	Disturbance	Comments
	100-150	10YR5/4 yellowish brown	Silty clay loam, low compaction, with calcium carbonates	None	None noted	Sand auger after 80 cm
	150-200	10YR5/4 yellowish brown	Loam transitioning to gravelly loamy sand after 170 cm	None	None noted	30% gravel at 190 cm
31	0-40	10YR5/3 brown	Gravelly silty loam, very compact	None	Heavy bioturbation.	None noted
	40-110	10YR4/3 brown	Clayey silt loam, compact	None	None noted	None noted
	110-180	10YR5/3 - 5/4 yellowish brown	Loamy silt, dry and compact	None	None noted	None noted
	180-200	10YR6/3 pale brown	Silt, loosely compacted	None	None noted	None noted
32	0-40	10YR5/3 brown	Sandy loam, dry, very compact with 40% mixed gravel	Small concrete chunks and some plastic	Likely graded and recompacted soil	None noted
	40-120	10YR4/3 - 5/3 brown	sandy silty loam, transitioning to loamy silt, medium compaction	None	None noted	Sand auger after 80 cm
	120-160	10YR6/3 pale brown	Fine silty sand with approx. 25% gravel	None	None noted	Terminated at gravelly layer

STP#	Depth (cm)	Munsell Soil Color	Soil Description	Cultural Material	Disturbance	Comments
33	0-10	10YR4/3 brown	Loose sand and silt	None	Artificial fill	None noted
	10-30		Gravel and sand road base	None	Artificial fill	None noted
	30-60	10YR4/3 to 3/2 brown	Sandy loam or clayey sand loam, very compact	None	Mottled and lacks structure. Likely reworked or plowed soil and recompacted	Not uniform
	60-120	10YR4/3 brown	Silty clay loam, moderate compaction	None	Looks like natural A horizon	Sand auger after 80 cm
	120-200	10YR5/3 - 6/3 pale brown	Silty loam, low compaction, getting lighter with depth	None	None noted	None noted
34	0-15	10YR4/3 brown	Gravelly sand, loose compaction, 25% poorly sorted gravels	None	Looks like road base	None noted
	15-27	10YR5/3 brown	Gravelly sand continuation, but high compaction	None	Road base	None noted
	27-37	10YR5/4 yellowish brown	Sand and gravel, rock hard, with 60-70% poorly sorted gravel	None	Road base	None noted
	37-100	10YR3/2 very dark grayish brown	clay loam, high to moderate compaction	None	Tiny bits of asphalt down to 80 cm	Sand auger after 80 cm

STP#	Depth (cm)	Munsell Soil Color	Soil Description	Cultural Material	Disturbance	Comments
	100-185	10YR4/4 dark yellowish brown	Silty clay loam, low compaction	None	None noted	None noted
	185-200	10YR4/4 dark yellowish brown	Fine powdery sandy loam	None	None noted	None noted
35	0-25	10YR5/3 brown	Highly compacted sandy loam	Several small pieces of asphalt and concrete	Reworked and compacted soil	None noted
	25-70	10YR4/3 brown	sandy clay loam to sandy loam, very compact	Several small asphalt bits down to approx. 40 cm	Does not appear to be natural soil stratum. Lacks soil structure	Mottled soil color between 10YR4/2 and 3/2. Very compact but breaks up easy.
	70-170	10YR3/3 dark brown	Sandy loam, moderate compaction; transitions to 10YR4/4 after 120 cm	None	None noted	Sand auger after 80 cm
	170-200	10YR5/4 yellowish brown	Loamy sand, low compaction	None	None noted	None noted
36	0-25	10YR6/3 pale brown	Sandy loam, very compact, with 40% large gravels/ballast	1 metal wire piece; 1 large asphalt chunk	Appears to be artificial fill with slurry/gravel mix	None noted
	25-55	10YR5/3 brown	Loamy sand, dry and compact	None	None noted	None noted
	55-100	10YR4/2 dark grayish brown	Clayey sand loam to silty loam, medium compaction	None	None noted	Clay auger after 60 cm

STP#	Depth (cm)	Munsell Soil Color	Soil Description	Cultural Material	Disturbance	Comments
	100-150	10YR4/3 brown	Silty loam, medium compaction	None	None noted	None noted
	150-200	10YR6/4 light yellowish brown	Fine sandy silt	None	None noted	Sand auger
37	0-65	10YR4/2 dark grayish brown	Fine sandy loam, medium compaction, 60% large gravel from 0-10 cm decreasing to 20% gravel below 10cm	1 wire nail; 1 colorless glass fragment; 1 piece of asphalt	Gravel consists of ballast from nearby stockpile to the south. Likely all artificial fill	None noted
	65-80	10YR4/3 brown	Loamy sand, medium compaction, with 10% small gravels	Aluminum pull tab and a few small, rusted metal fragments	None noted	None noted
38	0-40	10YR5/3 brown	Loamy sand, very compact, with poorly sorted gravel	Small pieces of asphalt and 1 Styrofoam chunk	Probable overburden with possible slurry mix	None noted
	40-80	10YR4/3 brown	Loamy coarse sand, moderate compaction, with 40-50% mixed gravel	2 rusted iron pieces and 1 piece of cement/mortar	Continuation of above disturbed layer, less dry	None noted
	80-200	10YR4/3 brown	Fine sand, loosely compacted	None	None noted	Hand auger after 80 cm
39	0-50	10YR5/3 brown	Sandy with clay, very compact, with 40-50% gravel	Several small glass and asphalt fragments	Appears to be artificial fill with slurry/imported gravel mix	None noted
	50-75	10YR4/3 brown	Sandy loam, very compact, minimal gravel	None	None noted	None noted

STP#	Depth (cm)	Munsell Soil Color	Soil Description	Cultural Material	Disturbance	Comments
	75-90	10YR4/3 brown	Gravelly loamy sand with 20% poorly sorted gravel	None	None noted	Sand auger after 75 cm. Unable to excavate past 90 cm
40	0-50	10YR5/3 brown	Sandy with clay, compact, with 50-60% gravel	Several green glass fragments and chunks of asphalt and concrete	Appears to be artificial fill with slurry/gravel mix	None noted
	50-80	10YR4/3 brown	Sandy loam, very compact, 5% gravel	None	None noted	None noted
	80-110	10YR4/3 brown	Loamy sand with 20% gravel	None	None noted	Sand auger after 80 cm. Terminated at large rock obstruction
41	0-5	10YR4/3 brown	Loose sand and silt	None	Loose overburden	None noted
	5-30	10YR6/3 pale brown	Sandy silt loam with 40-50% gravel	1 piece of colorless glass; several chunks of asphalt	Compacted artificial fill	None noted
	30-70	10YR5/3 brown	Silty loam, dry, very compact	None	Possibly compacted	None noted
	70-180	10YR5/3 - 4/3 brown	Silty loam to fine sandy silt, gradually less compact	None	None noted	Sand auger after 70 cm
	180-200	10YR6/4 light yellowish brown	Fine loamy sand, dry and loose	None	None noted	None noted

Appendix E
Technical Memorandum
Hazards and Hazardous Materials

Metrolink Orange County Maintenance Facility

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June 2022

REVISION	DESCRIPTION	DATE
0	Draft Hazards & Hazardous Materials Technical Memorandum	01/06/21
1	Draft Hazards & Hazardous Materials Technical Memorandum (Incorporating OCTA's comments)	02/25/21

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1. INTRODUCTION

The Southern California Regional Railroad Authority (SCRRA) Metrolink Commuter Rail System (Metrolink) is proposing to construct a new Orange County Maintenance Facility (hereafter referred to as "OCMF" or "the Project"). The Project would include several facilities including a transportation building, employee parking area, train-wash building, pump house, utility building, guard booth, equipment booth, sand silos, a maintenance facility, a maintenance facility extension, and 11 tracks. Approximately 80 employees would report to the Project. The Project consists of buildings that would have a total building area of approximately 90,000 square feet when combined. Metrolink currently operates two maintenance facilities across its service area: Central Maintenance Facility (CMF) in Los Angeles and Eastern Maintenance Facility (EMF) in San Bernardino County. Due to projected population expansion within its service area and the agency's goal to be prepared for the 2028 Los Angeles Summer Olympic Games, Metrolink will require an increased number of commuter rail services, as well as additional train storage and maintenance facilities associated with an increased fleet size. As a significant proportion of the expanded services will operate in Orange County, the Project would provide an optimal location for a new Metrolink maintenance facility. Metrolink's member agency, the Orange County Transportation Authority (OCTA), proposes to build this facility on an OCTA-owned parcel in the City of Irvine. OCTA is the lead agency under the California Environmental Quality Act (CEQA). The City of Irvine and SCRRA are the responsible agencies under CEQA.

The purpose of this memorandum is to present the results of a Hazardous Materials investigation and to describe the potential impacts to the proposed OCMF project.

2. PROJECT DESCRIPTION

2.1 PROJECT BACKGROUND

As a result of the projected population expansion within the five-county area (Orange County, Los Angeles County, San Bernardino County, Riverside County, and Ventura County) currently served by the SCRRA, Metrolink will require an increased number of commuter rail services to support the growth. Consequently, the Metrolink system (Figure 2.1-1) would require additional train storage and maintenance facilities to support an increased fleet size.

Figure 2.1-1 Metrolink System Map

Source: SCRRA (2019)

Metrolink's CMF facility is located on the east bank of the Los Angeles River near the Interstate 5 (I-5) and Interstate 10 (I-10) highways, just south of the location of the former Southern Pacific Taylor Yard. The CMF is currently near capacity, which will impact the ability to provide the necessary train servicing for planned service-expansion of various Metrolink lines throughout the system under the Southern California Optimized Rail Expansion (SCORE) program. By transferring a portion of the current fleet from CMF to the proposed OCMF (specifically the Orange County Line trains), capacity for the non-Orange County trains will be increased at CMF. The Orange County Line has the highest ridership within the Metrolink system; therefore, a maintenance facility to serve the Orange County area with sufficient storage and servicing capabilities for both locomotives and rail cars is critical to controlling operating costs. In order to optimize rail service in the region, the proposed facility development would need to be completed by 2028. The SCORE program may also require heavy overhaul capabilities at OCMF, subject to pending decisions regarding fleet technology and management.

The expansion of Orange County and overall Metrolink commuter rail service will ultimately require additional or expanded equipment servicing capabilities for both locomotives and rail cars. Since a significant portion of the fleet will be in Orange County, a maintenance facility located along the Metrolink route through Orange County would be the optimal location as it would reduce operating costs by limiting non-revenue moves to the existing SCRRA storage and maintenance facilities in the cities of Los Angeles and San Bernardino. The proposed maintenance facility would provide equipment to inspect, clean, and maintain cars and locomotives on a regular and efficient basis. Much of the inspection and maintenance activity is federally mandated and must be performed at specific intervals. The OCMF will also provide refueling services thus reducing fuel costs, reducing fuel consumption, and will reduce emissions. Currently trains operating in the Orange County Region must travel either the CMF or EMF for refueling, which are sometimes non-revenue runs. The location of the Project is on a 21.3-acre OCTA-owned parcel on Ridge Valley south of Marine Way in the City of Irvine (Project Site). The Project Site is located within the boundaries of a closed military base (Marine Corps Air Station [MCAS] El Toro) formerly owned by the United States Department of the Navy (DON). After MCAS El Toro was closed, the site was quitclaimed by the Navy to Heritage Fields El Toro, LLC in 2011, and then by way of grant deed conveyed by Heritage Fields to the City of Irvine that same year. OCTA then purchased the fee ownership of the Project Site from the City of Irvine. Regional vehicle access to the Project Site is from I-5 at Sand Canyon Avenue. Local vehicle access is via Marine Way to Ridge Valley.

Prior to the current construction of the storage/set-out track, the Project Site was mostly vacant. The site currently includes 1,000-foot-long storage for miscellaneous rail equipment including temporary railroad bridges, signal houses, railroad ties, and signal components. Although not part of the Project, OCTA is currently installing a single 1,000-foot-long, single-ended storage track and fencing of the perimeter of the property to provide temporary storage of two trainsets and/or track maintenance equipment when necessary. There is a segment of an abandoned road, stormwater drains, and underground water transfer vault with a network of pipelines, valves and associated vents, that are currently not in use.

2.2 PROJECT DESCRIPTION

The OCMF would be located in the City of Irvine, on a 21.3-acre parcel owned by OCTA and adjacent to Marine Way and the Metrolink Orange subdivision between mileposts 183.50 and 184.00 on Metrolink's "Orange" Subdivision (Figure 2.2-1). The Project Site is located within Planning Area 51 of the updated City of Irvine General Plan, adopted in June 2015, and designated for the Great Park (formerly known as the Orange County Great Park (OCGP)) land use under the General Plan. Per the City's zoning ordinance, the proposed use is a conditionally allowable use under the existing zone; therefore, OCTA is submitting a Conditional Use Permit to the City of Irvine for approval.

The Project would be developed in two phases with an anticipated completion date of 2028. Phase 1 focuses on developing facilities needed for the storage and routine cleaning, inspection and servicing of the anticipated trainsets. The total area of the Phase 1 buildout would be approximately 20,996 square feet and would be comprised of the following facilities: the transportation building, employee parking area, train-wash building, pump house, utility building, guard booth, equipment booth and sand silos (Table 2.2-1). A total of 11 tracks would be built. The Phase 1 layout situates the train wash, fueling/sanding, and service and inspection tracks on the two tracks with the greatest tangent length, which are the ones nearest the railroad right of way ("ROW"). This is important in fitting a second fueling/sanding facility so that there is one at each end of the service and inspection platform to support having the locomotive at either end, all within tangent track. Additionally, six storage tracks and appurtenant features (air, water, head end power and toilet dump facilities) would be constructed. The storage tracks would be built near the middle of the site east of the service and inspection tracks. Phase 1 of the buildout would anticipate approximately 52 employees total throughout the entire day, split across three eight-hour shifts.

Table 2.2-1 Building Specifications

Building/Facility/Item	Building Area	Building Height
Transportation Building	7,495 sq. ft.	20 ft
Train Wash Building	11,110 sq. ft.	21 ft
Maintenance Building	40,392 sq. ft.	48 ft
Maintenance Building Expansion	27,880 sq. ft.	---
Utility Building	981 sq. ft.	20 ft
Pump House	750 sq. ft.	14 ft
Guard Booth	36 sq. ft.	---
Equipment Booth	48 sq. ft.	---
Sand Silos (2 Total)	576 sq. ft.	---
Total	89,268 sq. ft.	

Source: Gannett Fleming, Metrolink (February 2022)

Note: sq. ft. = square feet; ft = feet

A runaround track would be provided between the service and inspection tracks and storage tracks. Additionally, two temporary stub-ended set out tracks would be provided in the Phase 1 layout that occupies the footprint of the future shop tracks (one at the north and one at the south end of the yard). These set out tracks would be converted to shop access tracks in Phase 2 and, therefore, would no longer be available as set out tracks. A new set out track would then be provided as part of Phase 2.

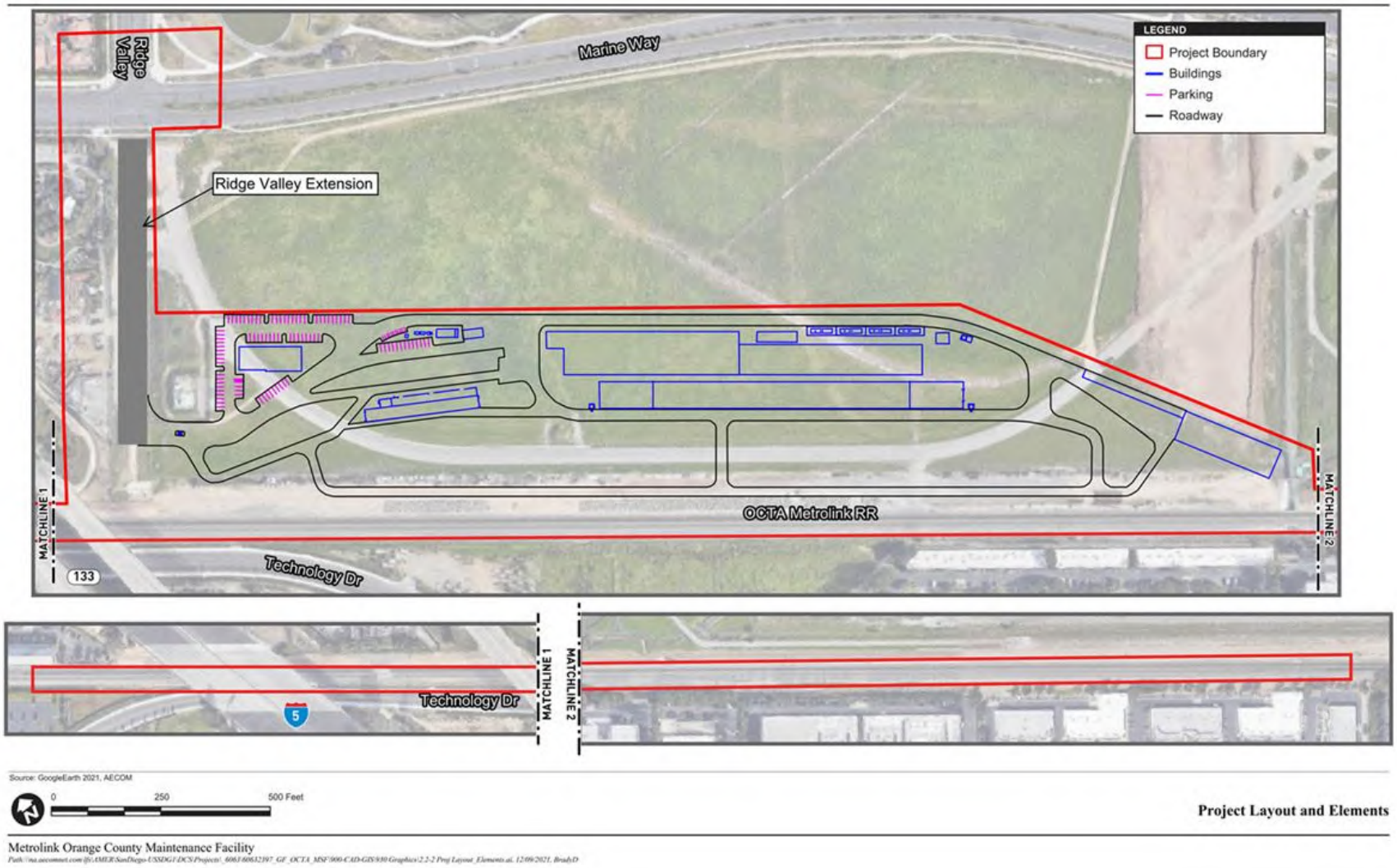
A transportation building that would be utilized for administrative purposes is also included in Phase 1. This building would house managerial offices, welfare spaces for train crews and on-site personnel. This facility would include restrooms, showers, locker rooms, a break/day room, vending space and a kitchenette. Approximately 120 automobile parking spaces would be provided for staff reporting to the site. Fire department compliant roadways would be developed to permit circulation of the site for Metrolink vehicles as well as delivery trucks (sand and fuel).

Phase 2 completes the full buildout of the Project. It would include development of the maintenance shop building and its future extension that would comprise of a total buildout area of 68,272 square feet (Table 2.2-1). The shop would have capabilities to perform regular three-month, six-month, and one-year preventive maintenance cycles on trainsets. Phase 2 of the buildout would consist of approximately 28 employees. With the full buildout of Phase 1 and Phase 2, approximately 80 employees are expected to access the Project Site daily, split across three eight-hour shifts.

Access to the OCMF would require a roadway extension along Ridge Valley from the intersection of Ridge Valley and Marine Way. The Project includes the southern extension of Ridge Valley Road from Marine Way and associated traffic signal improvements to provide access to the OCMF.

The 11 new east and west lead tracks, as discussed in this section above, would be constructed within the existing railroad corridor between MP 183.0 and MP 184.00 on Metrolink's "Orange" Subdivision to connect the existing mainline railroad to the proposed OCMF rail yard. A new single span concrete bridge over the Bee Canyon Channel (Channel) would be built for the east lead track. A segment of the Channel and utilities that are found to be in conflict would be lowered by approximately 2.5 feet to facilitate the construction of the bridge.

Figure 2.2-1 Project Layout and Elements



Source: ESRI (2021), OCTA (2021)

3. ENVIRONMENTAL SETTING

3.1 EXISTING CONDITIONS

The Project Site is located within a portion of the former MCAS El Toro, which was decommissioned in 1999, which is a Superfund site [(U.S. Environmental Protection Agency (EPA), 2020]. Hazardous materials, including chemicals and jet fuels, were stored and used on various portions of the former MCAS, including the OCMF site. These chemicals resulted in contamination of the soils, for which the DON was required to perform environmental remediation. From records provided by the DON, it appears only two groundwater monitoring wells were installed within the Project Site after the closure of MCAS El Toro. One of the wells is located in the middle of the proposed storage yard (between storage tracks) and would require relocation. The other well is located near the south entrance of the site and appears out of conflict with any major proposed improvements. The site will be developed to provide for periodical access to the wells by the DON. Previous analysis related to hazardous materials have been prepared to address contamination on the Project Site. Figure 3.2-1 shows the location of the known hazardous materials sites in the vicinity of the Project Site. A Phase I Site Assessment completed in 2014 did not find any recognized environmental condition (REC) sites (Kleinfelder 2014). There is an updated Phase I Environmental Site Assessment that is currently being finalized, which has been used to supplement this information.

As mentioned in the Wildfire portion of Chapter 5 of the Baseline Analysis, the Project Site is not located within or in proximity to an area designated as “High Fire Severity Rating & Open Space with Fire Potential” according to the City of Irvine General Plan’s Safety Element.

Moreover, the Project Site is not located within two miles of a public airport or public use airport. The closest airport to the Project Site is John Wayne Airport, which is located in Santa Ana adjacent to the City of Irvine boundary. This airport is approximately seven miles to the west of the Project Site and, thus, the Project Site is located outside of the John Wayne Airport Clear Zones according to the City of Irvine General Plan’s Safety Element. No private airstrip exists in the vicinity of the Project, either.

In addition, there are no existing schools or educational institutions within one-quarter mile of the Project Site (refer to Table 3.15-1 Public Service Facility Summary, in Chapter 3.15 Public Services).

3.2 REGULATORY FRAMEWORK

3.2.1 Federal

<u>Hazardous Materials Resources</u>

The USEPA is the lead federal agency responsible for enforcing federal regulations regarding hazardous materials. The primary legislation governing hazardous materials includes the Resource Conservation and Recovery Act (RCRA), the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), the Superfund Amendments and Reauthorization Act (SARA), and the Toxic Substances Control Act (TSCA).

Comprehensive Environmental Response, Compensation, and Liability Act

CERCLA, also known as Superfund, created a tax on the chemical and petroleum industries to provide for response and cleanup of hazardous substances that may endanger public health or the environment. CERCLA established requirements for abandoned hazardous waste sites and provided for liability of persons responsible for releases of hazardous waste at these sites.

Figure 3.2-1 Known Hazardous Material Sites

Superfund Amendments and Reauthorization Act

SARA amended CERCLA to increase state involvement and required Superfund actions to consider state environmental laws and regulations. SARA also established a regulatory program for underground storage tanks (USTs) and the Emergency Planning and Community Right-to-Know Act (EPCRA).

3.2.2 State

In case of any chemical release of hazardous materials, the project will comply with the Hazardous Materials Release Notification, including the following:

- Health and Safety Codes Sections 25270.7, 25270.8, and 25507
- Vehicle Code Section 23112.5
- Public Utilities Code Section 7673 (PUC General Orders #22-B, 161)
- Government Code Sections 51018, 8670.25.5 (a)
- Water Codes Sections 13271, 13272
- Labor Code Section 6409.1(b)10

If hazardous materials or extremely hazardous materials are to be handled at the project site more than a specified amount ("reporting quantity"), the project will need to develop and submit a Hazardous Materials Business Plan (HMBP) as mandated both by the federal government (Code of Federal Regulations) and the State of California (Health and Safety Code) to the Orange County Health Care Agency (OCHCA).

3.2.3 Local

The project will need to comply with the Irvine Municipal Code, especially Division 9 (Emergency Services) and Division 17 (Hazardous Materials) of Title 4 (Public Safety), as well as the Irvine Zoning Ordinance, Chapter 2-13 (Hazardous Waste Facility Procedure).

The project will also need to comply with the Hazardous Materials Disclosure Program and the Accidental Release Prevention Program. The Unified Program is implemented at the local government level by the OCHCA. The Hazardous Materials Division of OCHCA is designated by the State Secretary for Environmental Protection as the CUPA for Orange County. Inspections and business plans are managed by the Orange County Fire Authority (OCFA) on behalf of OCHCA.

Assembly Bill (AB) 1130 authorized CUPAs to administer and implement programs related to the Aboveground Petroleum Storage Act (APSA) for any business with a total aboveground storage capacity of 1,320-gallons of petroleum products in tanks or containers larger than 55 gallons. APSA defines "Petroleum" as crude oil, or any fraction thereof, which is liquid at 60 degrees Fahrenheit temperature and 14.7 pounds per square inch absolute pressure. Tank facilities that are regulated under APSA are also regulated by the U.S. EPA Region 9 Oil Program Clean Water Act Compliance Office. Since the Project will consider building underground storage tanks or aboveground storage tanks (ASTs) for petroleum products/fuels, the plan will need to comply with the California Code of Regulations for underground and aboveground tanks, respectively, as oversight by OCHCA. APSA would require the following of the Project if

storage of petroleum tanks meets or exceeds the 1,320-gallon aboveground petroleum products/fuels storage threshold:

- Complete and submit to OCHCA an initial Aboveground Petroleum Storage Tank Facility Statement Form.
- Prepare and implement an Spill Prevention Control and Countermeasures (SPCC) Plan in accordance with U.S. Code of Federal Regulations, Title 40, Part 112 (40 CFR 112).
- Conduct periodic inspections of ASTs to ensure compliance with the 40 CFR 112.
- Allow OCHCA to conduct periodic inspections.
- Immediately notify the California Emergency Management Agency (EMA) and OCHCA upon discovery of a spill or release of 42 gallons or more of petroleum.

Facilities regulated under APSA or the Federal SPCC Rule must prepare and implement a Spill Prevention Control and Countermeasures Plan (SPCC Plan) or Spill Prevention and Counter Measure Plan. Regulated facilities fall into three categories:

- Aboveground storage capacity more than 10,000 gallons who must prepare a full plan that has been certified by a Professional Engineer and be approved by the facility or corporation management.
- Aboveground storage capacity more than 1,320-gallons and less than 10,000-gallons, and with no history of release, can prepare and self-certify an abbreviated plan. These businesses are known as “Qualified Facilities”. There are in turn two types of Qualified Facilities, Tier I and Tier II Qualified Facilities:
    - Tier I Qualified Facility: has between 1,320 and 10,000 gallons with no single container greater than 5,000-gallons and have no single discharge to navigable waters or adjacent shorelines exceeding 1,000 gallons and no two discharges, each exceeding 42 gallons within any twelve-month period in the past three years.
    - Tier II Qualified Facility: has between 1,320 and 10,000 gallons with a single container greater than 5,000 gallons and have no single discharge to navigable waters or adjacent shorelines exceeding 1,000 gallons and no two discharges, each exceeding 42 gallons within any twelve-month period in the past three years.

The Project will need to notify the appropriate State and local agencies (e.g., OCHCA, DTSC, or the Regional Water Quality Board) since soil and groundwater contamination is present due to the MCAS site. Notification to these State and local regulatory oversight agencies will simultaneously satisfy coverage under the applicable Federal agencies under Superfund (refer back to Section 3.2.1 above). If requested as follow-up by the State and/or local regulatory oversight agency(ies), then an environmental site assessment or a risk assessment (e.g., human health risk assessment) shall be prepared to ensure that future site activities and/or uses pose no risks to human health and/or the environment.

In accordance with the State Water Board's requirements for construction sites greater than one acre, a stormwater pollution prevention plan (SWPPP) must be prepared and implemented during construction for coverage under the National Pollution Discharge Elimination System (NPDES) Construction General Permit. Similarly, construction sites subject to the Construction General Permit are required to implement SWPPP in the City of Irvine. While Santa Ana Regional Water Quality Board issues the Construction General Permit, Water Quality Ordinance (No. 10-06) gives the City of Irvine adequate legal authority as may be necessary to carry out the requirements of the NPDES Permit and accomplish the requirements of the Clean Water Act.

4. METHODOLOGY

A Draft Phase I Environmental Site Assessment (ESA) was prepared for the Project Site by Diaz, Yourman & Associates, on behalf of OCTA, dated November 12, 2020. The assessment was performed in general conformance with the scope and limitations of American Society for Testing and Materials (ASTM) Standard E1527-13. During the assessment, the Project Site was observed currently vacant, with the exception of a segment of an abandoned road, stormwater drains, an underground bunker with a network of pipelines, valves and associated vents, and including miscellaneous rail equipment observed stored on site. The following hazardous materials were identified in the assessment to be potentially encountered at the Project Site from historical and/or current uses:

1) Hydrocarbons, volatile organic compounds (VOCs) including chlorinated solvents such as trichloroethylene (TCE), and metals to soil, soil vapor and/or groundwater from historical former MCAS El Toro operations, adjacent oil and gas pipelines, and soil and other debris stockpiles observed on site;
2) Pesticides/herbicides to soil from historical agricultural crop land use;
3) Polychlorinated biphenyls (PCBs)-containing equipment remaining on site, if any including potential impacts to soils due to leaks;
4) Asbestos-containing material (ACM) and lead-based paint from existing structures;
5) Treated wood waste (TWW) from materials remaining on site (e.g., railroad ties); LBP/chromium from yellow thermoplastic striping from road materials remaining on site; and, aerially deposited lead in soil due to adjacent and onsite roadways.

5. IMPACTS ANALYSIS

Based on the above-described proposed project information, the following hazards and hazardous materials impacts analysis is provided for the Project Site:

1) Would the project create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?

   Determination: **Less Than Significant Impact**

   Construction and operation of the Project Site would require the routine handling and storage of petroleum products and hazardous materials. Wastes including used oils and hazardous wastes generated from the Project Site would be properly managed, transported and disposed resulting in less than significant hazard to the public or environment. The Project shall comply to regulatory standards specified under the California Code of Regulations (CCR), Title 22, Division 4.5 during the transport, use, or disposal of hazardous materials to make this a less than significant impact. Criteria for identifying characteristics of hazardous waste are also designated in CCR Title 22 Division 4.5.

2) Would the project create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?

   Determination: **Less Than Significant Impact**

   Construction Impacts

   Due to the routine handling and use of petroleum products and hazardous materials to be used during the construction of the proposed project, the potential for environmental impacts from hazardous material incidents is less than significant. The most likely incidents involving these materials are associated with minor drips, leaks or spills. Impacts from such incidents would be avoided by thoroughly cleaning up minor drips, leaks or spills as soon as they occur. A site-specific SWPPP would be developed and implemented to ensure quick response to minor drips, leaks or spills.

   Operational Impacts

   The Project Site would conduct routine handling and use of petroleum products and hazardous materials that could leak or spill if equipment such as tanks are damaged from a seismic event, fire or other unforeseen incident. To minimize potential impacts, the design of the proposed project would provide containment and/or diversionary structures or equipment to prevent illicit discharge of an oil or hazardous materials spill. Furthermore, the facility would develop and implement a HMBP and SPCC Plan before reportable quantities of hazardous materials/wastes or

tanks/oil-filled equipment are handled or stored on site. The HMBP includes an Emergency Response Plan element.

If the Project has aboveground petroleum products/fuel tanks larger than 55-gallons with the storage capacity of 1,320-gallons or more, the SPCC Plan would be required to comply with the regulatory framework set forth by the Aboveground Storage Tank Act. Tank facilities that are regulated under APSA are also regulated by the U.S. EPA Region 9 Oil Program Clean Water Act Compliance Office. The Project would be required to prepare and implement an SPCC Plan in accordance with U.S. Code of Federal Regulations, Title 40, Part 112 (40 CFR 112). In addition, SCRRA would be required to immediately notify the California Emergency Management Agency (EMA) and OCHCA upon discovery of a spill or release of 42 gallons or more of petroleum.

These programs and plans would be developed to be consistent with other Metrolink maintenance facilities.

3) Would the project emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?

Determination: **No Impact**

There are no existing schools or educational institutions within one-quarter mile of the Project Site.

4) Would the project be on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?

Determination: **Less Than Significant Impact**

The Project Site is located within a portion of the MCAS El Toro Superfund site, situated within a portion of Operating Unit (OU) 2A - IRP Site 24 - water transfer facility. According to the Phase I ESA, one groundwater monitoring well (18BGMW101A) and one groundwater extraction well (24EX11) in connection with IRP Site 24 are located within the Project Site boundaries. According to additional information provided in site documents available in the online California Department of Toxic Substances Control's (DTSC's) Envirostor database and on the EPA's Superfund Site El Toro MCAS web page, buried water transfer conveyance lines associated with these wells are also located within the Project Site boundaries. An Institutional Control (IC) is in effect in connection with IRP Site 24, which includes the following land use restrictions and/or requirements:

- Activities prohibited which disturb the remediation and monitoring systems without approval;
- Annual inspection and/or report;
- No drilling for drinking water, oil or gas without approval;
- Notify damages to remedy and monitoring systems no later than 10 days upon discovery;
- Notify no later than 30 days after change of property owner; and
- Only extraction of groundwater for site remediation and/or construction dewatering permitted.

Prior to construction of the project and also following construction of the project, proper notifications to the required parties will be made in accordance with the IRP Site 24 IC in order to maintain compliance with the site management requirements/IC in connection with the ongoing military clean-up site operations.

5) For a project located within an airport land use plan or, where such as plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard or excessive noise for people residing or working in the project area?

Determination: **No Impact**

The Project Site is not located within two miles of a public airport or public use airport. The closest airport to the Project Site is John Wayne Airport, which is located in Santa Ana adjacent to the City of Irvine boundary. This airport is approximately seven miles to the west of the Project Site and, thus, the Project Site is located outside of the John Wayne Airport Clear Zones according to the City of Irvine General Plan's Safety Element. No private airstrip exists in the vicinity of the Project, either.

6) Would the project impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?

Determination: **No Impact**

Construction Impacts

In places where the components of the Proposed Project span a road or require a lane closure, construction activities would be coordinated with the local jurisdiction so as not to cause closure of any emergency access route. Flaggers may briefly hold traffic back while conductor is pulled across a roadway, but emergency vehicles would be provided access even in the event of temporary road closures. Therefore, emergency access would not be directly impacted by construction of the proposed project because all streets would remain open to emergency vehicles at all times during construction activities.

Operational Impacts

The Project Site design will be constructed in a configuration that complies with required emergency response plan or emergency evacuation plan elements in accordance with project design and permitting requirements.

7) Would the project expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires?

Determination: **No Impact**

The Project Site is not located within or in proximity to an area designated as "High Fire Severity Rating & Open Space with Fire Potential" according to the City of Irvine General Plan's Safety Element. Additionally, the Project Site would be grubbed of vegetation and graded prior to the staging of equipment, further minimizing the potential for wildland fires.

6. MITIGATION MEASURES

Mitigation measures were described in Section 5 above where a less than significant impact to the Project Site was identified. The mitigation measures for the Project Site are summarized as follows:

MM-HAZ-1 The Project applicant shall notify the appropriate agencies (e.g., OCHCA, DTSC, USEPA, or the Regional Water Quality Board) regarding soil, soil gas and/or groundwater contamination in connection with the ongoing military clean-up site associated with the former El Toro MACS Superfund site.

MM-HAZ-2 Where the Project Site construction and operational activities coincide with the current groundwater monitoring systems (e.g., wells, water transfer conveyance lines) the requirements of the IC in connection with IRP Site 24 for the ongoing military clean-up site associated with the former El Toro MACS Superfund site shall be adhered to in order to protect human health and the environment from potential hazardous materials exposures.

MM-HAZ-3 Prior to construction activities at the Project, if required by the State or local regulatory oversight agencies, then further assessment including soil, soil vapor and/or groundwater investigations shall be conducted to reveal the presence, if any, of potential hazardous materials at the Project Site that were identified as a result of the Phase I ESA, and would assist in determining further mitigations required to address human health and/or the environment impacts due to potential hazardous materials exposures.

MM-HAZ-4 The Project shall need to adhere to all required permit applications and permit conditions, and local, state and federal requirements (e.g., regulatory framework, site-specific environmental permits and plans).

7. IMPACTS AFTER MITIGATION MEASURES

Impacts after implementing mitigation measures MM-HAZ-1 through MM-HAZ-4 would result in less than significant impact related to hazards and hazardous materials during construction and operations.

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Appendix F
Technical Memorandum
Noise and Vibration

Metrolink Orange County Maintenance Facility

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REVISION	DESCRIPTION	DATE
0	Draft Noise & Vibration Technical Memorandum	01/14/21
1	Draft Noise & Vibration Technical Memorandum (Incorporating OCTA's comments)	02/25/21

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Glossary

Term	Abbreviation	Description
A-Weighted Decibels	dBA	A-weighted sound levels represent the overall noise at a receiver that is adjusted in frequency to approximate typical human hearing sensitivity. This is expressed as A-weighted decibels (dBA), the basic noise unit for transit noise analyses.
Community Noise Equivalent Level	CNEL	CNEL is a single number result that is calculated for a complete 24-hour period and usually made up of results taken at shorter intervals such as 5 minutes or 1 hour and then averaged over the whole 24 hours. This measurement is similar to L_{dn} except with a 5 dBA penalty added for hours between 7 PM and 10 PM. The logic behind this applied penalty is that since most residents in a given area are somewhat sensitive to noise during evening hours, a weighting factor is applied.
Day-Night Sound Level	L_{dn}	L_{dn} describes a receiver's cumulative noise exposure from all events over 24 hours. Events between 10 PM and 7 AM are increased by 10 dB to account for humans' greater nighttime sensitivity to noise. L_{dn} is used to assess transit noise for residential land uses.
Equivalent Sound Level	$L_{eq(t)}$	The equivalent sound level $L_{eq(t)}$ describes a receiver's cumulative noise exposure from all events normalized to a specified period of time "t". $L_{eq(t)}$ represents a hypothetical, constant sound level and contains the same overall sound energy as the actual varying sound energy during the time period "t". For transit noise impact assessments, the equivalent sound level metric is A-weighted and all events are normalized over a one-hour time period, $L_{eq(1hr)}$. For transit noise assessments, this metric is appropriate for non-residential land uses and is computed for the loudest hour of project related activity during hours of noise sensitivity.
Maximum Sound Level	L_{max}	The maximum level describes the maximum noise level reached during a single noise event. For transit noise impact assessments, it is appropriate to consider the A-weighted maximum level (L_{max}) to understand the full context of the scenario. It is not appropriate to use this metric for transit noise impact assessments. This metric is commonly used in vehicle noise specifications and commonly measured for individual vehicles.
Peak Particle Velocity	PPV	The peak signal value of an oscillating vibration velocity waveform. Usually expressed in inches/second in the United States. Often used to assess potential building damage due to ground-borne vibration.
Sound Exposure Level	SEL	SEL is the cumulative noise exposure from a single noise event, normalized to one second. SEL contains the same overall sound energy as the actual varying sound energy during the event. It is the primary metric for the measurement of transit vehicle noise emissions and is an intermediate metric in the measurement and calculation of both $L_{eq(t)}$ and L_{dn}.
Vibration Decibels	VdB	The vibration velocity level in decibel scale. Often used to assess annoyance due to ground borne-vibration.

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1. INTRODUCTION

The Southern California Regional Railroad Authority (SCRRA) Metrolink Commuter Rail System (Metrolink) is proposing to construct a new Orange County Maintenance Facility (hereafter referred to as "OCMF" or "the Project"). The Project would include several facilities including a transportation building, employee parking area, train-wash building, pump house, utility building, guard booth, equipment booth, sand silos, a maintenance facility, a maintenance facility extension, and 11 tracks. Approximately 80 employees would report to the Project. The Project consists of buildings that would have a total building area of approximately 90,000 square feet when combined. Metrolink currently operates two maintenance facilities across its service area: Central Maintenance Facility (CMF) in Los Angeles and Eastern Maintenance Facility (EMF) in San Bernardino County. Due to projected population expansion within its service area and the agency's goal to be prepared for the 2028 Los Angeles Summer Olympic Games, Metrolink will require an increased number of commuter rail services, as well as additional train storage and maintenance facilities associated with an increased fleet size. As a significant proportion of the expanded services will operate in Orange County, the Project would provide an optimal location for a new Metrolink maintenance facility. Metrolink's member agency, the Orange County Transportation Authority (OCTA), proposes to build this facility on an OCTA-owned parcel in the City of Irvine. OCTA is the lead agency under the California Environmental Quality Act (CEQA). The City of Irvine and SCRRA are the responsible agencies under CEQA.

This technical memo provides the summary results of the noise and vibration analysis associated with the construction and operation of the proposed OCMF. This document provides concise sections regarding the project description, environmental setting, noise and vibration prediction methodology, impact analysis and recommended mitigation measures associated with the Project.

2. PROJECT DESCRIPTION

2.1 PROJECT BACKGROUND

As a result of the projected population expansion within the five-county area (Orange County, Los Angeles County, San Bernardino County, Riverside County, and Ventura County) currently served by the SCRRA, Metrolink will require an increased number of commuter rail services to support the growth. Consequently, the Metrolink system (Figure 2.1-1) would require additional train storage and maintenance facilities to support an increased fleet size.

Figure 2.1-1 Metrolink System Map

Source: SCRRA (2019)

Metrolink's CMF facility is located on the east bank of the Los Angeles River near the Interstate 5 (I-5) and Interstate 10 (I-10) highways, just south of the location of the former Southern Pacific Taylor Yard. The CMF is currently near capacity, which will impact the ability to provide the necessary train servicing for planned service-expansion of various Metrolink lines throughout the system under the Southern California Optimized Rail Expansion (SCORE) program. By transferring a portion of the current fleet from CMF to the proposed OCMF (specifically the Orange County Line trains), capacity for the non-Orange County trains will be increased at CMF. The Orange County Line has the highest ridership within the Metrolink system; therefore, a maintenance facility to serve the Orange County area with sufficient storage and servicing capabilities for both locomotives and rail cars is critical to controlling operating costs. In order to optimize rail service in the region, the proposed facility development would need to be completed by 2028. The SCORE program may also require heavy overhaul capabilities at OCMF, subject to pending decisions regarding fleet technology and management.

The expansion of Orange County and overall Metrolink commuter rail service will ultimately require additional or expanded equipment servicing capabilities for both locomotives and rail cars. Since a significant portion of the fleet will be in Orange County, a maintenance facility located along the Metrolink route through Orange County would be the optimal location as it would reduce operating costs by limiting non-revenue moves to the existing SCRRA storage and maintenance facilities in the cities of Los Angeles and San Bernardino. The proposed maintenance facility would provide equipment to inspect, clean, and maintain cars and locomotives on a regular and efficient basis. Much of the inspection and maintenance activity is federally mandated and must be performed at specific intervals. The OCMF will also provide refueling services thus reducing fuel costs, reducing fuel consumption, and will reduce emissions. Currently trains operating in the Orange County Region must travel either the CMF or EMF for refueling, which are sometimes non-revenue runs. The location of the Project is on a 21.3-acre OCTA-owned parcel on Ridge Valley south of Marine Way in the City of Irvine (Project Site). The Project Site is located within the boundaries of a closed military base (Marine Corps Air Station [MCAS] El Toro) formerly owned by the United States Department of the Navy (DON). After MCAS El Toro was closed, the site was quitclaimed by the Navy to Heritage Fields El Toro, LLC in 2011, and then by way of grant deed conveyed by Heritage Fields to the City of Irvine that same year. OCTA then purchased the fee ownership of the Project Site from the City of Irvine. Regional vehicle access to the Project Site is from I-5 at Sand Canyon Avenue. Local vehicle access is via Marine Way to Ridge Valley.

Prior to the current construction of the storage/set-out track, the Project Site was mostly vacant. The site currently includes 1,000-foot-long storage for miscellaneous rail equipment including temporary railroad bridges, signal houses, railroad ties, and signal components. Although not part of the Project, OCTA is currently installing a single 1,000-foot-long, single-ended storage track and fencing of the perimeter of the property to provide temporary storage of two trainsets and/or track maintenance equipment when necessary. There is a segment of an abandoned road, stormwater drains, and underground water transfer vault with a network of pipelines, valves and associated vents, that are currently not in use.

2.2 PROJECT DESCRIPTION

The OCMF would be located in the City of Irvine, on a 21.3-acre parcel owned by OCTA and adjacent to Marine Way and the Metrolink Orange subdivision between mileposts 183.50 and 184.00 on Metrolink's "Orange" Subdivision (Figure 2.2-1). The Project Site is located within Planning Area 51 of the updated City of Irvine General Plan, adopted in June 2015, and designated for the Great Park (formerly known as the Orange County Great Park (OCGP)) land use under the General Plan. Per the City's zoning ordinance, the proposed use is a conditionally allowable use under the existing zone; therefore, OCTA is submitting a Conditional Use Permit to the City of Irvine for approval,

The Project would be developed in two phases with an anticipated completion date of 2028. Phase 1 focuses on developing facilities needed for the storage and routine cleaning, inspection and servicing of the anticipated trainsets. The total area of the Phase 1 buildout would be approximately 20,996 square feet and would be comprised of the following facilities: the transportation building, employee parking area, train-wash building, pump house, utility building, guard booth, equipment booth and sand silos (Table 2.2-1). A total of 11 tracks would be built. The Phase 1 layout situates the train wash, fueling/sanding, and service and inspection tracks on the two tracks with the greatest tangent length, which are the ones nearest the railroad right of way ("ROW"). This is important in fitting a second fueling/sanding facility so that there is one at each end of the service and inspection platform to support having the locomotive at either end, all within tangent track. Additionally, six storage tracks and appurtenant features (air, water, head end power and toilet dump facilities) would be constructed. The storage tracks would be built near the middle of the site east of the service and inspection tracks. Phase 1 of the buildout would anticipate approximately 52 employees total throughout the entire day, split across three eight-hour shifts.

Table 2.2-1 Building Specifications

Building/Facility/Item	Building Area	Building Height
Transportation Building	7,495 sq. ft.	20 ft
Train Wash Building	11,110 sq. ft.	21 ft
Maintenance Building	40,392 sq. ft.	48 ft
Maintenance Building Expansion	27,880 sq. ft.	---
Utility Building	981 sq. ft.	20 ft
Pump House	750 sq. ft.	14 ft
Guard Booth	36 sq. ft.	---
Equipment Booth	48 sq. ft.	---
Sand Silos (2 Total)	576 sq. ft.	---
Total	89,268 sq. ft.	

Source: Gannett Fleming, Metrolink (February 2022)

Note: sq. ft. = square feet; ft = feet

A runaround track would be provided between the service and inspection tracks and storage tracks. Additionally, two temporary stub-ended set out tracks would be provided in the Phase 1 layout that occupies the footprint of the future shop tracks (one at the north and one at the south end of the yard). These set out tracks would be converted to shop access tracks in Phase 2 and, therefore, would no longer be available as set out tracks. A new set out track would then be provided as part of Phase 2.

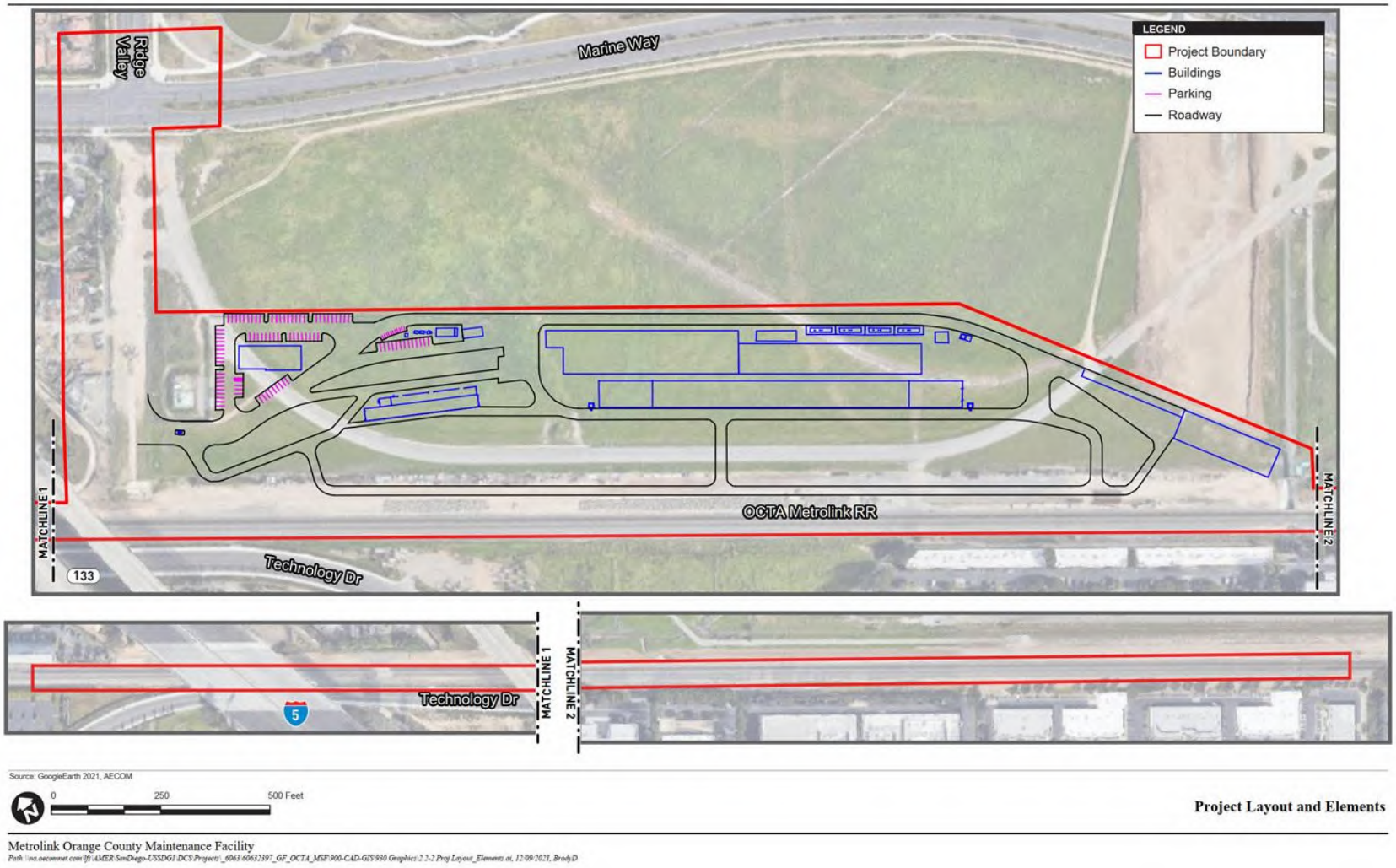
A transportation building that would be utilized for administrative purposes is also included in Phase 1. This building would house managerial offices, welfare spaces for train crews and on-site personnel. This facility would include restrooms, showers, locker rooms, a break/day room, vending space and a kitchenette. Approximately 120 automobile parking spaces would be provided for staff reporting to the site. Fire department compliant roadways would be developed to permit circulation of the site for Metrolink vehicles as well as delivery trucks (sand and fuel).

Phase 2 completes the full buildout of the Project. It would include development of the maintenance shop building and its future extension that would comprise of a total buildout area of 68,272 square feet (Table 2.2-1). The shop would have capabilities to perform regular three-month, six-month, and one-year preventive maintenance cycles on trainsets. Phase 2 of the buildout would consist of approximately 28 employees. With the full buildout of Phase 1 and Phase 2, approximately 80 employees are expected to access the Project Site daily, split across three eight-hour shifts.

Access to the OCMF would require a roadway extension along Ridge Valley from the intersection of Ridge Valley and Marine Way. The Project includes the southern extension of Ridge Valley Road from Marine Way and associated traffic signal improvements to provide access to the OCMF.

The 11 new east and west lead tracks, as discussed in this section above, would be constructed within the existing railroad corridor between MP 183.0 and MP 184.00 on Metrolink's "Orange" Subdivision to connect the existing mainline railroad to the proposed OCMF rail yard. A new single span concrete bridge over the Bee Canyon Channel (Channel) would be built for the east lead track. A segment of the Channel and utilities that are found to be in conflict would be lowered by approximately 2.5 feet to facilitate the construction of the bridge.

Figure 2.2-1 Project Layout and Elements



Source: ESRI (2021), OCTA (2021)

3. ENVIRONMENTAL SETTING

3.1 Existing Conditions

Noise measurements were conducted at the Project Site and selected nearby noise sensitive locations on July 30-31, 2020. The measurements were conducted with American National Standards Institute (ANSI) Type 1 sound level meters within their manufacturer's recommended 1-year calibration period. Measurements were conducted and documented in keeping with standard environmental noise measurement procedures. Weather conditions during the measurement period were generally typical for this location during this time of year, with observed temperatures between 70° and 80° F (degrees Fahrenheit) and wind speeds generally less than 5 miles per hour (mph).

Noise measurements were conducted at five locations in the vicinity of the Project Site, including one Long-Term (LT) measurement location for an entire 24-hour duration, and four short-term (ST) locations with durations of approximately 20 to 30 minutes each. The noise measurement locations are shown in Figure 3.1-1.

The noise measurement locations were selected to represent the following acoustical environments:

- LT-1. This location was conducted at the Project's northern fence line and was intended to represent the typical hour to hour variation of noise levels in the general Project Area over the course of an entire day. Contributing sound sources here included traffic from highways I-5 and State Route 133 (SR-133) and local roads, and occasional rail activity on the nearby Metrolink/Amtrak mainline tracks as well as occasional, short-term contributions for other miscellaneous local sound sources (aircraft overflights, individual vehicle pass-bys, trash collection, etc.).
- ST-1. This measurement location represented the residential development to the north of the Marine Way and Ridge Valley intersection. The contributing sound sources here included traffic on SR-133 and local roadways, with lesser contributions from traffic on I-5, rail activity, and other local noise sources.
- ST-2. This location represents a passive use area within the park (quiet area near the reflecting pond) and with direct exposure to the Project Area. Contributing sound sources here were similar to LT-1.
- ST-3. This location represents an active sports area within the park (soccer field) with direct exposure to the Project Area. Noise sources here were similar to those observed at LT-1 and ST-2.
- ST-4. This measurement location represents an informal exterior use area in a commercial area south of the mainline tracks (a bench within a grassy median in the parking area, presumably used as a short-term break area for employees).

Figure 3.1-1 Noise Measurement Locations

Figure 3.1-2 provides the LT noise measurement data displaying the equivalent average (L_{eq}), maximum (L_{max}) and minimum (L_{min}) value for each 10-minute measurement interval over the entire 24-hour measurement period (between 10:00 AM on 7/30/2020 and 10:00 AM on 7/31/2020). The L_{eq} values range mostly between 45 A weighted decibels (dBA) (during the early morning hours) and 60 dBA (during peak morning and afternoon periods). Individual spikes in the L_{eq} and L_{max} data are mostly caused by train pass-by events (the LT location was situated about 450 feet from the mainline tracks).

Figure 3.1-2 Long-Term Noise Measurement Data

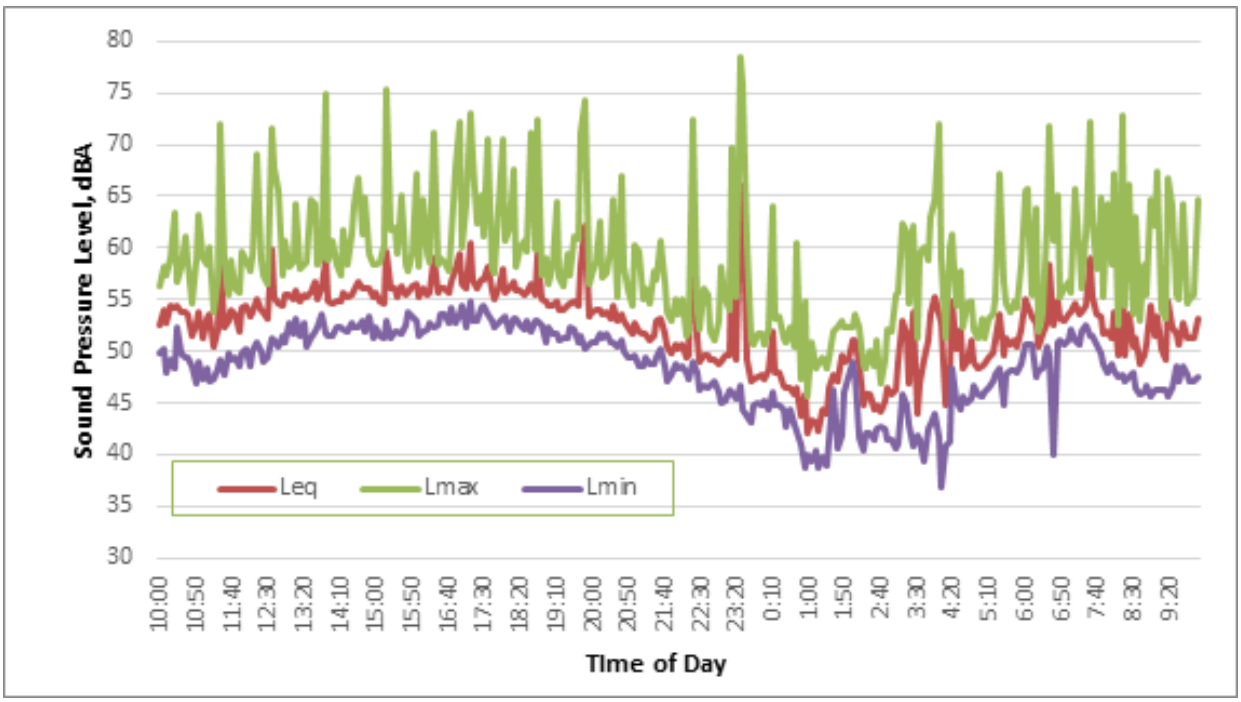


Table 3-1 provides a summary of the collected ST measurement data. Measurements were conducted twice at each ST location and the long-term metrics (L_{eq}-day, L_{dn}, and community noise equivalent level [CNEL]) at each ST location were calculated by using a relative comparison to the 24-hour data collected at the central LT measurement location.

Table 3-1 Short-term Noise Measurement Summary

Measurement Time and Duration				Duration	Measured or Calculated[2] Sound Level, dBA			
ID	Date	Start	End		L_{eq}-ST	L_{eq}-Day	L_{dn}	CNEL
ST-1[1]	7/30/20	10:58	11:30	0:32	61	63	67	68
	7/31/20	10:00	10:24	0:24	62			
ST-2	7/30/20	12:46	13:12	0:26	55	55	59	59
	7/31/20	9:45	10:04	0:19	53			
ST-3	7/30/20	13:25	13:52	0:27	63	60	64	65
	7/31/20	9:05	9:24	0:19	58			
ST-4	7/30/20	14:10	14:40	0:30	52	52	56	56
	7/31/20	8:30	8:50	0:20	50			

Source: AECOM, 2020.
Notes:
[1] Reported ambient noise levels for Measurement location ST-1 were reduced by 5 dBA to estimate the influence of an existing 8- to-10-foot-high noise wall between the actual exterior sidewalk noise measurement location near Marine Way and the residential backyards for the adjacent homes. This reduction was limited to 5 dBA due to traffic noise contributions from nearby elevated ramps and lanes on SR-133.
[2] L_{eq}-day, LDN and CNEL values were calculated by comparing measured ST noise measurement values to calculated L_{eq}-day, L_{dn} and CNEL from LT measurement location.

3.2 Regulatory Framework

Federal

Federal Transit Administration: As a transit Project, the primary source used for the prediction and assessment impacts associated with noise and vibration for the Project would come from the Federal Transit Administration (FTA) Noise and Vibration Impact Assessment Manual (2018), which provides prediction methodology and impact assessment guidance for both construction and operational phases of the Project as outlined below.

Construction Noise and Vibration

FTA-recommended construction noise impact criteria are presented in Table 3-2 below, as a function of land use.

Table 3-2 Construction Noise Impact Criteria

Land Use	$L_{eq\text{-}equip.(8hr)}$, dBA		$L_{dn\text{-}equip.(30\ day)}$, dBA
	Day	Night	30-day Average
Residential	80	70	75
Commercial	85	85	80*
Industrial	90	90	85*

Note: *Use a 24-hour $L_{eq(24hr)}$ instead of $L_{dn\text{-}equip(30day)}$
Source FTA 2018, Table 7-3

For construction vibration, FTA guidance provides impact criteria for two different impact types, potential building damage and potential human annoyance, both categorized by building type or land use, which are presented in Table 3-3 and Table 3-4, respectively.

Table 3-3 Construction Vibration Damage Criteria

Building/ Structural Category	PPV, in/sec	Approximate L_v*
I. Reinforced-concrete, steel or timber (no plaster)	0.5	102
II. Engineered concrete and masonry (no plaster)	0.3	98
III. Non-engineered timber and masonry buildings	0.2	94
IV. Buildings extremely susceptible to vibration damage	0.12	90

*RMS velocity in decibels, VdB re 1 micro-in/sec
Source FTA 2018, Table 7-5

Table 3-4 Indoor Ground-Borne Vibration (GBV) and Ground-Borne Noise (GBN) Impact Criteria for General Vibration Assessment

Land Use Category	GBV Impact Levels (VdB re 1 micro-inch /sec)			GBN Impact Levels (dBA re 20 micro Pascals)		
	Frequent Events†	Occasional Eventsα	Infrequent Eventsβ	Frequent Events†	Occasional Eventsα	Infrequent Eventsβ
Category 1: Buildings where vibration would interfere with interior operations.	65 VdB *	65 VdB *	65 VdB *	N/A **	N/A **	N/A **
Category 2: Residences and buildings where people normally sleep.	72 VdB	75 VdB	80 VdB	35 dBA	38 dBA	43 dBA
Category 3: Institutional land uses with primarily daytime use.	75 VdB	78 VdB	83 VdB	40 dBA	43 dBA	48 dBA

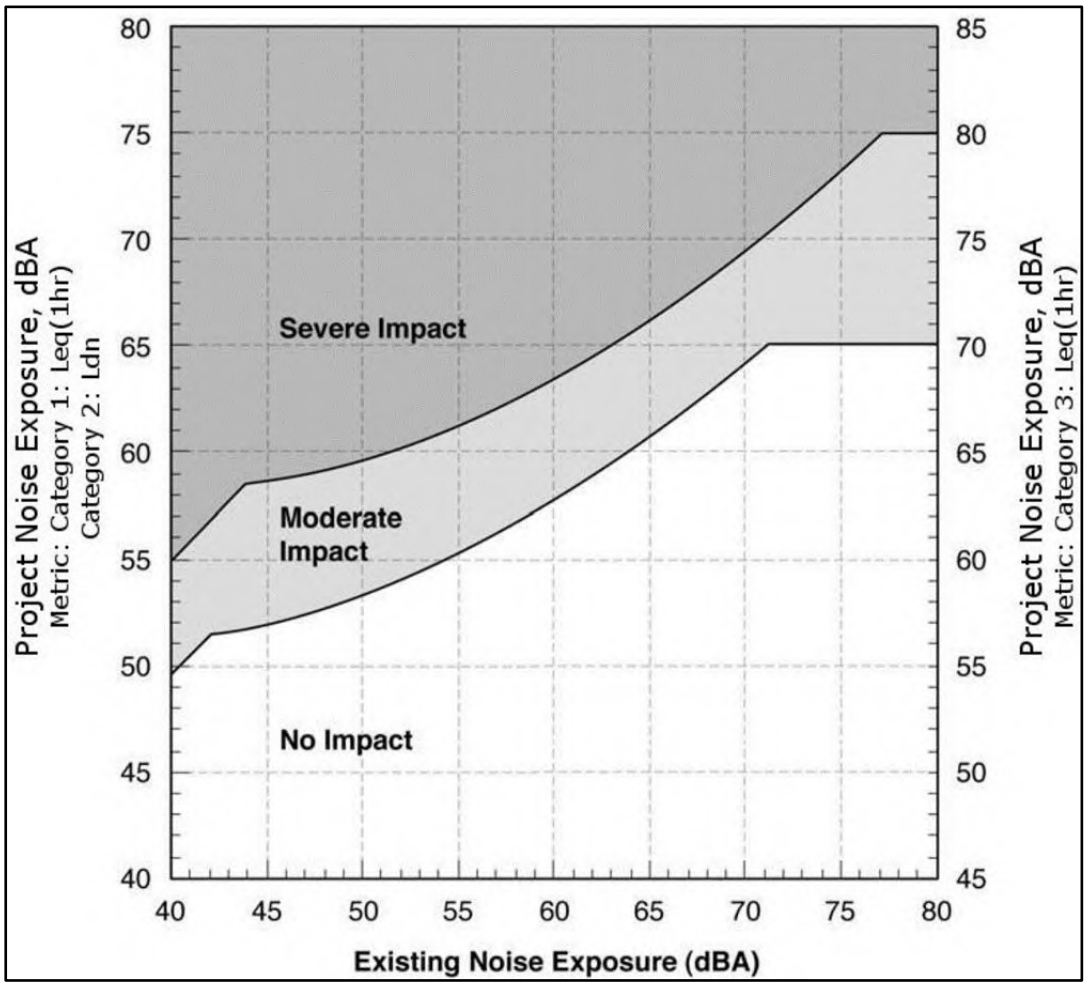
*This criterion limit is based on levels that are acceptable for most moderately sensitive equipment such as optical microscopes. For equipment that is more sensitive, a Detailed Vibration Analysis must be performed.
** Vibration-sensitive equipment is generally not sensitive to ground-borne noise; however, the manufacturer's specifications should be reviewed for acoustic and vibration sensitivity.
†Frequent events- More than 70 events per day (most rapid transit)
αOccasional events- 30-70 events per day (most commuter trunk lines)
βInfrequent events- Fewer than 30 events per day (most commuter rail branch lines)
Source: FTA 2018, Table 6-3.

Operational Noise and Vibration

FTA operational noise impacts are determined as a function of the predicted project noise, existing noise exposure, and land use category, as shown in Figure 3.2-1. Generally, the higher the existing noise exposure, the higher the noise level threshold for moderate and severe impacts. For example, at a Category 2 (residential) receptor location with an existing noise exposure level of 55 dBA L_{dn}, a moderate noise

impact would be triggered with a project-only noise exposure of 56 dBA L_{dn} and a severe impact at a project-only noise level of 61 dBA L_{dn}. However, for the same receiver location with an existing exposure of 60 dBA L_{dn}, a moderate impact would occur at a project-only noise level of 58 dBA L_{dn}, and a severe impact at 63 dBA, L_{dn}. Operational ground-borne vibration impact criteria are the same as for construction activity, as shown in Tables 3-3 and 3-4.

Figure 3.2-1 FTA Operational Noise Impact Criteria



Source: FTA 2018, Figure 4-2

Local

<u>City of Irvine General Plan, Noise Element</u>- The noise standards specified in the City's General Plan, 2015, Section F, Noise Element (shown in Table 3-5) are used as a guideline to evaluate the acceptability of the noise levels generated by the traffic flow. These standards are for the assessment of long-term vehicular traffic noise impacts. The City has exterior noise criteria for outdoor living areas associated with residential uses and requires that interior areas of new residential homes not exceed 45 dBA CNEL and that exterior active use areas not exceed 65 dBA CNEL. Other short-term noise impacts (e.g., construction activities or on-site stationary sources) are regulated by the noise ordinance.

Table 3-5 City of Irvine Interior and Exterior Noise Standards

Land Use Categories		Energy Average (CNEL)	
Categories	Uses	Interior[1]	Exterior[2]
Residential	Single-Family, Multiple-Family	45[3], 55[4]	65[7]
	Mobile Home	—	65[5]
Commercial/ Industrial	Hotel, Motel, Transient Lodging	45	65[6]
	Commercial, Retail, Bank, Restaurant	55	—
	Office Building, Professional Office, Research & Development	50	—
	Amphitheater, Concert Hall, Auditorium, Meeting Hall	45	—
	Gymnasium (Multipurpose)	50	—
	Health Clubs	55	—
	Manufacturing, Warehousing, Wholesale, Utilities	65	—
	Movie Theater	45	—
Institutional	Hospital, School Classroom	45	65
	Church, Library	45	—
Open Space	Parks	—	65

Notes:
[1] Interior environment excludes bathroom, toilets, closets, and corridors.
[2] Outdoor environment limited to private yard of single-family or multifamily residences private patio which is accessed by a means of exit from inside the unit; mobile home park; hospital patio; park picnic area; school playground; and hotel and motel recreation area.
[3] Noise level requirement with closed windows. Mechanical ventilating system or other means of natural ventilation shall be provided pursuant to Appendix Chapter 12, Section 1208 of UBC.
[4] Noise level requirement with open windows, if they are used to meet natural ventilation requirement.
[5] Exterior noise level shall be such that interior noise level will not exceed 45 dBA CNEL.
[6] Except those areas affected by aircraft noise.
[7] Multifamily developments with balconies that do not meet the 65 dBA CNEL are required to provide occupancy disclosure notices to all future tenants regarding potential noise impacts.
CNEL = Community Noise Equivalent Level, UBC = Uniform Building Code
Source: City of Irvine General Plan Supplement No. 3, Noise Element, Table F-1 (2005).

Municipal Code. Section 6-8-204 of the City's Municipal Code (City of Irvine, 2015b) establishes the maximum permissible noise level that may intrude into a neighbor's property. The Noise Ordinance (adopted in 1975 and revised in 2015) establishes noise level standards for various land use categories affected by stationary noise sources. Land use categories in the City are defined in four noise zones, as listed below. Table 3-6 provides the City's maximum noise standard based on the noise zone, the assessment location (exterior/interior), and the time period. As shown in Table 3-6, the City's noise standards do not apply to multifamily residence private balconies (City of Irvine 2015b).

1. Noise Zone 1: All hospitals, libraries, churches, schools, and residential properties.
2. Noise Zone 2: All professional office and public institutional properties.
3. Noise Zone 3: All commercial properties excluding professional office properties.
4. Noise Zone 4: All industrial properties.

Table 3-6 City of Irvine Maximum Noise Level Standards

Noise Zone	Exterior/ Interior	Time Period	L_{50} (30 mins)	L_{25} (15 mins)	L_8 (5 mins)	L_2 (1 min)	L_{max} (Anytime)
1	Exterior	7:00 AM to 10:00 PM	55	60	65[1]	70	75
		10:00 PM to 7:00 AM	50	55	60	65[1]	70
	Interior	7:00 AM to 10:00 PM	—	—	55	60	65
		10:00 PM to 7:00 AM	—	—	45	50	55
2	Exterior	Anytime	55	60	65	70	75
	Interior	Anytime	—	—	55	60	65
3	Exterior	Anytime	60	65	70	75	80
	Interior	Anytime	—	—	55	60	65
4	Exterior	Anytime	70	75	80	85	90
	Interior	Anytime	—	—	55	60	65

Note:
It shall be unlawful for any person at any location within the City to create any noise or to allow the creation of any noise on property owned, leased, occupied or otherwise controlled by such person which causes the noise level when measured on any property within designated noise zones either within or without the City to exceed the applicable noise standard. Each of the noise standards specified above shall be reduced by 5 dBA for impact, or predominant tone noise or for noises consisting of speech or music. In the event the noise source and the affected property are within different noise zones, the noise standards of the affected property shall apply.
[1] This standard does not apply to multifamily residence private balconies. Multifamily developments with balconies that do not meet the 65 dBA CNEL are required to provide occupancy disclosure notices to all future tenants regarding potential noise impacts.
Source: City Municipal Code (City 2015a).

The City's Municipal Code Noise Ordinance has not established any upper limits for construction noise because construction noise is temporary and will stop after project construction is complete. Section 6-8-205a of the City's Municipal Code Noise Ordinance regulates the timing of construction activities and includes special provisions for sensitive land uses. *Construction activities shall occur only between the hours of 7:00 a.m. and 7:00 p.m. Monday through Friday and between 9:00 a.m. and 6:00 p.m. on Saturday. No construction shall be permitted outside of these hours or on Sundays and federal holidays, except for Columbus Day, unless a temporary waiver is granted by the Chief Building Official or his or her authorized representative. Trucks, vehicles, and equipment that are making or are involved with material deliveries, loading, or transferring materials, equipment service, maintenance of any devices or appurtenances for or within any construction project in the City shall not be operated or driven on City streets outside of these hours or on Sundays and federal holidays unless a temporary waiver is granted by the City. Any waiver granted shall take into consideration the potential impact on the community. No construction activity will be permitted outside of these hours except in emergencies, including maintenance work on the City rights-of-way that might be required.*

Zoning Ordinance. Sections 5-8-4.A.5a and 5-8-4.A.5b of the City's Zoning Ordinance (City of Irvine, 2015b) establish requirements to minimize construction noise and vibration impacts. Although these requirements are intended for residential and mixed-use spaces in the Irvine Business Complex, the requirements listed below are applicable for the Project. Section 5-8-4.A.5a of the City's Zoning Ordinance requires that before the issuance of grading permits, the Project applicants shall incorporate the following measures as a note on the grading plan cover sheet to ensure that the greatest distance between noise sources and sensitive receptors during construction activities has been achieved:

- Construction equipment, fixed or mobile, shall be equipped with properly operating and maintained noise mufflers consistent with manufacturer's standards.
- Construction staging areas shall be located away from off-site sensitive uses during the later phases of project development.
- The project contractor shall place all stationary construction equipment so that emitted noise is directed away from sensitive receptors nearest the Project Site, whenever feasible.
- For construction of sound walls that have been incorporated into the project design, prior to construction of the building foundation, installation of temporary sound blankets (fences typically composed of poly-vinyl-chloride-coated outer shells with absorbent inner insulation) shall be placed along the boundary of the Project Site during construction activities.

Section 5-8-4.A.5b of the City's Zoning Ordinance requires that before the issuance of a grading permit, applicants for individual projects that involve vibration-intensive construction activities (e.g., pile drivers, jackhammers, and vibratory rollers) near sensitive receptors shall submit a noise and vibration analysis. If construction-related vibration is determined to exceed the FTA vibration annoyance criterion of 78 vibration decibels (VdB) for residential uses during the daytime (FTA, 2018), additional requirements, such as the use of less vibration-intensive equipment or construction techniques, shall be implemented during construction (e.g., drilled piles to eliminate use of a vibration-intensive pile driver). In the same FTA guidelines, 84 VdB is the vibration annoyance criterion for offices and non-sensitive areas.

4. METHODOLOGY

The methodologies for predicting noise and vibration levels from Project construction and operation are taken primarily from the general assessment methodology of the FTA Noise and Vibration Impact Assessment Manual with additional information from FHWA Roadway Construction Noise Model (RCNM) and Traffic Noise Model (TNM), as discussed in the following section.

4.1 Construction Noise and Vibration

Construction noise and vibration prediction procedures are covered in Section 7 of the FTA Manual and supplemented by reference information from the FHWA RCNM.

Construction Noise Prediction Procedure

Construction noise impacts were assessed by predicting construction noise levels using methods consistent with the FTA Noise and Vibration Manual and comparing these values to identified impact thresholds. This methodology starts with the reference noise level for each piece of construction equipment to be used

under conservative worst-case conditions for each identified construction phase. This value is adjusted for the distance from the source to the noise-sensitive receptor, the fractional portion of time that the equipment is operating at full power (acoustical usage factor), and any acoustical shielding that may be present (such as buildings or terrain), and then summing together the contributed noise from all sources.

Construction equipment rosters and usage are provided by the Project contractors to represent typical worst-case noise conditions. The acoustical contribution for each piece of equipment at each activity area is calculated using the following equation:

$$L_{eq} = L_{max(ref)} - 20\log\left(\frac{D}{D_{ref}}\right) + 10\log\left(\frac{AUF\%}{100}\right) + 10\log(N) - S$$

Where:

- L_{eq} = the equivalent sound level energy-averaged over the period of time over which the equipment is operating, in dBA
- $L_{max(ref)}$ = the maximum operating equipment sound level operating at full power as measured at the reference distance
- D = the distance between the operating equipment and the noise-sensitive receptor location (distances conservatively assumed to be from the receiver location to the acoustic center of the construction site)
- D_{ref} = the reference distance for the $L_{max(ref)}$, typically 50 feet
- AUF = the Acoustic Use Factor (typical fractional value of time that equipment is operating at full power)
- N = number of similar pieces of equipment operating in the same area
- S = the estimated noise reduction shielding value between that source and noise-sensitive receptor, in dBA

The acoustic contribution for all equipment assumed to be operating during the defined construction phase is summed together on an energy basis to determine the combined construction noise level for each studied noise-sensitive receptor. The equipment to be used for the various construction phases of the Project, selected from the RCNM equipment list, the reference maximum noise level (L_{max}) and acoustic use factor (AUF) are shown in Table 4-1 below.

Table 4-1 Acoustical Properties of Construction Equipment

Equivalent Type	L_{max} Ref dBA (50 feet)	AUF%
Auger Drill	84	20
Backhoe	78	40
Boring Jack Power Unit	83	50
Chain Saw	84	20
Compactor (ground)	83	20
Compressor (air)	78	40
Concrete Mixer Truck	79	40
Concrete Pump Truck	81	20
Concrete Saw	90	20
Crane	81	16
Dozer	82	40
Drill Rig Truck	79	20
Drum Mixer	80	50
Dump Truck	76	40
Excavator	81	40
Flat Bed Truck	74	40
Front End Loader	79	40
Generator (>25KVA)	81	50
Generator (<25KVA)	73	50
Gradall	83	40
Grader	85	40
Horizontal Boring Jack	82	25
Hoe Ram	90	20
Impact Pile Driver	101	20
Jackhammer	89	20
Man Lift	75	20
Pavement Scarafier	90	20
Paver	77	50
Pickup Truck	75	40
Pneumatic Tools	85	50
Pumps	81	50
Roller	80	20
Scraper	84	40
Shears (on backhoe)	96	40
Tractor	84	40
Vacuum Excavator	85	40
Vacuum Street Sweeper	82	10
Ventilating Fan	79	100
Vibrating Hopper	87	50
Vibratory Concrete Mixer	80	20
Warning Horn	83	5
Welder/Torch	74	40

Source: RCNM User Guide 2006, Table 1 (actual measured L_{max}), FTA 2018, Table 7-1.

Construction Vibration Prediction Procedure

Construction-related vibration is assessed using two different metrics. Peak Particle Velocity (PPV) in inches per second (in/sec) is used to assess potential structural damage from vibration, and Vibration Velocity Level (L_v) in VdB is used to assess human annoyance from vibration. These are calculated using the following equations.

Structural Damage Equation (PPV):

$$\mathrm{PPV} = \mathrm{PPV_{ref}} * \left(\frac{25}{\mathrm{D}}\right)^{1.5}$$

Where:

PPV = Peak Particle Velocity at the nearest structure

PPV_{ref} = the reference PPV value for a piece of equipment at reference distance of 25 feet

D = the distance from the construction equipment to the structure

Human Annoyance Equation (L_v)

$$\mathrm{L_v} = \mathrm{L_{v(ref)}} - 30\log\left(\frac{\mathrm{D}}{25}\right)$$

Where:

L_v = the Vibration Velocity Level at the nearest structure

$L_{v(ref)}$ = the reference L_v value for a piece of equipment at a reference distance of 25 feet

D = the distance from the construction equipment to the receiver

Not all construction equipment produces significant ground-borne vibration. Of the equipment listed to be used on this Project shown in Table 4-1, the equipment with the highest reference vibration level would be "Impact Pile Driver" which has a upper range reference PPV ref value of 1.518 in/sec at 25 feet and Lv(ref) equal to 112 VdB at 25 feet. Other construction equipment types expected to be used on the Project that generate ground borne vibration are listed in Table 4-2 (from FTA 2018, Table 7-4).

Potential vibration impacts for both damage and human annoyance are typically assessed using the closest distance to the potentially impacted structure.

Table 4-2 Reference Vibration Properties of Selected Construction Equipment

Equipment Type		PPV at 25 ft, in/sec	L_v, VdB at 25 ft.
Pile Driver (impact)	Upper range	1.518	112
	Typical	0.644	104
Pile Driver (sonic)	Upper range	0.734	105
	Typical	0.17	93
Vibratory Roller		0.21	94
Hoe-Ram		0.089	87
Large Bulldozer		0.089	87
Caisson/Auger Drilling		0.089	87
Loaded Trucks		0.076	86
Jackhammer		0.035	79
Small Bulldozer		0.003	58

Source: FTA 2018, Table 7-4

4.2 Operational Noise and Vibration

Operational Noise Prediction Procedure

Operational noise prediction for this Project follows the general noise prediction techniques identified in Section 4.4 of the FTA Transit Noise and Vibration Impact Assessment Manual, 2018, as detailed below.

The FTA manual includes procedures for the computation of noise levels for various types of stationary rail noise sources, including "Rail Yards and Shops". For this computation, it is assumed that the resulting noise level is inclusive of the typical variety of activities and noise sources normally associated with "Rail Yards and Shops" including rail vehicle movements coming in and out of revenue service, vehicle storage and inspection tracks, routine rail vehicle maintenance and refueling areas, vehicle wash stations, shop and storage building, and internal movement of worker and delivery vehicles. Existing mainline rail activity is considered part of the existing environment and therefore is excluded from the noise impact analysis. The equations used to calculate the L_{eq} and L_{dn} values at the various receptor locations are presented below.

$$L_{eq(1hr)} \text{ at 50 feet} = SEL_{ref} + 10*Log(N_T/20) - 35.6$$

Where:

$L_{eq(1hr)}$ = the Equivalent Sound Level over 1-hour (peak)
SEL_{ref} = Reference Sound Exposure Level (118 dBA for Rail Yard and Shops)
N_T = Train Movements During Peak Hour

The Day-Night Noise level (L_{dn}) is calculated from Daytime and Nighttime L_{eq} levels at 50 feet given number of train movements and then converted to L_{dn} with the following equation:

$$L_{dn} = 10*\log(15*10^{(L_d/10)} + 9*10^{((L_n+10)/10)})\text{-}13.8$$

Where:

Ldn = Day-Night Noise Level
Ld = Daytime L_{eq}
Ln = Nighttime L_{eq}

Finally, the distance correction for Stationary Sources is estimated using the following equation:

$$L_{rec} = L_{50ft} - 25*\log(D_{rec}/50) - S$$

Where:

Lrec = the resulting sound level at the receiver location, dBA
L50ft = the calculated source level at 50 feet (L_{eq} or L_{dn}), dBA
Drec = the distance from the source to the receiver, in feet
S = the shielding between the source and receiver locations, in dBA

In addition to the sound levels predicted from Yards and Shops as described above, operational traffic noise, including sound from staff trips and some heavy truck deliveries, was calculated for receivers along the haul route using the FHWA Traffic Noise Model Version 2.5, and those values added to the Yards and Shops noise source for impact assessment.

Operational Vibration Prediction Procedure

While operational ground vibration may be generated by some types of operational rail or industrial activity, no significant ground vibrations sources are anticipated from the operation of the maintenance facility.

5. IMPACT ANALYSIS

5.1 Construction Noise and Vibration

Construction activity for the Project was defined in terms of two construction phases. Phase 1 would consist of the primary build-out of the facility and would last up to 30 months in duration. Phase 2 is a secondary build-out of up to 24 months in duration. Both phases identify 13 sub-phases, including Survey, Clear and Grub, Site Utility/Electric, Demo, Earthwork, Foundations, Roadway/Paving, Buildings, Trackwork (ballasted and direct fixation), Major Equipment, and Commissioning, each with a defined set of equipment to be used (with combined total of over 50 individual types of equipment listed). It was assumed that all construction activity would be restricted to daytime hours between 7 AM and 7 PM as required by the City noise ordinance.

Resulting noise levels for each of the four identified noise-sensitive receptors were calculated in accordance with the procedures outlined in Section 4 and are reported in Table 5-1, below.

Table 5-1 Construction Noise Levels and Impacts Summary (Worst Case for All Phases)

Receiver ID/ Land Use	Impact Metric	Impact Threshold (L_{dn}/L_{eq})	Distance to Project Center (ft)	Acoustical Shielding (dBA)	Predicted Range (L_{dn}/L_{eq})	Impact
ST-1/Residential	L_{dn}	75	1275	5[1]	50-68	None
ST-2/Park	L_{eq}	80	1100	0	57-74	None
ST-3/Park	L_{eq}	80	1220	0	56-73	None
ST-4/Commercial	L_{eq}	80	650	5[2]	56-73	None

Notes:
[1] ST-1 receives estimated minimum 5 dBA shielding from construction activity due to existing 8-to-10-foot-high noise wall.
[2] ST-4 receives estimated minimum 5 dBA shielding due to intervening row of buildings.

The range of predicted construction values presented in Table 5-1 represent the predicted noise levels over the 30-month Phase 1 schedule (i.e. for ST-1, 50 dBA during the least noisy month up to 68 dBA during the noisiest month).

Construction vibration typically only generates potential impacts at existing structures within a maximum of a few hundred feet, and only then with the use of equipment with particularly high vibration levels such as vibratory roller and impact pile drivers. Of these, impact pile drivers were identified for potential use on just two construction sub-phases, Foundations and Bridges. The exact locations of the potential pile driving activity is currently unknown, but if pile driving is conducted within approximately 250 feet of an occupied commercial building, a short-term significant impact could occur with a predicted vibration level of 75 VdB or greater (corresponding to vibration annoyance for “frequent” events). Only the commercial buildings on the south/west side of the existing mainline tracks could potentially be within this distance.

Ground-borne vibration for construction activity would not be expected to approach potential damage thresholds at any nearby structures. The closest distance at which a pile driver might be to an existing building would be approximately 120 feet at existing commercial building south of mainline tracks, with an estimated vibration level from impact pile driving of 0.144 in/sec PPV, well below the damage threshold of 0.5 in/sec PPV for modern commercial buildings.

5.2 Operational Noise and Vibration

The following operations assumptions were used in calculating potential noise levels and impacts for the noise-sensitive land-uses near the Project.

- Train movements in and out of Maintenance Facility: Peak Hour, 10 daytime (9-10 PM) and 10 nighttime (6-7 AM)
- Vehicle Trips: Average hourly traffic volumes of 10 autos/hour + 1 heavy truck/hour daytime (7 AM to 10 PM), 3 autos/hour + 0 Heavy Trucks/hour nighttime (10 PM to 7 AM)

Table 5-2 below provides a summary of the operational noise level prediction and impact assessment. The Total Project noise level includes contributions from both on-site operational noise sources associated with Rail Shops and Yard as well as automobile and truck traffic in and out of the sight.

Table 5-2 Operational Noise Levels and Impacts Summary

Receiver info						Impact Thresholds (dBA)		Prediction (dBA)
ID	Land Use	Distance to Project Center (feet)	Analysis Metric	Existing Noise Level	Total Project-Only Sound Level	Moderate Impact Threshold	Severe Impact Threshold	Impact
ST-1	Residential	1275	L_{dn}	67	52*	63	67	None
ST-2	Park	1100	$L_{eq\text{-}1hr}$	55	41	61	66	None
ST-3	Park	1220	$L_{eq\text{-}1hr}$	60	39	63	68	None
ST-4	Industrial	650	$L_{eq\text{-}1hr}$	52	51	60	65	None

*Predicted project-only noise level at ST-1 includes contributions from both facility site and project-related traffic on adjacent local roads.

6. MITIGATION MEASURES

All operational noise and vibration levels as well as construction noise associated with the Project would not result in any impacts. The only construction impacts that could be considered significant would be construction vibration annoyance resulting from pile-driving equipment if these are used within 250 feet of an existing structure during Project construction. Only the commercial buildings on the south/west side of the existing mainline tracks could potentially be within this distance. The following mitigation measures should be implemented to reduce or eliminate vibration impacts associated with the use of impact pile drivers during construction:

MM-NOI-1 If feasible, relocate Project elements requiring pile driving to locations greater than 250 feet from occupied buildings.

MM-NOI-2 If MM-NOI-1 is not feasible, use a less intrusive form of pile insertion, such as pre-augured piling.

MM-NOI-3 Arrange to conduct pile driving activities during a period when the affected building(s) are not in use (such as Saturdays).

7. IMPACTS AFTER MITIGATION MEASURES

The only potential Project impacts are associated with vibration annoyance impacts associated with Pile Driving activity. Upon implementation of MM-NOI-1 through MM-NOI-3, all impacts can be reduced to less than significant.

8. REFERENCES

Federal Transit Administration, Transit Noise and Vibration Impact Assessment Manual, 2018. https://www.transit.dot.gov/sites/fta.dot.gov/files/docs/research-innovation/118131/transit-noise-and-vibration-impact-assessment-manual-fta-report-no-0123_0.pdf.

City of Irvine, 2015a, Noise Element of the Irvine General Plan, 2015 https://legacy.cityofirvine.org/civica/filebank/blobdload.asp?BlobID=20695#:~:text=maximum%20interior%20noise%20levels%20of,7%20a.m.%20for%20typical%20occupancy.

_____, 2015b,Municipal Code Irvine, Chapter 2, NOISE, https://library.municode.com/ca/irvine/codes/code_of_ordinances?nodeId=TIT6PUWO_DIV8PO_CH2NO

SCRRA, Metrolink System Map, October 2019, Available at: https://metrolinktrains.com/about/agency/

Appendix G
Technical Memorandum
Paleontological Resources

Metrolink Orange County Maintenance Facility

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REVISION	DESCRIPTION	DATE
0	Draft Paleontological Resources Technical Memorandum	01/08/21
1	Draft Paleontological Resources Technical Memorandum (Incorporating OCTA's comments)	4/27/21

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1. INTRODUCTION

The Southern California Regional Railroad Authority (SCRRA) Metrolink Commuter Rail System (Metrolink) is proposing to construct a new Orange County Maintenance Facility (hereafter referred to as "OCMF" or "the Project"). The Project would include several facilities including a transportation building, employee parking area, train-wash building, pump house, utility building, guard booth, equipment booth, sand silos, a maintenance facility, a maintenance facility extension, and 11 tracks. Approximately 80 employees would report to the Project. The Project consists of buildings that would have a total building area of approximately 90,000 square feet when combined. Metrolink currently operates two maintenance facilities across its service area: Central Maintenance Facility (CMF) in Los Angeles and Eastern Maintenance Facility (EMF) in San Bernardino County. Due to projected population expansion within its service area and the agency's goal to be prepared for the 2028 Los Angeles Summer Olympic Games, Metrolink will require an increased number of commuter rail services, as well as additional train storage and maintenance facilities associated with an increased fleet size. As a significant proportion of the expanded services will operate in Orange County, the Project would provide an optimal location for a new Metrolink maintenance facility. Metrolink's member agency, the Orange County Transportation Authority (OCTA), proposes to build this facility on an OCTA-owned parcel in the City of Irvine. OCTA is the lead agency under the California Environmental Quality Act (CEQA). The City of Irvine and SCRRA are the responsible agencies under CEQA.

The purpose of this memorandum is to present the results of a paleontological resources investigation and to describe the potential impacts to paleontological resources as defined by CEQA that may be associated with the Project.

2. PROJECT DESCRIPTION

2.1 PROJECT BACKGROUND

As a result of the projected population expansion within the five-county area (Orange County, Los Angeles County, San Bernardino County, Riverside County, and Ventura County) currently served by the SCRRA, Metrolink will require an increased number of commuter rail services to support the growth. Consequently, the Metrolink system (Figure 2.1-1) would require additional train storage and maintenance facilities to support an increased fleet size.

Figure 2.1-1 Metrolink System Map

Source: SCRRA (2019)

Metrolink's CMF facility is located on the east bank of the Los Angeles River near the Interstate 5 (I-5) and Interstate 10 (I-10) highways, just south of the location of the former Southern Pacific Taylor Yard. The CMF is currently near capacity, which will impact the ability to provide the necessary train servicing for planned service-expansion of various Metrolink lines throughout the system under the Southern California Optimized Rail Expansion (SCORE) program. By transferring a portion of the current fleet from CMF to the proposed OCMF (specifically the Orange County Line trains), capacity for the non-Orange County trains will be increased at CMF. The Orange County Line has the highest ridership within the Metrolink system; therefore, a maintenance facility to serve the Orange County area with sufficient storage and servicing capabilities for both locomotives and rail cars is critical to controlling operating costs. In order to optimize rail service in the region, the proposed facility development would need to be completed by 2028. The SCORE program may also require heavy overhaul capabilities at OCMF, subject to pending decisions regarding fleet technology and management.

The expansion of Orange County and overall Metrolink commuter rail service will ultimately require additional or expanded equipment servicing capabilities for both locomotives and rail cars. Since a significant portion of the fleet will be in Orange County, a maintenance facility located along the Metrolink route through Orange County would be the optimal location as it would reduce operating costs by limiting non-revenue moves to the existing SCRRA storage and maintenance facilities in the cities of Los Angeles and San Bernardino. The proposed maintenance facility would provide equipment to inspect, clean, and maintain cars and locomotives on a regular and efficient basis. Much of the inspection and maintenance activity is federally mandated and must be performed at specific intervals. The OCMF will also provide refueling services thus reducing fuel costs, reducing fuel consumption, and will reduce emissions. Currently trains operating in the Orange County Region must travel either the CMF or EMF for refueling, which are sometimes non-revenue runs. The location of the Project is on a 21.3-acre OCTA-owned parcel on Ridge Valley south of Marine Way in the City of Irvine, (Project Site). The Project Site is located within the boundaries of a closed military base (Marine Corps Air Station [MCAS] El Toro) formerly owned by the United States Department of the Navy (DON). After MCAS El Toro was closed, the site was quitclaimed by the Navy to Heritage Fields El Toro, LLC in 2011, and then by way of grant deed conveyed by Heritage Fields to the City of Irvine that same year. OCTA then purchased the fee ownership of the Project Site from the City of Irvine. Regional vehicle access to the Project Site is from I-5 at Sand Canyon Avenue. Local vehicle access is via Marine Way to Ridge Valley.

Prior to the current construction of the storage/set-out track, the Project Site was mostly vacant. The site currently includes 1,000-foot-long storage for miscellaneous rail equipment including temporary railroad bridges, signal houses, railroad ties, and signal components. Although not part of the Project, OCTA is currently installing a single 1,000-foot-long, single-ended storage track and fencing of the perimeter of the property to provide temporary storage of two trainsets and/or track maintenance equipment when necessary. There is a segment of an abandoned road, stormwater drains, and underground water transfer vault with a network of pipelines, valves and associated vents, that are currently not in use.

2.2 PROJECT DESCRIPTION

The OCMF would be located in the City of Irvine, on a 21.3-acre parcel owned by OCTA and adjacent to Marine Way and the Metrolink Orange subdivision between mileposts 183.50 and 184.00 on Metrolink's "Orange" Subdivision (Figure 2.2-1). The Project Site is located within Planning Area 51 of the updated City of Irvine General Plan, adopted in June 2015, and designated for the Great Park (formerly known as the Orange County Great Park (OCGP)) land use under the General Plan. Per the City's zoning ordinance, the proposed use is a conditionally allowable use under the existing zone; therefore, OCTA is submitting a Conditional Use Permit to the City of Irvine for approval,

The Project would be developed in two phases with an anticipated completion date of 2028. Phase 1 focuses on developing facilities needed for the storage and routine cleaning, inspection and servicing of the anticipated trainsets. The total area of the Phase 1 buildout would be approximately 20,996 square feet and would be comprised of the following facilities: the transportation building, employee parking area, train-wash building, pump house, utility building, guard booth, equipment booth and sand silos (Table 2.2-1). A total of 11 tracks would be built. The Phase 1 layout situates the train wash, fueling/sanding, and service and inspection tracks on the two tracks with the greatest tangent length, which are the ones nearest the railroad right of way ("ROW"). This is important in fitting a second fueling/sanding facility so that there is one at each end of the service and inspection platform to support having the locomotive at either end, all within tangent track. Additionally, six storage tracks and appurtenant features (air, water, head end power and toilet dump facilities) would be constructed. The storage tracks would be built near the middle of the site east of the service and inspection tracks. Phase 1 of the buildout would anticipate approximately 52 employees total throughout the entire day, split across three eight-hour shifts.

Table 2.2-1 Building Specifications

Building/Facility/Item	Building Area	Building Height
Transportation Building	7,495 sq. ft.	20 ft
Train Wash Building	11,110 sq. ft.	21 ft
Maintenance Building	40,392 sq. ft.	48 ft
Maintenance Building Expansion	27,880 sq. ft.	---
Utility Building	981 sq. ft.	20 ft
Pump House	750 sq. ft.	14 ft
Guard Booth	36 sq. ft.	---
Equipment Booth	48 sq. ft.	---
Sand Silos (2 Total)	576 sq. ft.	---
Total	89,268 sq. ft.	

Source: Gannett Fleming, Metrolink (February 2022)
Note: sq. ft. = square feet; ft = feet

A runaround track would be provided between the service and inspection tracks and storage tracks. Additionally, two temporary stub-ended set out tracks would be provided in the Phase 1 layout that occupies the footprint of the future shop tracks (one at the north and one at the south end of the yard). These set out tracks would be converted to shop access tracks in Phase 2 and, therefore, would no longer be available as set out tracks. A new set out track would then be provided as part of Phase 2.

A transportation building that would be utilized for administrative purposes is also included in Phase 1. This building would house managerial offices, welfare spaces for train crews and on-site personnel. This facility would include restrooms, showers, locker rooms, a break/day room, vending space and a kitchenette.

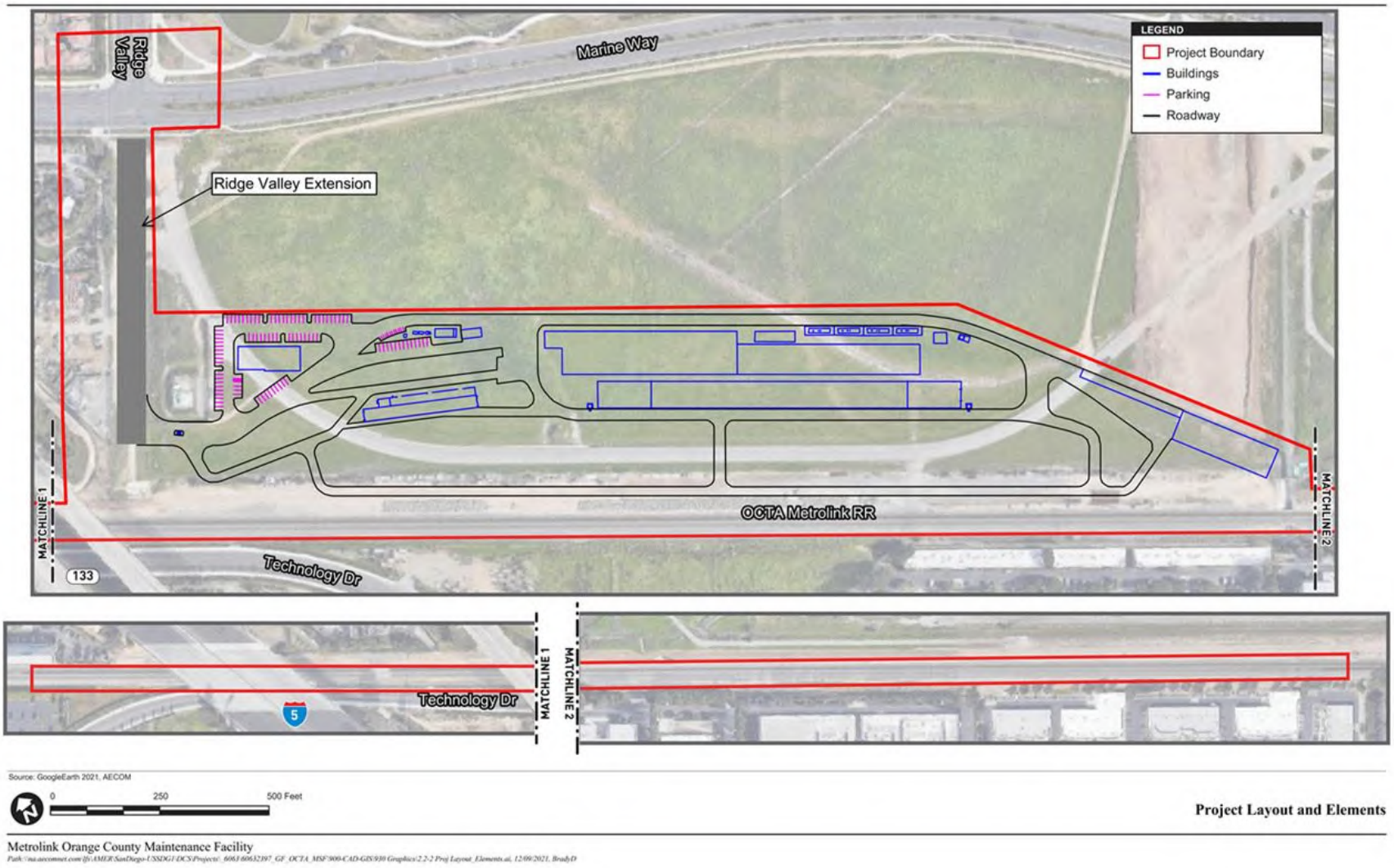
Parking would be provided for staff reporting to the site. Fire department compliant roadways would be developed to permit circulation of the site for Metrolink vehicles as well as delivery trucks (sand and fuel).

Phase 2 completes the full buildout of the Project. It would include development of the maintenance shop building and its future extension that would comprise of a total buildout area of 68,272 square feet (**Error! Reference source not found.**). The shop would have capabilities to perform regular three-month, six-month and one-year preventive maintenance cycles on trainsets. Phase 2 of the buildout would consist of approximately 28 employees. With the full buildout of Phase 1 and Phase 2, approximately 80 employees are expected to access the Project Site daily, split across three eight-hour shifts.

Access to the OCMF would require a roadway extension along Ridge Valley from the intersection of Ridge Valley and Marine Way. The Project includes the southern extension of Ridge Valley Road from Marine Way and associated traffic signal improvements to provide access to the OCMF.

The 11 new east and west lead tracks, as discussed in this section above, would be constructed within the existing railroad corridor between MP 183.0 and MP 184.00 on Metrolink's "Orange" Subdivision to connect the existing mainline railroad to the proposed OCMF rail yard. A new single span concrete bridge over the Bee Canyon Channel (Channel) would be built for the east lead track. A segment of the Channel and utilities that are found to be in conflict would be lowered by approximately 2.5 feet to facilitate the construction of the bridge.

Figure 2.2-1 Project Layout and Elements



Source: ESRI (2021), OCTA (2021)

3. REGULATORY FRAMEWORK

3.1 CALIFORNIA ENVIRONMENTAL QUALITY ACT

CEQA (Public Resources Code [PRC] Sections 21000–21177) is intended to prevent significant avoidable impacts to the environment by requiring feasible alternatives or mitigation measures. If cultural resources are identified within the Project Site, the sponsoring agency must take those resources into consideration when evaluating the Project's effects. The level of consideration may vary with the importance of the cultural resource.

Paleontological resources are not explicitly mentioned in the text of California Register of Historical Resources (CRHR) (PRC Section 5024.1, Title 14 California Code of Regulations [CCR], Section 4852). However, they are specifically identified for protection in Section V(c) of Appendix G, the "Environmental Checklist Form," which asks whether the Project would "Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?"

A paleontological resource is typically considered "unique" if it provides significant information about past environments or ancient life.

3.2 PUBCIC RESOURCES CODE SECTION 5097.5

PRC Section 5097.5 states that no person shall knowingly and willfully excavate upon, or remove, destroy, injure, or deface any historic or prehistoric ruins, burial grounds, archaeological or vertebrate paleontological site, including fossilized footprints, inscriptions made by human agency, or any other archaeological, paleontological, or historical feature, situated on public lands, except with the express permission of the public agency having jurisdiction over such lands. Violation of this section is a misdemeanor. "Public lands" refers to land owned by, or under the jurisdiction of, the state, or any city, county, district, authority, or public corporation, or any agency thereof.

4. METHODOLOGY

A paleontological resources assessment was obtained for this Project from the Natural History Museum of Los Angeles County (LACM). Pertinent geological information was reviewed for the Project extent, including a review of paleontological literature; no paleontological field survey was performed. Paleontological sensitivity of the Project Site was addressed, and potential paleontological mitigation measures offered, as appropriate.

5. ENVIRONMENTAL SETTING

5.1 GEOLOGIC OVERVIEW

Geologic maps indicate that the entire Project Site is covered with surficial deposits of Qyf, (Morton and Miller, 2006). These deposits consist of young Quaternary alluvial fan deposits. They consist of slightly consolidated to cemented deposits of unsorted boulders, cobbles, gravels, and sands deposited by fluvial

processes. Shallow Qyf deposits date to the Holocene (approximately 11,650 calibrated radiocarbon years before present to today). The guidelines of the Society of Vertebrate Paleontology state that fossils as young as 5,000 years can be significant paleontological resources. But older Qyf deposits may date to the late Pleistocene (approximately 129,000 to 11,650 calibrated radiocarbon years before present). Thus, the sensitivity of Qyf deposits for significant paleontological remains increases with depth. Moreover, in this vicinity Qof deposits, which consist of older Quaternary alluvium dating to the late to middle Pleistocene, typically underlies the Qyf younger Quaternary alluvium at varying depths. Older Quaternary alluvium, which also dates to the Pleistocene, has yielded significant fossils in the Irvine area.

5.2 ARCHIVAL RESEARCH

Archival research included a records search conducted by the Los Angeles County Museum of Natural History (NHM) and a review of reports in AECOM's library. AECOM requested a paleontological records search be conducted by the NHM on July 8, 2020. Dr. Samuel MacLeod responded on behalf of the museum in a letter dated July 22, 2020. The records search found that no paleontological localities are documented within the Project Site. However, fossil localities are documented nearby in older Quaternary deposits (Table 5.2-1).

The closest NHM vertebrate fossil locality from older Quaternary deposits is LACM 7867, approximately 0.6-mile northeast of the Project Site near the intersection of C Street and 5th Street, that produced fossil specimens of pocket gopher, *Thomomys*, at a depth of 25 feet below the surface.

The next closest vertebrate fossil from older Quaternary deposits is in Borrego Canyon, located approximately one mile east of the Project Site. Two fossil localities are found there. The lower one, 7.5 feet below the surface, produced remains of ground sloth, reptiles, amphibians, and freshwater fish (Stewart, 2006). Directly over that horizon is another that produces fossils of Pleistocene plants including manzanita and has been radiocarbon dated at about 28,000 calibrated radiocarbon years before present.

The next closest vertebrate locality is LACM 7713, located approximate 1.5 miles southwest of the Project Site on the western side of the Laguna Freeway (State Route 133 [SR-133]) at the southern end of the interchange with the San Diego Freeway (I-405), that produced a fossil specimen of ground sloth, *Mylodontidae*, from unstated but shallow depth.

Table 5.2-1. Previously Recorded Paleontological Resources Closest to the Project

Locality	Location	Age/ Formation	Findings
LACM 7867	Immediately northeast of the Project Site near the intersection of C Street and 5th Street, 25 feet below surface.	Quaternary deposit	*Thomomys* (pocket gopher)
LACM 7713	Southwest of the Project Site on the western side of the Laguna Freeway (SR-133) at the southern end of the interchange with the San Diego Freeway (I-405), from unstated but shallow depth.	Quaternary deposit	*Mylodontidae* (ground sloth)
Borrego Canyon Wash	Immediately east of the Project Site in Borrego Canyon Wash at a depth of 5 feet.	Quaternary deposit	*Arctostaphylos* manzanita)
Borrego Canyon Wash	Immediately east of the Project Site in Borrego Canyon Wash at a depth of 7.5 feet.	Quaternary deposit	Freshwater fish, amphibians, reptiles, ground sloth

Source: NHM (2020)

6. IMPACTS ANALYSIS

The sensitivity of the Project to encounter significant fossil remains appears high. Geologic maps indicate that the surficial deposits at the Project Site consist of younger Quaternary alluvium. These Holocene deposits are too young to typically contain significant fossils. The depth of excavations required for the Project could encounter Pleistocene horizons as shallow as 5 feet from the existing surface elevation. Moreover, soils at very shallow depths can reasonably be assumed to have been disturbed in the recent past by grading, by utilities excavations, and by activities related to the railroad and Marine Corps Station El Toro. However, the conditions at the Project Site are unknown.

Nevertheless, it is possible that the Project would encounter older Qyf deposits or Qof deposits during excavations. Unknown fossil resources may exist within these deposits, which have yielded significant fossils in the near vicinity of the Project. The sensitivity for the Project to encounter significant fossils increases with depth.

7. MITIGATION MEASURES

It is not anticipated that the Project would impact known paleontological resources. However, the possibility exists for the Project to encounter unknown paleontological resources in the course of excavation, if excavations exceed a depth of 5 feet. The following mitigation measures are recommended to reduce any impacts to unknown paleontological resources encountered during excavations to a less than significant level.

MM-PAL-01 **Worker Environmental Awareness Program.** Prior to construction, OCTA shall retain a qualified paleontologist who meets the requirements to be included in Orange County's list of qualified paleontologists. The qualified paleontologist shall prepare a Worker Environmental Awareness Program (WEAP). The WEAP will describe the types of resources that may be encountered during construction, the laws protecting those resources, and the procedures to follow when finds are encountered. The WEAP will be presented either in person or in video form to all construction employees involved in ground-disturbing activities before they begin work at the Project Site. If Project excavations are expected to exceed a depth of 5 feet below the surface, the qualified paleontologist shall prepare a Paleontological Resources Monitoring and Mitigation Plan that includes sampling and wet screening of sediment samples.

MM-PAL-02 **Response to Unanticipated Paleontological Finds.** If buried paleontological resources are uncovered during construction, all work shall be halted in the vicinity of the discovery until a qualified paleontologist can visit the site of discovery and assess the significance of the resource and, if necessary, recommend treatment.

8. IMPACTS AFTER MITIGATION

There are no known paleontological resources that would be impacted by the Project. Implementation of Mitigation Measure MM-PAL-01 would contribute to the successful identification of unanticipated fossil deposits that are encountered during construction. In the event that any unknown paleontological resources are found during construction, implementation of Mitigation Measure MM-PAL-02 would reduce any potential impacts to less than significant.

9. PREPARER'S QUALIFICATIONS

Dr. Marc Beherec has worked in the field of cultural resources management for approximately 20 years. He obtained his B.A. in Anthropology with a Geology minor from the University of Texas, Austin, and his M.A. and Ph.D. in Anthropology from the University of California, San Diego. He coordinated paleontological monitoring for various local agencies and assisted in the preparation of paleontological impact studies for the purposes of CEQA, as well as paleontological monitoring plans and memoranda documenting the results of paleontological monitoring.

Dr. Joe Stewart is a vertebrate paleontologist with over 40 years of experience in paleontology and 30 years of experience in the geology and paleontology of California, particularly in Merced, Fresno, Kern, Santa Barbara, Los Angeles, Orange, San Bernardino, Riverside, Imperial, and San Diego counties. Dr. Stewart has been involved in the permitting or construction of more than ten power plants and has directed the paleontological monitoring and mitigation program for Path 15, a major transmission line Project. He is also a certified paleontologist for the Counties of Orange and Riverside. His publications include 40 peer-reviewed articles in books and journals. His research specialties are fossil fishes and Pleistocene vertebrate faunas.

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SCRRA, Metrolink System Map, October 2019, Available at: https://metrolinktrains.com/about/agency/

Appendix H
Technical Memorandum
Traffic

Metrolink Orange County Maintenance Facility

Prepared for:

Orange County Transportation Authority

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June 2022

REVISION	DESCRIPTION	DATE
0	Draft Traffic Technical Memorandum	01/26/21
1	Draft Traffic Technical Memorandum (Incorporating OCTA's comments)	03/17/21
2	Draft Traffic Technical Memorandum (Incorporating OCTA's comments)	10/4/2021
3	Draft Traffic Technical Memorandum (Incorporating City of Irvine's comments on the Conditional Use Permit)	2/7/2022
4	Draft Traffic Technical Memorandum (Incorporating City of Irvine's comments on the Conditional Use Permit)	2/16/2022

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1. INTRODUCTION

The Southern California Regional Railroad Authority (SCRRA) Metrolink Commuter Rail System (Metrolink) is proposing to construct a new Orange County Maintenance Facility (hereafter referred to as "OCMF" or "the Project"). The Project would include several facilities including a transportation building, employee parking area, train-wash building, pump house, utility building, guard booth, equipment booth, sand silos, a maintenance facility, a maintenance facility extension, and 11 tracks. The Project consists of buildings that, when combined, would have a total building area of approximately 90,000 square feet. Approximately 80 employees would report to the Project. Metrolink currently operates two maintenance facilities across its service area: Central Maintenance Facility (CMF) in Los Angeles and Eastern Maintenance Facility (EMF) in San Bernardino County. Due to projected population expansion within its service area and the agency's goal to be prepared for the 2028 Los Angeles Summer Olympic Games, Metrolink will require an increased number of commuter rail services, as well as additional train storage and maintenance facilities associated with an increased fleet size. As a significant proportion of the expanded services will operate in Orange County, the Project would provide an optimal location for a new Metrolink maintenance facility. Metrolink's member agency, the Orange County Transportation Authority (OCTA), proposes to build this facility on an OCTA-owned parcel in the City of Irvine. OCTA is the lead agency under the California Environmental Quality Act (CEQA). The City of Irvine and SCRRA are the responsible agencies under CEQA.

This traffic study has been prepared to identify the short-term traffic deficiencies (level of service [LOS]) and CEQA transportation impacts (vehicle miles travelled [VMT]) resulting from the Project. The study meets the requirements of a Limited Scope Traffic Study as defined by the City of Irvine (City) and has been prepared in accordance with applicable sections of the City of Irvine Traffic Study Guidelines (November 2021) and the City of Irvine Transportation Design Procedures (February 2007).

2. PROJECT DESCRIPTION

2.1 PROJECT BACKGROUND

As a result of the projected population expansion within the five-county area (Orange County, Los Angeles County, San Bernardino County, Riverside County, and Ventura County) currently served by the SCRRA, Metrolink will require an increased number of commuter rail services to support the growth. Consequently, the Metrolink system (Figure 2.1-1) will require additional train storage and maintenance facilities to support an increased fleet size.

Figure 2.1-1 Metrolink System Map

Source: SCRRA (2019)

Metrolink's CMF facility is located on the east bank of the Los Angeles River near the Interstate 5 (I-5) and Interstate 10 (I-10) highways, just south of the location of the former Southern Pacific Taylor Yard. The CMF is currently near capacity, which will impact the ability to provide the necessary train servicing for planned service-expansion of various Metrolink lines throughout the system under the Southern California Optimized Rail Expansion (SCORE) program. By transferring a portion of the current fleet from CMF to the proposed OCMF (specifically the Orange County Line trains), capacity for the non-Orange County trains will be increased at CMF. The Orange County Line has the highest ridership within the Metrolink system; therefore, a maintenance facility to serve the Orange County area with sufficient storage and servicing capabilities for both locomotives and rail cars is critical to controlling operating costs. In order to optimize rail service in the region, the proposed facility development would need to be completed by 2028. The SCORE program may also require heavy overhaul capabilities at OCMF, subject to pending decisions regarding fleet technology and management.

The expansion of Orange County and overall Metrolink commuter rail service will ultimately require additional or expanded equipment servicing capabilities for both locomotives and rail cars. Since a significant portion of the fleet will be in Orange County, a maintenance facility located along the Metrolink route through Orange County would be the optimal location as it would reduce operating costs by limiting non-revenue moves to the existing SCRRA storage and maintenance facilities in the cities of Los Angeles and San Bernardino. The proposed maintenance facility would provide equipment to inspect, clean, and maintain cars and locomotives on a regular and efficient basis. Much of the inspection and maintenance activity is federally mandated and must be performed at specific intervals. The OCMF will also provide refueling services thus reducing fuel costs, reducing fuel consumption, and will reduce emissions. Currently trains operating in the Orange County Region must travel either the CMF or EMF for refueling, which are sometimes non-revenue runs. The location of the Project is on a 21.3-acre OCTA-owned parcel on Ridge Valley south of Marine Way in the City of Irvine (Project Site). The Project Site is located within the boundaries of a closed military base (Marine Corps Air Station [MCAS] El Toro) formerly owned by the United States Department of the Navy (DON). After MCAS El Toro was closed, the site was quitclaimed by the Navy to Heritage Fields El Toro, LLC in 2011, and then by way of grant deed conveyed by Heritage Fields to the City of Irvine that same year. OCTA then purchased the fee ownership of the Project Site from the City of Irvine. Regional vehicle access to the Project Site is from Interstate 5 (I-5) at Sand Canyon Avenue. Local vehicle access is via Marine Way to Ridge Valley.

Prior to the current construction of the storage/set-out track, the Project Site was mostly vacant. The site currently includes 1,000-foot-long storage for miscellaneous rail equipment including temporary railroad bridges, signal houses, railroad ties, and signal components. Although not part of the Project, OCTA is currently installing a single 1,000-foot-long, single-ended storage track and fencing of the perimeter of the property to provide temporary storage of two trainsets and/or track maintenance equipment when necessary. There is a segment of an abandoned road, stormwater drains, and underground water transfer vault with a network of pipelines, valves and associated vents, that are currently not in use.

2.2 PROJECT DESCRIPTION

The OCMF would be located in the City of Irvine, on a 21.3-acre parcel owned by OCTA and adjacent to Marine Way and the Metrolink Orange subdivision between mileposts 183.50 and 184.00 on Metrolink's "Orange" Subdivision (Figure 2.2-1). The Project Site is located within Planning Area 51 of the updated City of Irvine General Plan, adopted in June 2015, and designated for the Great Park (formerly known as the Orange County Great Park (OCGP)) land use under the General Plan. Per the City's zoning ordinance, the proposed use is a conditionally allowable use under the existing zone; therefore, OCTA is submitting a Conditional Use Permit to the City of Irvine for approval.

The Project would be developed in two phases with an anticipated completion date of 2028. For traffic analysis purposes, the Project is assumed to be fully built-out by short-term interim year. Phase 1 focuses on developing facilities needed for the storage and routine cleaning, inspection and servicing of the anticipated trainsets. The total area of the Phase 1 buildout would be approximately 20,996 square feet and would be comprised of the following facilities: the transportation building, employee parking area, train-wash building, pump house, utility building, guard booth, equipment booth and sand silos (Table 2.2-1). A total of 11 tracks would be built. The Phase 1 layout situates the train wash, fueling/sanding, and service and inspection tracks on the two tracks with the greatest tangent length, which are the ones nearest the railroad right of way ("ROW"). This is important in fitting a second fueling/sanding facility so that there is one at each end of the service and inspection platform to support having the locomotive at either end, all within tangent track. Additionally, six storage tracks and appurtenant features (air, water, head end power and toilet dump facilities) would be constructed. The storage tracks would be built near the middle of the site east of the service and inspection tracks. Phase 1 of the buildout would anticipate approximately 52 employees total throughout the entire day, split across three eight-hour shifts.

Table 2.2-1 Building Specifications

Building/Facility/Item	Building Area	Building Height
Transportation Building	7,495 sq. ft.	20 ft
Train Wash Building	11,110 sq. ft.	21 ft
Maintenance Building	40,392 sq. ft.	48 ft
Maintenance Building Expansion	27,880 sq. ft.	---
Utility Building	981 sq. ft.	20 ft
Pump House	750 sq. ft.	14 ft
Guard Booth	36 sq. ft.	---
Equipment Booth	48 sq. ft.	---
Sand Silos (2 Total)	576 sq. ft.	---
Total	89,268 sq. ft.	

Source: Gannett Fleming, Metrolink (2022)

Note: sq. ft. = square feet; ft = feet

A runaround track would be provided between the service and inspection tracks and storage tracks. Additionally, two temporary stub-ended set out tracks would be provided in the Phase 1 layout that

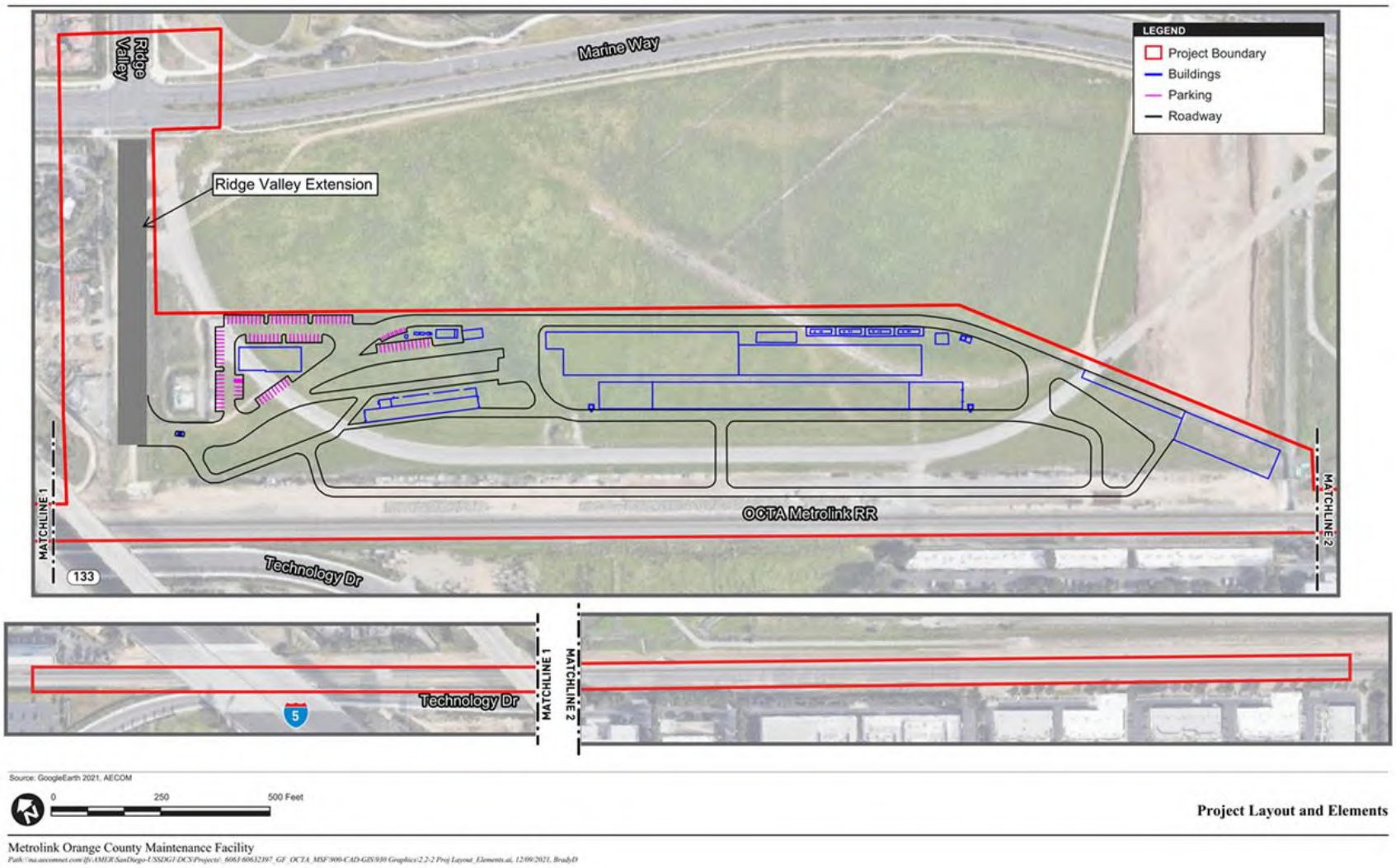
occupies the footprint of the future shop tracks (one at the north and one at the south end of the yard). These set out tracks would be converted to shop access tracks in Phase 2 and, therefore, would no longer be available as set out tracks. A new set out track would then be provided as part of Phase 2.

A transportation building that would be utilized for administrative purposes is also included in Phase 1. This building would house managerial offices, welfare spaces for train crews and on-site personnel. This facility would include restrooms, showers, locker rooms, a break/day room, vending space and a kitchenette. Approximately 120 automobile parking spaces would be provided for staff reporting to the site. Fire department compliant roadways would be developed to permit circulation of the site for Metrolink vehicles as well as delivery trucks (sand and fuel).

Phase 2 completes the full buildout of the Project. It would include development of the maintenance shop building and its future extension that would comprise of a total buildout area of 68,272 square feet (Table 2.2-1). The shop would have capabilities to perform regular three-month, six-month, and one-year preventive maintenance cycles on trainsets. Phase 2 of the buildout would consist of approximately 28 employees. With the full buildout of Phase 1 and Phase 2, approximately 80 employees are expected to access the Project Site daily, split across three eight-hour shifts.The 11 new east and west lead tracks, as discussed in this section above, would be constructed within the existing railroad corridor between MP 183.0 and MP 184.00 on Metrolink's "Orange" Subdivision to connect the existing mainline railroad to the proposed OCMF rail yard. A new single span concrete bridge over the Bee Canyon Channel (Channel) would be built for the east lead track. A segment of the Channel and utilities that are found to be in conflict would be lowered by approximately 2.5 feet to facilitate the construction of the bridge.

Regional vehicle access to and from the Project Site is provided primarily by I-5 at Sand Canyon Avenue, with supplemental access by State Route (SR) 133, which provides connections to SR-241 and I-405. Local vehicle access is provided by Marine Way and Ridge Valley. Direct access in and out of the Project Site would be provided by a driveway opening onto a dead-end (cul-de-sac) extension of Ridge Valley southwest from Marine Way. A detailed site plan showing the Ridge Valley extension and proposed driveway is included in Attachment B.

Figure 2.2-1 Project Layout and Elements



Source: ESRI (2021), OCTA (2021)

3. ANALYSIS METHODOLOGY AND APPROACH

For reference, the scope of work for this traffic analysis, as submitted to the City of Irvine, is included as Attachment A to this technical memorandum.

3.1 STUDY AREA

The roadway network in the vicinity of the Project Site is illustrated in Figure 3.2-1.

The study area includes the following four signalized study intersections (illustrated in Figure 3.2-1) and three study roadway segments:

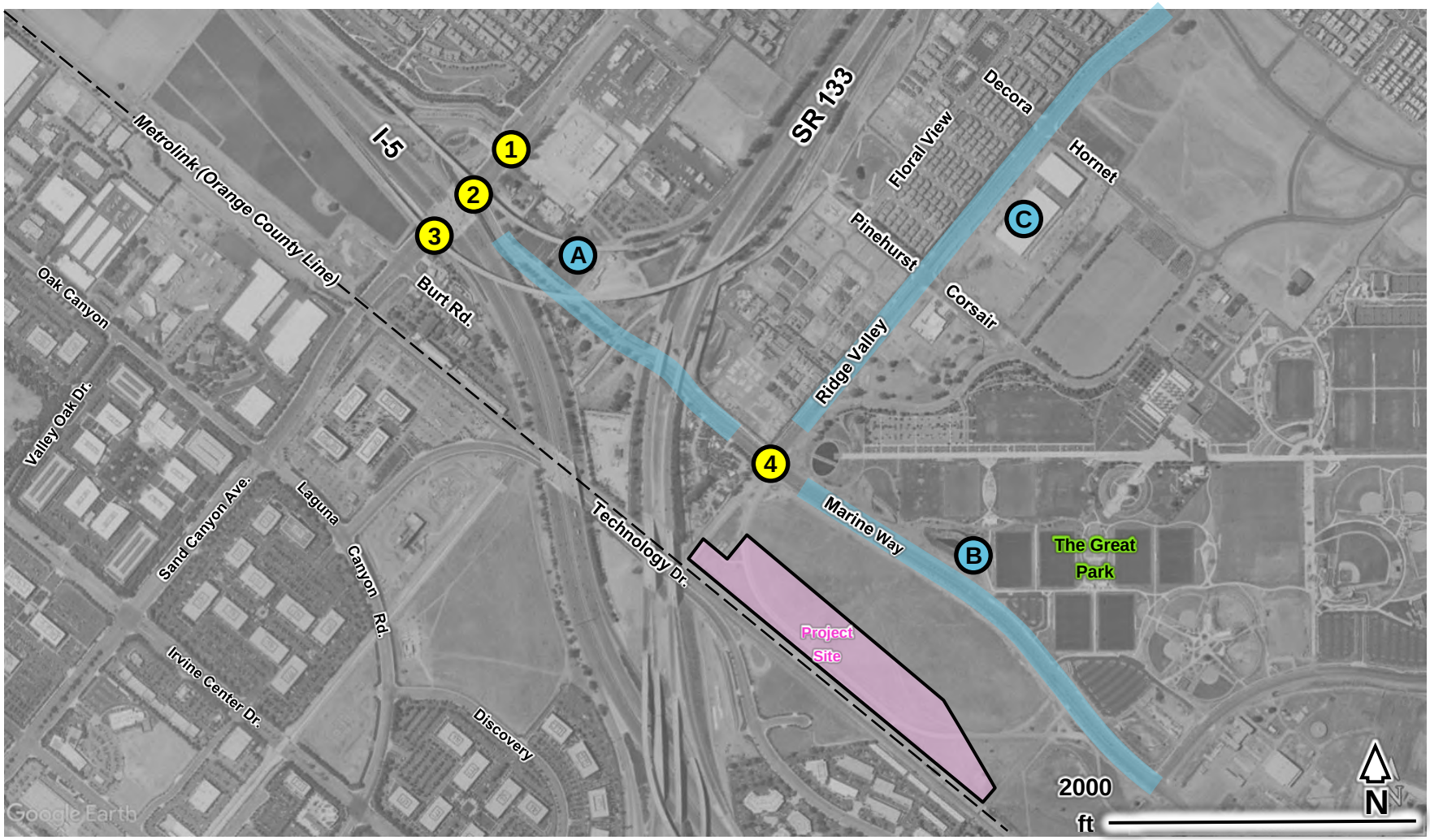
- **Study intersections:**
    1. Sand Canyon Avenue / I-5 Northbound Ramps
    2. Sand Canyon Avenue / Marine Way
    3. Sand Canyon Avenue / I-5 Southbound Ramps
    4. Ridge Valley / Marine Way
- **Study roadway segments:**
    A. Marine Way between Sand Canyon Avenue and Ridge Valley
    B. Marine Way east of Ridge Valley
    C. Ridge Valley between Great Park Boulevard and Marine Way

3.2 PERFORMANCE CRITERIA

Intersections and Roadway Segments

Peak-hour operations at the study intersections were analyzed according to the intersection capacity utilization (ICU) methodology, which compares the volume-to-capacity (v/c) ratios of conflicting turn movements at an intersection to identify the critical movements for each intersection approach. The v/c ratios for the identified critical movements are then summed together to determine the overall v/c ratio (or ICU) of the intersection, which can then be expressed in terms of LOS, where LOS A represents free-flow conditions and LOS F represents operations exceeding the capacity of the intersection. The analysis includes parameters set by the City for ICU calculations, including lane capacity, right-turn treatment, and clearance intervals.

Figure 3.2-1 Study Intersections



Source: Google Earth (2018)

The relationship between ICU and LOS is summarized in Table 3.2-1.

Table 3.2-1 Level of Service Definitions

Level of service	v/c range (ICU and roadway segments)	Delay range (HCM, signalized intersections)
A	$0.00 \leq x \leq 0.60$	$x \leq 10.0$
B	$0.61 \leq x \leq 0.70$	$10.0 < x \leq 20.0$
C	$0.71 \leq x \leq 0.80$	$20.0 < x \leq 35.0$
D	$0.81 \leq x \leq 0.90$	$35.0 < x \leq 55.0$
E	$0.91 \leq x \leq 1.00$	$55.0 < x \leq 80.0$
F	$1.00 < x$	$80.0 < x$

Source: *City of Irvine Traffic Study Guidelines* (June 2020); Transportation Research Board, *Highway Capacity Manual* (2017)

For signalized intersections under the jurisdiction of the California Department of Transportation (Caltrans), LOS was also calculated according to the Highway Capacity Manual (HCM) methodology [Transportation Research Board (TRB), 2017].[(1)] The HCM methodology determines LOS based on average delay (in seconds per vehicle) at the intersection, as summarized in Table 3.2-1.

For roadway segments, v/c ratios were calculated using theoretical daily capacities (as defined in the *City of Irvine Traffic Study Guidelines*) by roadway type (as defined in the Circulation Element of the City's General Plan), as summarized in Table 3.2-2.

According to the *City of Irvine Traffic Study Guidelines* and consistent with the City's General Plan, acceptable conditions are generally defined as LOS D or better, calculated according to the City's ICU methodology. The City applies several special exceptions for specific locations and / or development sites, but none of these exceptions apply to the study intersections and roadway segments analyzed in this study.

The City applies the following performance criteria to identify whether a project results in, or substantially contributes to, an LOS deficiency:

- A location is at an acceptable LOS in the baseline condition and the project causes the location to become deficient; or
- A location is deficient (i.e., at unacceptable LOS) in the baseline condition and the project causes the location to further deteriorate by two percent or more.[(2)]

(1) HCM-based results are presented for informational purposes only, and are not used in the determination of significant impacts.

(2) For v/c ratios, the two-percent threshold is applied as an increase of 0.02 or greater in the v/c ratio (based on the City's ICU methodology for intersections and daily capacity methodology for roadway segments).

Table 3.2-2 Theoretical Daily Capacity of Roadways

Facility type	Lanes	Capacity†
Freeway	10	210,000
	8	176,000
	6	135,000
	4	90,000
Freeway ramps	2	22,000
	1	16,000
Expressway	6	135,000
Major highway	8	72,000
	6	54,000
Primary highway	4	32,000
Secondary highway	4	28,000
Commuter	2	13,000
Commuter (rural)	2	18,000

Source: *City of Irvine Traffic Study Guidelines* (June 2020)
Notes: Capacity may be interpolated for roadways that do not specifically fall into one of the facility type–lane combinations indicated above.
† vehicles per day of the roadway

For roadway segments determined to be deficient based on daily capacity, the City requires an additional peak-hour link analysis (PHLA) to make a final LOS deficiency determination. The peak-hour link analysis determines v/c ratios for each direction of the roadway segment, for both the weekday a.m. and p.m. peak hours.[3] The roadway capacity is determined by multiplying the number of lanes (at an appropriate mid-block location) by a lane capacity of 1,600 vehicles per hour (vph). Where the distance between controlled intersections is one mile or more, the assumed lane capacity is increased to 2,000 vph.

Where a project is determined to result in or substantially contribute to a LOS deficiency, the given project is required to improve operations to baseline conditions or better.

Transportation Design Procedures

The proposed vehicle access—including the Project's driveway and the proposed cul-de-sac extension of Ridge Valley—were analyzed based on the design criteria described in the *City of Irvine Transportation Design Procedures* (June 2020). The Transportation Design Procedures (TDPs) establish uniform policies and procedures for reviewing traffic design plans within the City and are used in this study to evaluate roadway design as it relates to the Project. Discussion and analysis of applicable design criteria are provided in later sections of this study.

[3] The a.m. and p.m. peak hours are typically defined as the peak 60-minute periods (i.e., four consecutive 15-minute periods) with the highest total intersection volume within each of the a.m. and p.m. peak periods (7:00–9:00 a.m. and 4:00–6:00 p.m., respectively).

3.3 ANALYSIS SCENARIOS

Given the size and nature of the Project, this study is designed to meet the City's requirements for a Limited Scope Traffic Study, and includes analysis of the following scenarios:

- **Existing Baseline**
  This scenario represents existing conditions in 2020, assuming the continuation of traffic levels and growth trends prior to the shelter-in-place restrictions and other effects associated with the COVID-19 pandemic.
- **Existing Baseline plus Project**
  This scenario represents the Existing Baseline scenario plus the effects of the Project, including Project-generated traffic.
- **Short-Term Interim Year Baseline**
  This scenario represents a five-year horizon (2025) beyond the Existing Baseline scenario, and accounts for development projects approved by the City and expected to be completed by that time.
- **Short-Term Interim Year Baseline plus Project**
  This scenario represents the Short-Term Interim Year Baseline scenario plus the effects of the Project, including Project-generated traffic.

3.4 COMMITTED IMPROVEMENTS

Currently, Marine Way intersects Sand Canyon Avenue in between the two ramp intersections at I-5's interchange with Sand Canyon Avenue. While the portions of Marine Way approaching Sand Canyon Avenue and Ridge Valley are built to a minimum cross-section of four lanes, the mid-block portion crossing over the Marshburn Channel flood control facility only features two lanes.

The City is actively working on a future realignment of Marine Way at its northern end intersecting Sand Canyon Avenue. The new alignment would begin approximately where Marine Way passes underneath SR 133, swinging to the northeast along the south edge of the Caltrans District 12 Transportation Management Center and the OCTA's Sand Canyon Bus Base and tying into Sand Canyon Avenue as the southern leg of the existing intersection at the I-5 Northbound Ramps. The realigned segment would feature a minimum cross-section of four lanes for its entire length.

To account for the Marine Way realignment, the Short-Term Interim Year scenarios each include two alternatives: Alternative 1 assuming Marine Way as it is currently, and Alternative 2 assuming the planned realignment.

City of Irvine staff also identified a future lane striping modification at the Sand Canyon Avenue / Marine Way intersection proposed as part of a separate development on the nearby Traveland site. These modifications would convert one of the southbound left-turn lanes into a through lane, leaving only a single southbound left-turn lane.

A review of committed improvements identified in the City's latest Circulation Phasing Analysis Report (March 2020) did not find any other relevant improvements affecting the study intersections and roadway segments analyzed in this study.

4. PROJECT TRAFFIC

4.1 TRIP GENERATION

Due to the specialized nature of the Project, trip generation for the Project was estimated based on the number of employees, plus allowances to account for fleet vehicles, deliveries (e.g., fuel, sand, maintenance equipment, etc.), visitors, and other ancillary traffic.

Based on existing operations at other commuter rail maintenance facilities, approximately 80 employees are expected to access the Project Site daily, split across three eight-hour shifts. As much of the actual fleet maintenance activities would take place overnight, when locomotives and passenger cars are not in revenue service, the majority of employees are expected to work the overnight shifts, with 60 percent working the 4:00 p.m.–12:00 a.m. shift and 30 percent working the 12:00–8:00 a.m. shift. The remaining 10 percent of employees are assumed to work the daytime shift (8:00 a.m.–4:00 p.m.). The trip generation conservatively assumes an automobile mode share of 100 percent, with an average vehicle occupancy of 1.00. Thus, no reductions were taken to account for other modes—including public transit or active transportation (walking or biking)—or carpooling.

The Project would also serve as a base for approximately 10 fleet vehicles, each of which were conservatively assumed to be used for off-site duties once daily, proportionally distributed across the three work shifts based on the number of workers assigned to each shift. For both peak hours, the analysis conservatively includes fleet vehicles assigned to both the leading shift and following shift. For the a.m. peak hour, for example, the Project's trip generation includes both inbound fleet vehicles arriving back at the site (for the work shift ending at 8:00 a.m.) and departing the site (for the work shift beginning at 8:00 a.m.). The fleet vehicles are assumed to be off-site for most of the corresponding shift to conduct repair, regular maintenance, and other duties within Metrolink right-of-way and at Metrolink facilities; thus, any fleet vehicles assigned to a given peak hour are assigned to that peak hour only once.

To account for deliveries, visitors, and other ancillary traffic, an additional allowance of 20 vehicles per day, spread uniformly across the typical eight-hour workday, was assumed.

The estimated trip generation for the Project is summarized in Table 4.1-1. As the site is currently vacant, there are no existing trips or uses to be considered for this study.

Table 4.1-1 Project Trip Generation

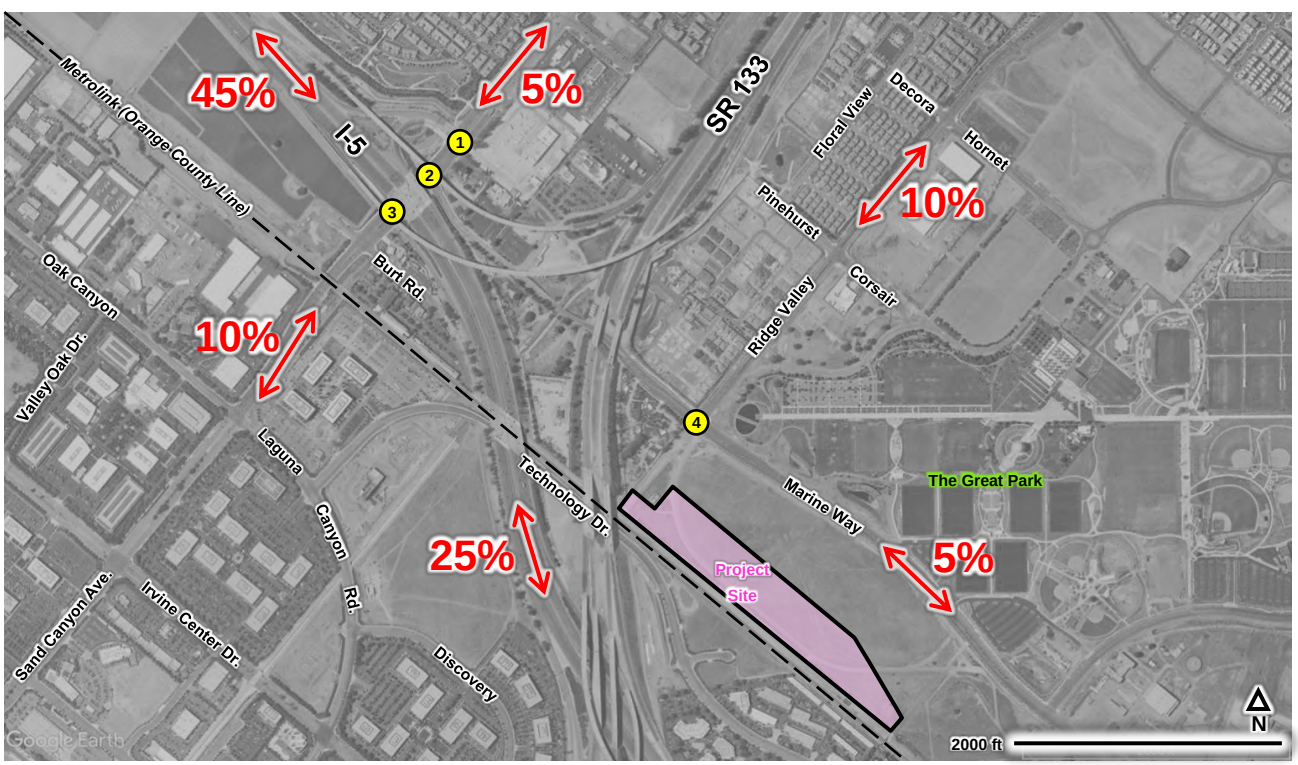
Trip category		Vehicle-trips								
		Daily			AM peak hour			PM peak hour		
		In	Out	Total	In	Out	Total	In	Out	Total
Worker commutes	80 employees	80	80	160	8	24	32	0	8	8
Fleet vehicles	10 vehicles	10	10	20	3	1	4	1	6	7
Other		20	20	40	3	3	6	3	3	6
Total		**110**	**110**	**220**	**14**	**28**	**42**	**4**	**17**	**21**

Notes: "Other" includes deliveries, visitors, and other ancillary traffic. No "other" trips assumed during a.m. and p.m. peak hours.
Source: AECOM (2022)

4.2 TRIP DISTRIBUTION AND ASSIGNMENT

The assumed trip distribution and assignment is illustrated in Figure 4.2-1, and is based on existing travel and land use patterns. I-5 is the primary access for the regional roadway network, as it is a major north–south freeway and provides additional connections to and from I-405 (via SR-133). Smaller percentages of Project trips are distributed on major local streets, including Sand Canyon Avenue to / from the southwest and northeast, Ridge Valley to / from the northeast, and Marine Way to / from the southeast.

Figure 4.2-1 Project Trip Distribution



Source: Google Earth (2018)

The Project Site is located within Irvine, which is on the periphery of Greater Los Angeles, with areas beyond (such as southern Orange County) generally less dense and constrained by geography. As such, the trip distribution is weighted more heavily to the north, favoring the contiguous, built-up areas in northern Orange County and adjacent Los Angeles County.

5. EXISTING CONDITIONS

5.1 EXISTING ROADWAY NETWORK

Key roadways in the vicinity of the Project include Sand Canyon Avenue, Marine Way, and Ridge Valley.

Sand Canyon Avenue

According to the Circulation Element of the City's General Plan, Sand Canyon Avenue is classified as a six-lane Major Highway and functions as a Thruway. Sand Canyon Avenue is oriented in the north–south direction[(4)] and provides direct access to / from I-5, with a posted speed limit of 50 miles per hour (mph). In the vicinity of the Project Site, Class II bikeways (on-street bicycle lanes) and sidewalks are generally provided on both sides of the street but may be discontinuous in some locations. On-street parking is not permitted.

Marine Way

The Circulation Element of the City's General Plan classifies Marine Way as a Primary Highway, functioning as a Parkway. Marine Way is oriented in the east–west direction, with a posted speed limit of 45 mph. Marine Way is originally a two-lane roadway that served as an access road and perimeter road for MCAS El Toro, but it is planned to be realigned and widened to a four-lane facility. Work on the segment in the immediate vicinity of the Project Site (between Ridge Valley and Skyhawk) has been completed, but portions of Marine Way north of Ridge Valley and south of Skyhawk have not yet been improved and will retain their previous alignment and cross-section (two lanes) as a temporary scenario only. Future roadway improvements- as mentioned above in this section and not a part of the scope of this Project- plans to realign and widen this portion of Marine Way from a two-lane facility to a four-lane facility..

In the vicinity of the Project Site, Class II bikeways are provided in both directions north of Skyhawk, but sidewalks may be discontinuous, particularly north of SR-133 (where the roadway was never fully improved) and on the north side east of Ridge Valley (where construction is currently underway for the Great Park). On-street parking is not permitted.

Ridge Valley

According to the Circulation Element of the City's General Plan, Ridge Valley is classified as a Secondary Highway and functions as a Collector. Ridge Valley is a four-lane facility oriented in the north–south direction, with a posted speed limit of 45 mph. In the vicinity of the Project Site, Class II bikeways are

[(4)] For roadways in the vicinity of the Project Site, the City's standard convention defines I-5 and Marine Way in the east–west direction and Sand Canyon Avenue and Ridge Valley in the north–south direction.

provided in both directions, but sidewalks along the east side of the street may be discontinuous as redevelopment on the former MCAS El Toro site is still underway. On-street parking is not permitted.

5.2 LEVEL OF SERVICE ANALYSIS

Due to shelter-in-place restrictions and other effects associated with the COVID-19 pandemic, traffic levels are currently depressed, and traffic counts collected during this period would not give an accurate representation of "normal" conditions prior to the pandemic. As described in Section 3.3, an Existing Baseline scenario was therefore developed assuming the continuation of traffic levels and growth trends prior to COVID-19.

Pre-COVID count data (from May 2018 and February 2019) were provided by the City for use in the study and extrapolated to 2020 levels assuming a uniform growth rate of two percent per year. These extrapolated traffic volumes were then compared to a separate set of 2020 traffic projections obtained by interpolating between traffic volumes for 2018 and 2023 used for the City's latest Circulation Phasing Analysis Report.[(5)] For the study intersections common to this study and the Circulation Phasing Analysis Report, the latter dataset generally showed higher total intersection volumes during the a.m. and p.m. peak hours, and was therefore conservatively carried forward for use in this study.

Count data provided by the City only included a daily count for one of the three roadway segments (Marine Way between Sand Canyon Avenue and Ridge Valley). With current traffic levels substantially depressed due to COVID-19, initial estimates of daily traffic volume for the remaining two roadway segments were developed by multiplying the peak hour traffic volume (calculated as entering / exiting volumes from the adjacent study intersections) by 10, a common rule of thumb frequently used when data are not readily available. The calculation was done separately using the a.m. and p.m. peak hour volumes, with the higher of the two selected for further analysis. Separately, existing daily traffic volumes were also referenced from the Circulation Phasing Analysis Report and compared against the rule-of-thumb estimates. The approach resulting in the higher traffic volume was then conservatively carried forward for use in the v/c analysis.

The results of the intersection and roadway segment LOS analyses are summarized in Table 5.2-1 and Table 5.2-2, respectively. Detailed ICU and HCM LOS calculation worksheets for the study intersections, including traffic volume projections for each scenario, are provided in Attachment C and Attachment D, respectively.

As shown in Table 5.2-1 and Table 5.2-2, all study intersections and roadway segments would operate at acceptable LOS (LOS D or better), even with the addition of the Project. Therefore, the Project would not result in or substantially contribute to any LOS deficiencies under the Existing Baseline scenario.

[(5)] Traffic projections from the Circulation Phasing Analysis Report were developed using Model No. 18 of the City's travel demand forecasting and analysis model, the Irvine Transportation Analysis Model (ITAM). The ITAM is the OCTA-sanctioned subarea traffic model for the City of Irvine.

Table 5.2-1 Intersection Level of Service Summary: Existing

Intersection		ITAM node	Methodology	Existing Baseline				Existing Baseline plus Project				ICU change	
				AM peak hour		PM peak hour		AM peak hour		PM peak hour		AM peak hour	PM peak hour
				ICU or Delay	LOS	ICU or delay	LOS	ICU or delay	LOS	ICU or delay	LOS		
1	Sand Canyon Ave. / I-5 NB Ramps	303	ICU	0.58	A	0.68	B	0.59	A	0.68	B	0.01	0.00
			HCM	28.1	C	39.8	D	26.8	C	39.8	D	—	—
2	Sand Canyon Ave. / Marine Way	304	ICU	0.62	B	0.58	A	0.62	B	0.58	A	0.00	0.00
3	Sand Canyon Ave. / I-5 SB Ramps	305	ICU	0.60	A	0.58	A	0.61	B	0.58	A	0.01	0.00
			HCM	18.6	B	24.4	C	18.8	B	24.5	C	—	—
4	Ridge Valley / Marine Way	—	ICU	0.39	A	0.24	A	0.38	A	0.25	A	(0.01)	0.00

Source: AECOM (2022)

Table 5.2-2 Roadway Segment Level of Service Summary: Existing

Roadway segment		Capacity	Existing Baseline			Existing Baseline plus Project			v/c change
			ADT	v/c ratio	LOS	ADT	v/c ratio	LOS	
A	Marine Way between Sand Canyon Avenue and Ridge Valley	13,000	11,400	0.88	D	11,600	0.89	D	0.01
B	Marine Way east of Ridge Valley	32,000	7,200	0.22	A	7,200	0.22	A	0.00
C	Ridge Valley between Great Park Boulevard and Marine Way	28,000	14,800	0.53	A	14,800	0.53	A	0.00

Source: AECOM (2022)

6. FUTURE CONDITIONS

6.1 LEVEL OF SERVICE ANALYSIS

Similar to the derivation of Existing Baseline traffic volumes, traffic projections for the Short-Term Interim Year scenarios were developed using two different methods: one assuming a uniform growth rate of two percent per year applied to the Existing Baseline volumes, and another applying it to the 2023 volumes from the City's Circulation Phasing Analysis Report. For intersections and roadway segments common between this study and the Circulation Phasing Analysis Report, the method resulting in the higher traffic volume was conservatively carried forward for use in this study.

Alternative 1

The results of the intersection and roadway segment LOS analyses for Alternative 1 (existing Marine Way alignment) are summarized in Table 6.1-1 and Table 6.1-2, respectively. As shown in Table 6.1-1 and Table 6.1-2, all study intersections and roadway segments would operate at acceptable LOS (LOS D or better) based on the City's LOS thresholds, even with the addition of the Project, with the exception of the segment of Marine Way between Sand Canyon Avenue and Ridge Valley, which would be deficient in terms of daily LOS. A peak-hour link analysis, however, shows that both directions of this segment would operate at LOS A under both the a.m. and p.m. peak hours, even with the addition of the Project (refer to Table 6.1-3). Therefore, the Project would not result in or substantially contribute to any LOS deficiencies under the Short-Term Interim Year scenario with Alternative 1.

Alternative 2-Realigned Marine Way

For Alternative 2, all traffic turning into or out of Marine Way under Alternative 1 was manually redistributed to the new intersection at the I-5 Northbound Ramps. The existing Marine Way ("Old Marine Way") alignment is assumed to remain to provide local access for adjacent properties, such as the Caltrans Marine Way Maintenance Station at 6641 Marine Way. To account for traffic that would continue to use Old Marine Way, volumes turning into or out of Old Marine Way at Sand Canyon Avenue were referenced from the recent traffic study for the Hoag Hospital Irvine (LSA, 2020). The referenced volumes represent 2040 traffic projections, but were conservatively taken as is, without adjustments to omit potential growth occurring after the Short-Term Interim Year horizon (2025) for this study.

Table 6.1-1 Intersection Level of Service Summary: Short-Term Interim Year Alternative 1

Intersection		ITAM node	Methodology	Short-Term Interim Year Baseline Alternative 1				Short-Term Interim Year Baseline Alternative 1 plus Project				ICU change	
				AM peak hour		PM peak hour		AM peak hour		PM peak hour		AM peak hour	PM peak hour
				ICU or Delay	LOS	ICU or delay	LOS	ICU or delay	LOS	ICU or delay	LOS		
1	Sand Canyon Ave. / I-5 NB Ramps	303	ICU	0.72	C	0.86	D	0.72	C	0.86	D	0.00	0.00
			HCM	37.8	D	69.4	E	38.5	D	73.4	E	—	—
2	Sand Canyon Ave. / Marine Way	304	ICU	0.59	A	0.77	C	0.59	A	0.78	C	0.00	0.01
3	Sand Canyon Ave. / I-5 SB Ramps	305	ICU	0.66	B	0.72	C	0.66	B	0.72	C	0.00	0.00
			HCM	19.6	B	27.9	C	19.9	B	28.0	C	—	—
4	Ridge Valley / Marine Way	—	ICU	0.44	A	0.27	A	0.45	A	0.28	A	0.01	0.01

Source: AECOM (2022)

Table 6.1-2 Roadway Segment Level of Service Summary: Short-Term Interim Year Alternative 1

Roadway segment			Capacity	Short-Term Interim Year Baseline Alternative 1			Short-Term Interim Year Baseline Alternative 1 plus Project			v/c change
				Volume	v/c ratio	LOS	Volume	v/c ratio	LOS	
A	Marine Way between Sand Canyon Avenue and Ridge Valley		13,000	17,400	1.34	F	17,600	1.35	F	—
	AM peak hour	Eastbound	1,600	364	0.23	A	376	0.24	A	0.01
		Westbound	1,600	728	0.46	A	752	0.47	A	0.01
	PM peak hour	Eastbound	1,600	875	0.55	A	878	0.55	A	0.00
		Westbound	1,600	689	0.43	A	704	0.44	A	0.01
B	Marine Way east of Ridge Valley		32,000	10,800	0.34	A	10,800	0.34	A	0.00
C	Ridge Valley between Great Park Boulevard and Marine Way		28,000	16,300	0.58	A	16,300	0.58	A	0.00

Source: AECOM (2022)

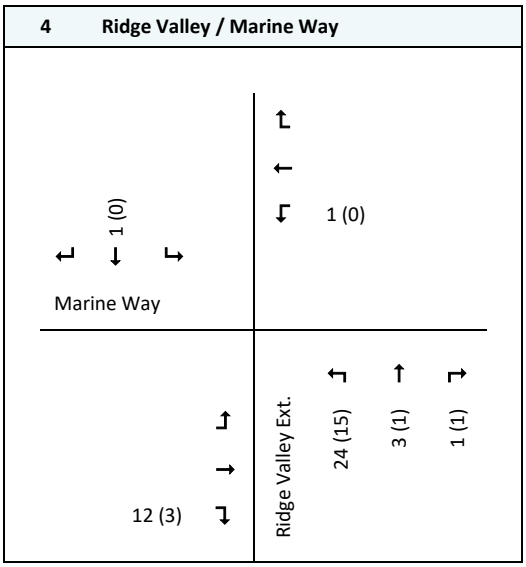
The results of the intersection and roadway segment LOS analyses for Alternative 2 (realigned Marine Way) are summarized in Table 7.1-1and Table 7.1-2, respectively. As shown in Table 7.1-1 and Table 7.1-2, all study intersections and roadway segments would operate at acceptable LOS (LOS D or better) based on the City's LOS thresholds, even with the addition of the Project. Therefore, the Project would not result in or substantially contribute to any LOS deficiencies under the Short-Term Interim Year scenario with Alternative 2.

7. SPECIAL ISSUES

7.1 SITE ACCESS ANALYSIS

Access for the Project Site would be provided by extending Ridge Valley south of Marine Way by approximately 675 feet as a cul-de-sac (dead-end street), converting the existing T-intersection at Ridge Valley / Marine Way into a four-way intersection. A turnaround would be provided at the end of the Ridge Valley extension, with a driveway providing access into and out of the Project Site. This would serve as the sole vehicle access for the Project Site, and the estimated traffic using the Project driveway and the new Ridge Valley extension would generally be as shown in the Project's trip generation in Table 4.1-1. Project trip assignments at the Ridge Valley / Marine Way intersection are illustrated in Figure 7.1-1, based on the trip distribution shown in Figure 4.2-1.

Figure 7.1-1 Project Trip Assignment at Ridge Valley / Marine Way



(##): AM (PM) peak hour volumes
Source: AECOM (2022)

Table 7.1-1 Intersection Level of Service Summary: Short-Term Interim Year Alternative 2

Intersection		ITAM node	Methodology	Short-Term Interim Year Baseline Alternative 2				Short-Term Interim Year Baseline Alternative 2 plus Project				ICU change	
				AM peak hour		PM peak hour		AM peak hour		PM peak hour		AM peak hour	PM peak hour
				ICU or Delay	LOS	ICU or delay	LOS	ICU or delay	LOS	ICU or delay	LOS		
1	Sand Canyon Ave. / I-5 NB / Marine Way	303	ICU	0.74	C	0.73	C	0.73	C	0.73	C	(0.01)	0.00
			HCM	78.7	E	> 80	F	75.9	E	> 80	F	—	—
2	Sand Canyon Ave. / Old Marine Way	304	ICU	0.53	A	0.58	A	0.53	A	0.58	A	0.00	0.00
3	Sand Canyon Ave. / I-5 SB Ramps	305	ICU	0.66	B	0.72	C	0.66	B	0.72	C	0.00	0.00
			HCM	30.4	C	31.6	C	34.1	C	31.6	C	—	—
4	Ridge Valley / Marine Way	—	ICU	0.44	A	0.27	A	0.45	A	0.28	A	0.01	0.01

Source: AECOM (2022)

Table 7.1-2 Roadway Segment Level of Service Summary: Short-Term Interim Year Alternative 2

Roadway segment		Capacity	Short-Term Interim Year Baseline Alternative 2			Short-Term Interim Year Baseline Alternative 2 plus Project			v/c change
			Volume	v/c ratio	LOS	Volume	v/c ratio	LOS	
A	Marine Way between Sand Canyon Avenue and Ridge Valley	32,000	17,400	0.54	A	17,600	0.55	A	0.01
B	Marine Way east of Ridge Valley	32,000	10,800	0.34	A	10,800	0.34	A	0.00
C	Ridge Valley between Great Park Boulevard and Marine Way	28,000	16,300	0.58	A	16,300	0.58	A	0.00

Source: AECOM (2022)

It should be noted that there may also be some marginal traffic associated with other properties along the Ridge Valley extension, such as the gardening / landscaping supply businesses located on the southwest quadrant of the Ridge Valley / Marine Way intersection. While the Project does not preclude driveways for other properties along the extension, such improvements are not expressly part of the Project and would be evaluated separately should the relevant property owners desire access. The design of the proposed Ridge Valley extension would, however, allow for future local access for other properties on either side of the extension via a future "A Street", intersecting the extension approximately midway between Marine Way and the cul-de-sac. As such, driveway / intersection spacing for this future A Street is evaluated where appropriate in later subsections of this memorandum.

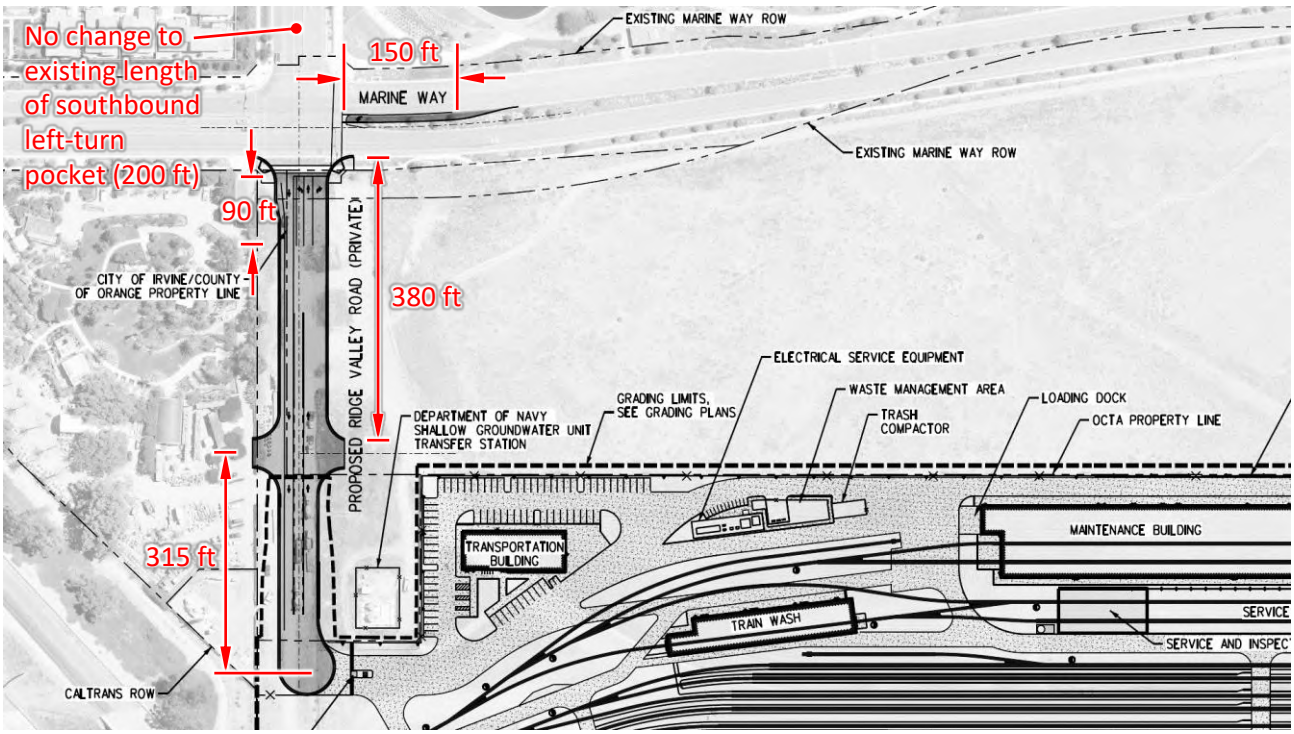
The new northbound approach at the Ridge Valley / Marine Way intersection would be striped with three lanes: a left-turn lane, a through lane, and a right-turn lane. To accommodate the new northbound approach at the intersection, the existing outer left-turn lane on the southbound (Ridge Valley) approach would be restriped as a through lane. With this change, the existing southbound and new northbound approaches would operate with protected left-turn phasing in a lead–lag sequence. Actuation through detector loops or other means would minimize impacts to background traffic along Marine Way and Ridge Valley, allowing the northbound approach to be served only when there is demand.

In addition, the Project would provide a new westbound left-turn pocket at the intersection (replacing a portion of the landscaped median along Marine Way), operating with protected phasing in a lead–lag sequence with the eastbound left-turn movement. Signal phasing for the southbound right-turn movement would also be modified to provide an overlap phase with the eastbound left-turn movement.

The LOS results summarized in Table 5.2-1, Table 6.1-1, and Table 7.1-1 already incorporate all of these lane configurations and signal phasing assumptions and show that the modified intersection would operate at LOS A during the a.m. and p.m. peak hours.

An analysis of relevant criteria from the *City of Irvine Transportation Design Procedures (TDP)* (June 2020) is provided in the following subsections. Proposed turn pocket lengths and driveway spacing are illustrated in Figure 7.1-2. Detailed plans are provided in Attachment B to this memorandum.

Figure 7.1-2 Proposed Turn Pocket Lengths and Driveway Spacing



TDP-1: Turn Lane Pocket Lengths

At the Ridge Valley / Marine Way intersection, the Project would add two new left-turn movements (northbound left and westbound left) and modify the southbound left-turn movement by converting the shared left-through lane into a through lane (leaving only one left-turn lane). A Leish nomograph analysis of turn pocket lengths was conducted for these three left-turn movements, together with the southbound left-turn movement at Sand Canyon Avenue / Marine Way, which will be reduced to a single lane in the future as part of striping modifications proposed by a proposed development on the nearby Traveland site. The results of the Leish nomograph analysis are shown in Figure 7.1-3 and Figure 7.1-4.

As shown in Figure 7.1-3, left-turn pocket lengths at Ridge Valley / Marine Way would exceed the recommended (desirable) distance for all three left-turn movements under the Short-Term Interim Year Baseline plus Project scenarios.[6] The peak-hour left-turn volume is on the order of 25–35 vehicles or less in all cases, and is generally below the meaningful range of the nomograph analysis.

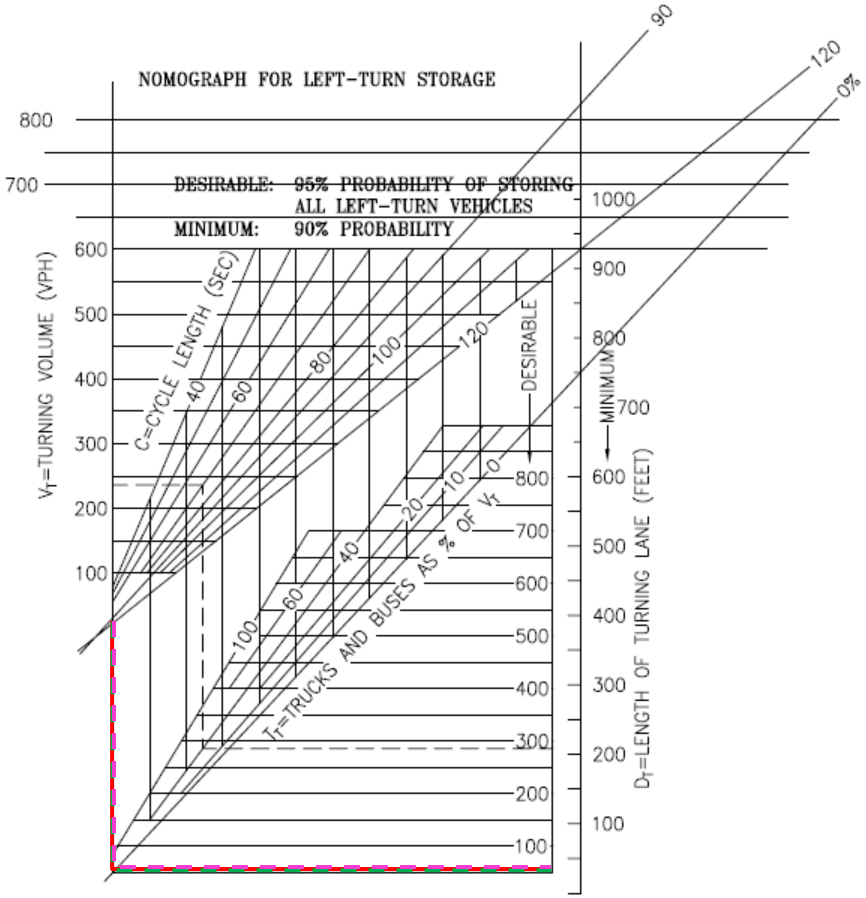
As shown in Figure 7.1-4, the existing length of the southbound left-turn pocket at Sand Canyon Avenue / Marine Way would fall below the recommended (desirable) distance in both the AM peak hour and PM peak hour under the Short-Term Interim Year Baseline Alternative 1 plus Project scenario. The Project is estimated to add approximately four vehicles to this movement in the AM peak hour and one vehicle to this

[6] Alternative 1 and Alternative 2 are the same for purposes of this Leish nomograph analysis, as traffic volumes and lane configurations at the Ridge Valley / Marine Way intersection are the same for both alternatives.

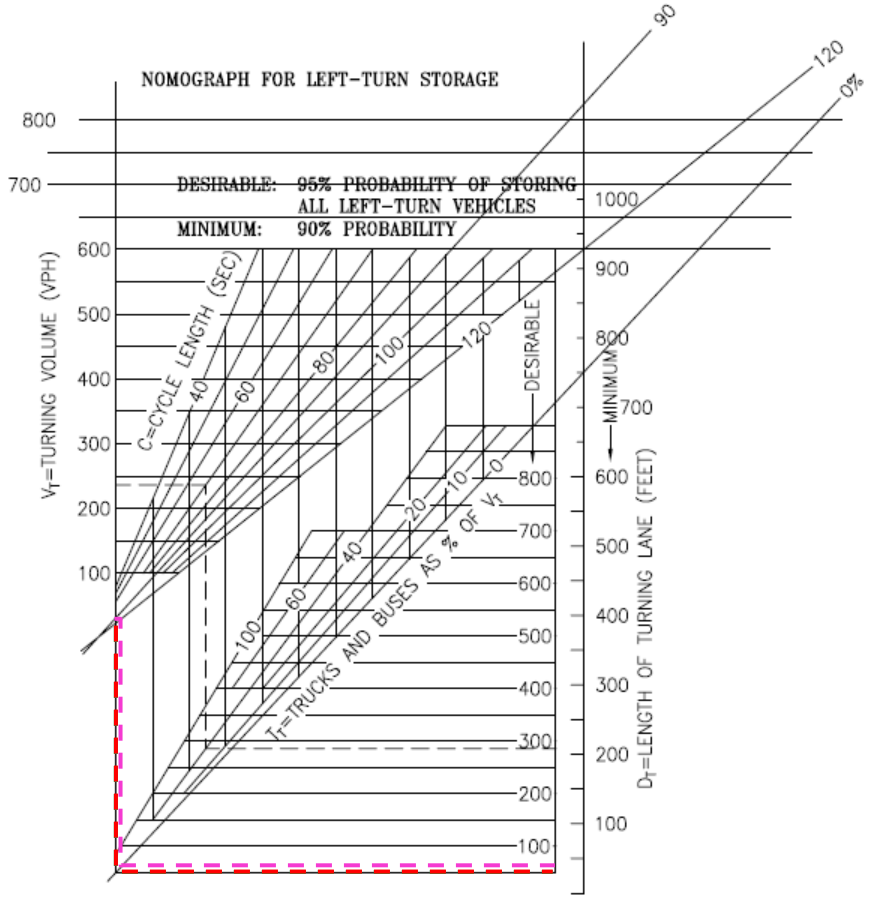
movement in the PM peak hour, which is on the order of 1–3 percent of the total peak-hour volume on this movement. This is an interim condition until Marine Way is realigned to reflect Alternative 2, which aligns with the northbound I-5 off-ramp. Two southbound left turn lanes will be provided at that time.

Figure 7.1-3 Leish Nomograph – Ridge Valley / Marine Way

AM peak hour



PM peak hour



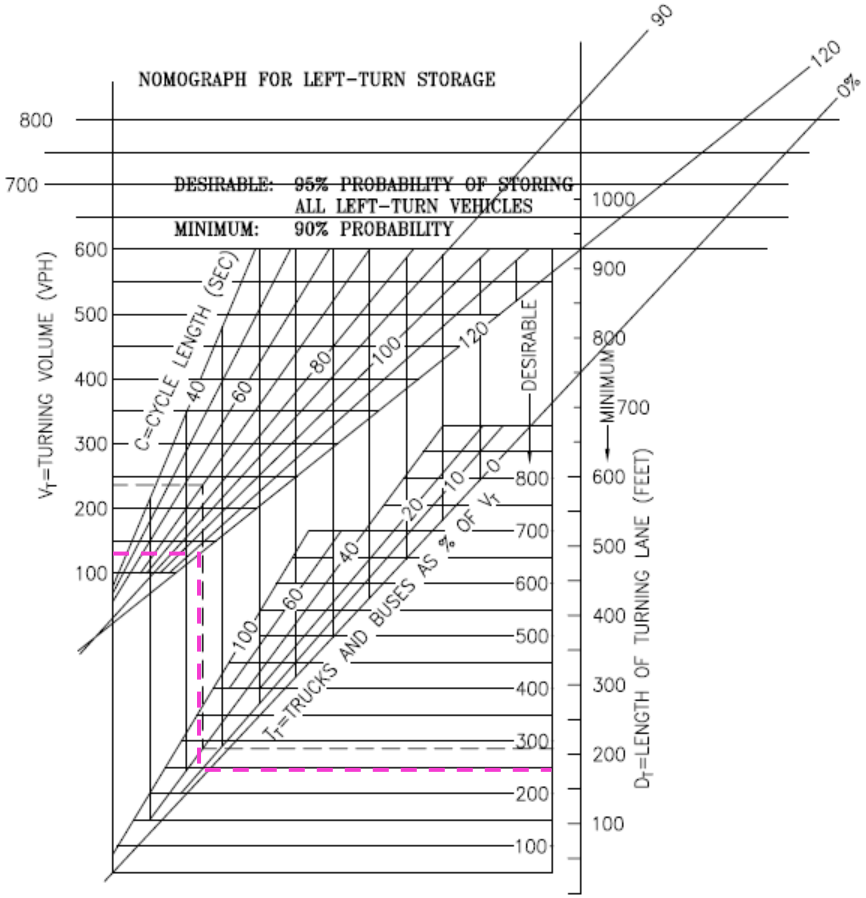
	V_T	D_T (desirable)	D_T (actual/proposed)
Northbound left	24	< 25	90
Southbound left	26	< 25	200
Westbound left	1	< 25	150

	V_T	D_T (desirable)	D_T (actual/proposed)
Northbound left	15	< 25	90
Southbound left	35	≈ 25	200
Westbound left	0	< 25	150

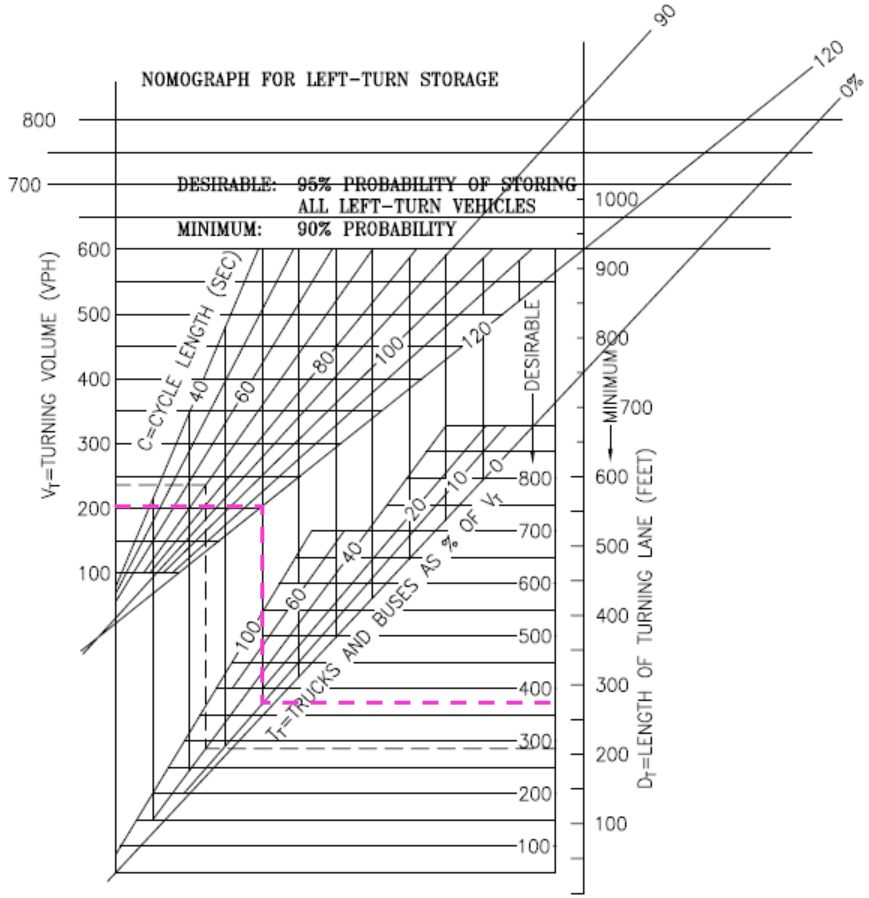
Note: Assume cycle length C = 120 sec and conservatively assume heavy vehicle percentage T_T = 10%

Figure 7.1-4 Leish Nomograph – Sand Canyon Avenue / Marine Way (Alternative 1)

AM peak hour



PM peak hour



	V_T	D_T (desirable)	D_T (actual/proposed)		V_T	D_T (desirable)	D_T (actual/proposed)
Southbound left	128	245	185	Southbound left	202	365	185

Note: Assume cycle length C = 120 sec and conservatively assume heavy vehicle percentage T_T = 10%

TDP-10: Distance Between Driveways and Intersections

The recommended minimum spacing between a driveway and an intersection (or between two driveways) is 90 feet for a roadway classified as a Private Way, although this classification applies only to residential streets. Based on the width of the proposed roadway, the City of Irvine has recommended application of the Commuter roadway classification for the analysis of driveway spacing. For Commuter roadways, the minimum spacing is 150 feet.

As indicated in Figure 7.1-2, the nearest driveway / intersection (the future "A Street") is 380 feet from the Ridge Valley / Marine Way intersection (measured from Marine Way nearest curb face to A Street nearest curb face). The Project's proposed driveway would be located 315 feet from A Street (measured from centerline to centerline). In both cases, the spacing would exceed the minimum spacing prescribed in TDP-10.

Furthermore, the proposed Ridge Valley extension would be a cul-de-sac primarily intended to provide local access for the Project and adjacent properties, with no through traffic and minimal traffic volumes. The Project driveway would be located at the end of this private road (the proposed turnaround is actually located within the Project's property lines), such that any queues at the proposed controlled gate access would not obstruct access to other properties, much less background traffic at the upstream intersection with Marine Way.

Therefore, the Project would satisfy TDP-10.

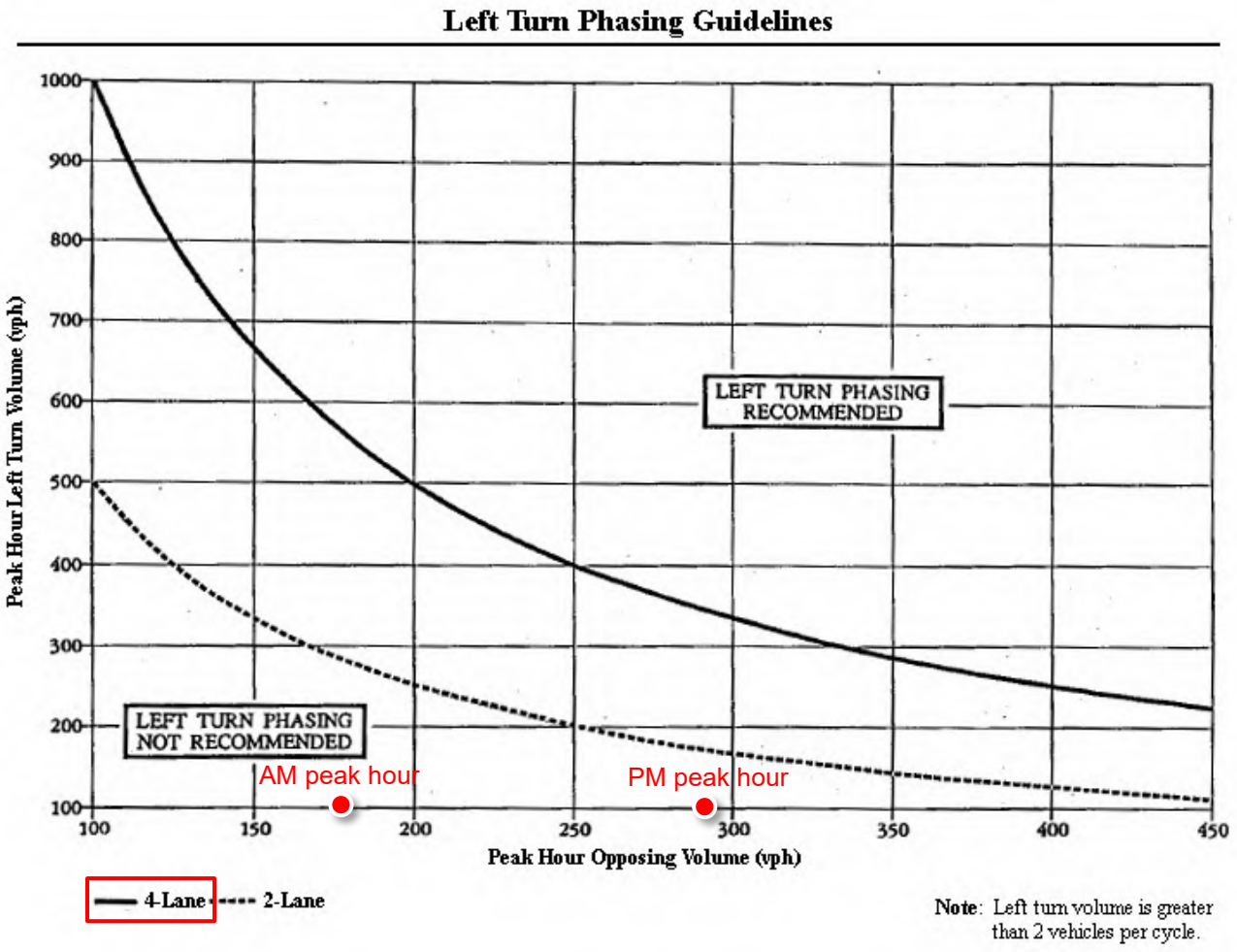
TDP-11: Corner Clearance

As the proposed Ridge Valley extension is a cul-de-sac primarily intended for local access for the Project (and, potentially in the future, adjacent properties), there would be no through traffic, and the only adjacent intersection for consideration is the Ridge Valley/ Marine Way intersection. As mentioned above, the Project would meet TDP-10 criteria for minimum distance between driveways and intersections and would, therefore, also generally satisfy TDP-11.

TDP-13: Left-Turn Signal Phasing

As illustrated in Figure 7.1-1, the Project is expected to add 1 vehicle during the AM peak hour and 0 vehicles during the PM peak hour to the westbound left-turn movement at Ridge Valley / Marine Way. Under the Short-Term Interim Year Baseline plus Project scenarios, there would be no other traffic expected on this turn movement outside of Project-generated traffic. As such, the peak-hour volume on this movement would be negligible. However, a left-turn signal phasing analysis was conducted to determine the need for protected signal phasing for this turn movement and is illustrated in Figure 7.1-5.

Figure 7.1-5 Left-Turn Signal Phasing Analysis



Source: *Traffic Engineering Handbook, 4th Edition, ITE, Chapter 9, pg. 295.* **Figure 13.1**

As indicated in Figure 7.1-5, the expected traffic volume on this movement under the Short-Term Interim Year Baseline plus Project scenarios is well below the meaningful range of the analysis, which is approximately 100 vehicles per hour for the left-turn volume (2 vehicles per cycle or more). Despite these conclusions, protected left-turn phasing can still be considered appropriate at this location due to several factors:

- Permitted left-turn movements with high-volumes of opposing traffic can present a risk for pedestrians in the crosswalk, as motorists are frequently focused on finding gaps in opposing traffic flow and may not pay adequate attention to pedestrian activity in the far-side crosswalk.
- The opposing eastbound approach features double left-turn lanes, which may complicate permitted left-turn movements from the westbound approach.
- Fuel trucks and other large vehicles that may need to visit the site on a regular basis may access the site from this westbound left-turn movement. Providing protected phasing for this movement would ensure adequate time and protection for these vehicles, which may require additional time and larger turning clearances. As indicated in the detailed plans in Attachment B, the Project proposes to use lead–lag sequencing to avoid potential conflicts between the eastbound and westbound left-turn movements.
- Future development of adjacent properties along the Ridge Valley extension as part of other projects may eventually warrant protected phasing for this movement, even if the Project alone may not warrant it.
- A protected left-turn phase at this location offers safer opportunities for potential U-turn movements. Currently, the large intersection spacing and lack of side streets along Marine Way between Ridge Valley and Skyhawk can complicate traffic circulation.

For these reasons, protected signal phasing is considered appropriate at this location and the Project would satisfy TDP-13.

TDP-15: Vehicle Stacking and Gate Stacking Analysis

As indicated in the site plan shown in Attachment B, ingress / egress at the Project driveway would be restricted by a controlled gate access. For analysis of gate stacking at office and retail developments, TDP-15 prescribes use of the Crommelin methodology. Figure 7.1-6 and Figure 7.1-7 show the results of this analysis for the Project based on the estimated trip generation summarized in Table 4.1-1.

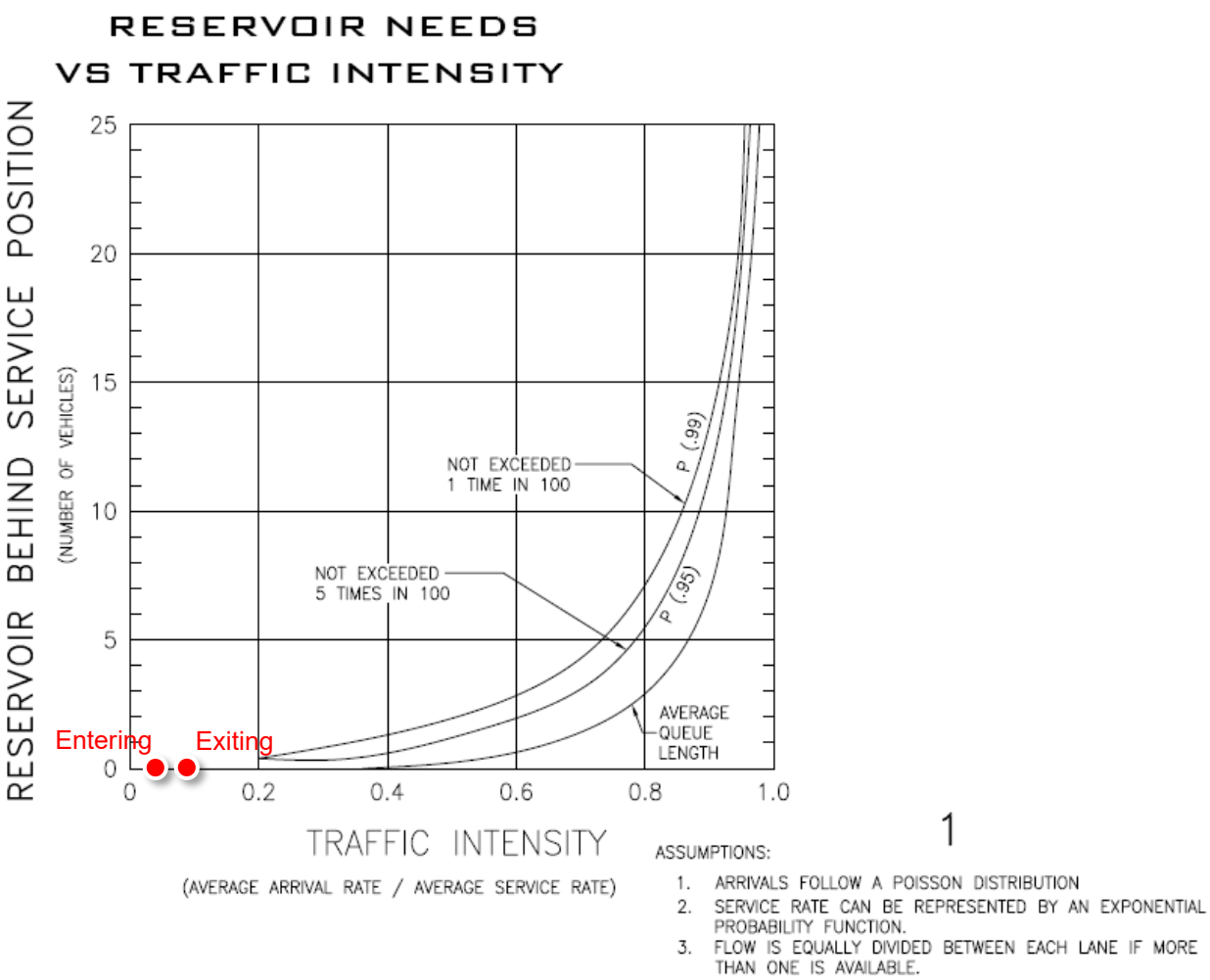
As shown in Figure 7.1-6, the estimated traffic intensity of the Project would fall well below the meaningful range of the Crommelin methodology. However, the gate arm would be located to provide at least 25 feet of ingress stacking (measured from the curb line of the turnaround), which would be sufficient to accommodate one standard passenger car. In addition, there would be no conflicting traffic when entering or exiting the Project site, as the Project driveway would be located at the end of a dead-end, private road

primarily intended to provide local access for the Project, as mentioned above. Therefore, no queuing due to conflicting traffic is expected within or external to the site.

As shown in Figure 7.1-7, the amount of parking provided and the estimated directional peak-hour volumes would not warrant more than a single lane in each direction.

Overall, the Project would satisfy TDP-15.

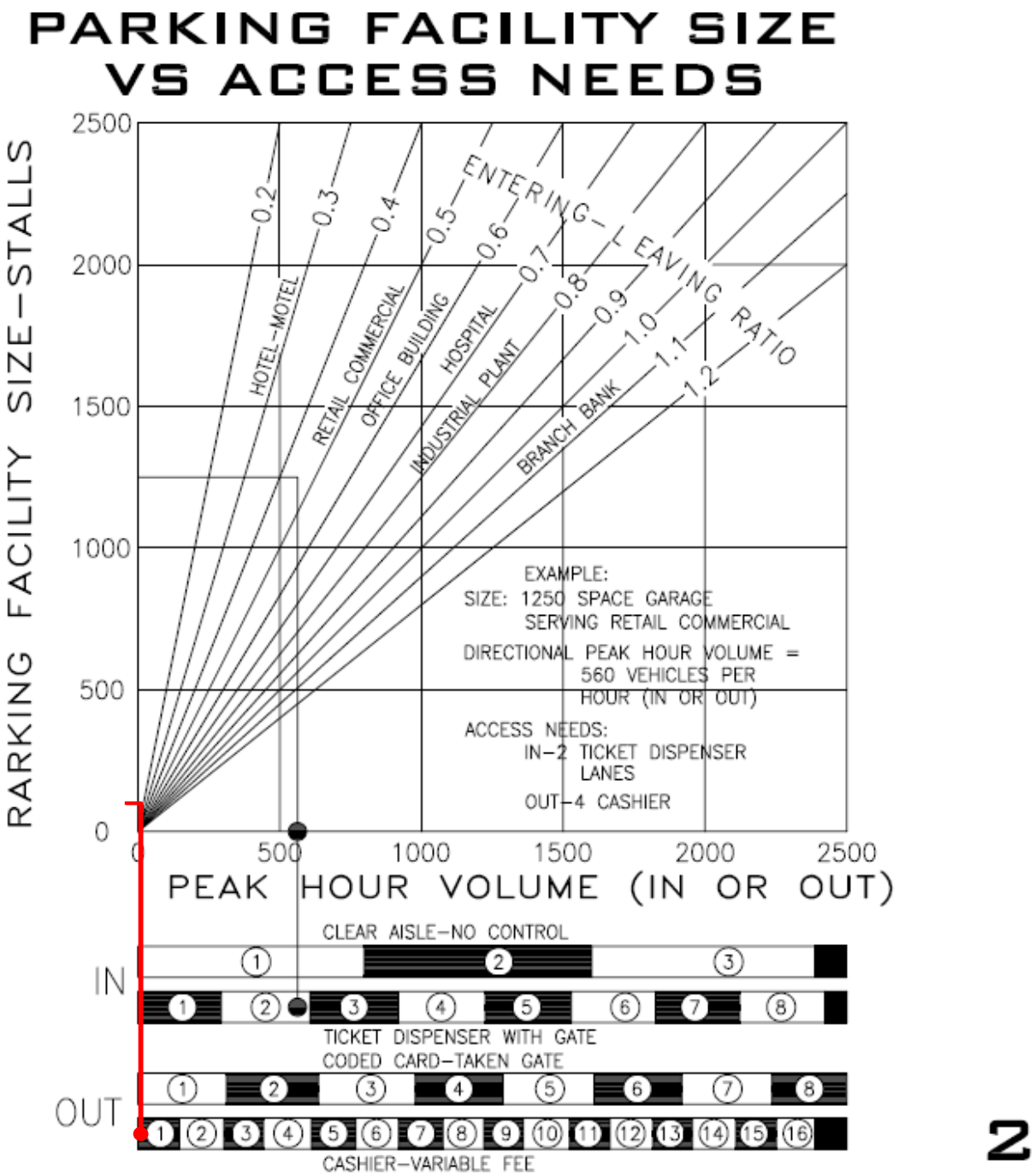
Figure 7.1-6 Gate Stacking Analysis – Reservoir Needs



Entering
Average arrival rate = 14 vehicles per hour (Table 4.1-1)
Average service rate = 340 vehicles per hour (coded-card operated gate)
Traffic intensity = 14 ÷ 340 ≈ 0.04

Exiting
Average arrival rate = 28 vehicles per hour (Table 4.1-1)
Average service rate = 320 vehicles per hour (coded-card operated gate)
Traffic intensity = 28 ÷ 340 ≈ 0.09

Figure 7.1-7 Gate Stacking Analysis – Access Needs



Parking facility size = 120 stalls (Section 2.2)
Directional peak hour volumes (Table 4.1-1):
Entering = 14 vehicles (AM peak hour)
Exiting = 28 vehicles (AM peak hour)

Entering–leaving ratio:
Entering = 14 ÷ 120 = 0.12
Exiting = 28 ÷ 120 = 0.23

7.2 CIRCULATION PHASING

The City's latest Circulation Phasing Analysis Report (March 2020) did not identify any affected locations within the area in the vicinity of the Project Site. Based on the results of the LOS analysis described earlier, the Project would not result in or substantially contribute to LOS deficiencies at any study intersections or roadway segments.

7.3 CONGESTION MANAGEMENT PROGRAM CONSISTENCY

As shown in Table 4.1-1, the Project would generate approximately 220 daily trips, which would be well below the general threshold of 2,400 daily trips for all development projects and the specific threshold of 1,600 daily trips for development projects with direct access to, or in close proximity to, the Congestion Management Program (CMP) Highway System. Therefore, a CMP Traffic Study to determine the Project's consistency with the CMP is not required, in accordance with Exhibit 6 ("CMP Traffic Impact Analysis Exempt Projects") of the *City of Irvine Traffic Study Guidelines* (City of Irvine, 2007).

7.4 PEDESTRIAN CIRCULATION

Objective B-3 of the Circulation Element of the City's General Plan is to "establish a pedestrian circulation system to support and encourage walking as a mode of transportation". The Circulation Element includes the following three policies to support Objective B-3:

- Link residences with schools, shopping centers, and other public facilities, both within a planning area and to adjacent planning areas, through an internal system of trails.
- Require development to provide safe, convenient, and direct pedestrian access to surrounding land uses and transit stops. Issues such as anticipated interaction between pedestrians and vehicles, proposed infrastructure improvements, and design standards shall be considered.
- Design and locate land uses to encourage access to them by nonautomotive means.

The Project is a specialized use without access for the general public and would not be a major activity generator or attractor. Pedestrian circulation from the general public is not anticipated for the Project and therefore sidewalks would not be provided on the Ridge Valley extension. The Project would provide two sidewalk curb ramps on the Ridge Valley and Marine Way intersection. These modifications would generally support Objective B-3 and the three associated policies by providing safe, convenient, and direct pedestrian access. Proposed modifications would also be designed in accordance with applicable standards (such as City of Irvine street design standards and Americans with Disabilities Act [ADA] design standards) and would facilitate safe pedestrian circulation at this location.

7.5 BICYCLE CIRCULATION

Objective B-4 of the Circulation Element of the City's General Plan is to "plan, provide and maintain a comprehensive bicycle trail network that together with the regional trail system, encourages increased use of bicycle trails for commuters and recreational purposes". The Circulation Element includes several

supporting policies to expand and enhance bicycle circulation, as well as a separate objective (Objective B-5) and associated policies regarding riding and hiking trails.

While the Project is a specialized use with limited access for the general public and would not be a major activity generator or attractor, bicycle access would be provided by existing Class II bikeways along Marine Way, Ridge Valley, and Sand Canyon Avenue, as well as Class I bikeways along Sand Canyon Avenue (Sand Canyon Side Path) and within the Great Park and the surrounding neighborhoods. The Project would not physically alter existing bikeways, and the proposed modifications at the Ridge Valley / Marine Way intersection as part of the Ridge Valley extension would be designed in accordance with applicable standards to facilitate safe bicycle circulation at this location.

7.6 TRANSIT FACILITIES

There are no transit services in the immediate vicinity of the Project Site. The closest major route is OCTA's Route 90 (Tustin–Dana Point) traveling along Irvine Center Drive, with the closest stops located at Sand Canyon Avenue, approximately 1.3 miles away from the Ridge Valley / Marine Way intersection.

Supplemental peak-period-only bus service is provided by two OCTA iShuttle routes (402C and 403D) out of Metrolink's Irvine station. These two routes are designed to connect Metrolink passengers with workplaces in the areas surrounding the station, and only operate in the commute direction (departing the station during the a.m. peak period and arriving at the station during the p.m. peak period). The closest stops for these routes are as follows:

- For Route 402C: Sand Canyon Avenue at the Capital Group complex (north side, between Oak Canyon and Irvine Center Drive), approximately 1.1 miles away from the Ridge Valley / Marine Way intersection
- For Route 403D: Sand Canyon Avenue at Waterworks Way, approximately 1.4 miles away from the Ridge Valley / Marine Way intersection

The Project is a specialized use with limited access for the general public and would not be a major activity generator or attractor.

7.7 VEHICLES MILES TRAVELED ANALYSIS

As indicated in Table 4.1-1, the Project's weekday daily trip generation would not exceed 250 trips. As such, a VMT impact analysis is not required for the Project, in accordance with the project screening criteria established in Exhibit 8 ("VMT Impact Analysis Guidelines (SB 743)") of the *City of Irvine Traffic Study Guidelines* (City of Irvine, 2007).

8. REQUIRED IMPROVEMENTS AND RECOMMENDATIONS

Based on the results of the intersection and roadway segment LOS analysis in Section 5.2 and Section 6.1, the Project would not result in or make a substantial contribution to any LOS deficiencies. Therefore, no LOS deficiency improvements are required.

9. CONCLUSION

As discussed in further detail in Section 7.1, the Project would create a new northbound approach at the Ridge Valley / Marine Way. The new Ridge Valley northbound approach would be striped with three lanes (a left, through, and right turn) and Marine Way would be provided with a new westbound left-turn pocket. The southbound approach would be restriped to provide a left, through and right turn lane. Signal phasing would be modified to north/south and east/west lead-lag operation with southbound right turn overlap at the Ridge Valley / Marine Way intersection for the revised roadway configuration.

The Project does not result in or make a substantial contribution to any LOS deficiencies under either the Existing Baseline scenario or the two Short-Term Interim Year Baseline scenario alternatives (with and without the Marine Way realignment). All study intersections and roadway segments would operate at acceptable LOS under all scenarios based on the City's LOS thresholds, with the exception of the segment of Marine Way between Sand Canyon Avenue and Ridge Valley, which would be deficient in terms of daily LOS under Short-Term Interim Year Alternative 1, with and without the Project. However, a peak-hour link analysis indicates that this segment would operate at acceptable conditions based on peak-hour LOS, even with the addition of the Project. Therefore, no improvements are required.

All applicable City of Irvine's TDPs were evaluated and adequately addressed, including TDP-1 (Turn Lane Pocket Lengths), TDP-10 (Distance Between Driveways and Intersections), TDP-11 (Corner Clearance), TDP-13 (Left-Turn Signal Phasing), and TDP-15 (Vehicle Stacking and Gate Stacking Analysis).

Based on the Project's trip generation, a CMP Traffic Study and VMT impact analysis are not required.

10. REFERENCES

City of Irvine, (2007).Transportation Design Procedures. Available at: https://legacy.cityofirvine.org/civica/filebank/blobdload.asp?BlobID=10062

_____, (2020). 2020 Citywide Phasing Analysis Report. Available at: https://irvinewatchdog.org/wp-content/uploads/2020/06/Attachment_1_-_2020_Citywide_Circulation_Phasing_Analysis_Report.pdf

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LSA, (October 2020).Traffic Study Hoag Hospital Irvine. Available at: https://www.cityofirvine.org/cmis/views/9d41e22f-0d2b-433c-85a5-547a4fb3627b%253B1.0

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Transportation Research Board (TRB), (2017). Highway Capacity Manual.

Appendix H Attachments
Technical Memorandum
Traffic

Metrolink Orange County Maintenance Facility

Prepared for:

Orange County Transportation Authority

550 S. Main St.
Orange, CA 92868

And

Gannett Fleming
20 Pacifica, Suite 430
Irvine, CA 92618

AECOM
300 S. Grand Ave.
Los Angeles, CA 90071

June 2022

Attachment A

Limited Traffic Study Scope of Work

AECOM
300 S Grand Avenue
Los Angeles, CA 90071
www.aecom.com

213 593 8100 tel
213 593 8623 fax

Memorandum

Date: November 24, 2020

To: Victor Mendez – City of Irvine

From: Jaime Guzman, AECOM
Noel Casil, AECOM

Subject: OCTA Metrolink Maintenance Facility Draft Limited Traffic Study Scope of Work Memorandum

---

AECOM is responsible for the preparation of a Traffic Study for the OCTA Metrolink Orange County Maintenance Facility Project (OCMF). Discussion and coordination of the traffic study parameters between OCTA representatives and the City of Irvine resulted in the mutual agreement that a Limited Scope Traffic Study is necessary consistent with the scope format and content as described in the City's Traffic Study Guidelines (April 2020). This scope of work memorandum is intended to document the planned approach for the Limited scope Traffic Study.

Limited Traffic Study Scope of Work

AECOM will conduction the Limited Scope Traffic Study according to the City of Irvine Traffic Study Guidelines (April 2020).

General Assumptions:

- Study Area – will be limited to adjacent intersection/s
- Analysis Scenarios
    - Existing Conditions
    - Opening Year Without Project – this should be called Short-term Interim Year Baseline
    - Opening Year With Project – this should be called Short-term Interim Year Baseline Plus

Limited Traffic Study Outline and Scope of Work Assumptions

I. Executive Summary

The Limited Scope Traffic Study will include an Executive Summary that provides a summary of all calculations and findings of the report.

II. Introduction

A. Study Area

The following five (5) study intersections will be evaluated in this Limited Scope Traffic Study:

- Sand Canyon Ave/I-5 NB Ramps
- Sand Canyon Ave/Marine Way
- Sand Canyon Ave/I-5 SB Ramps
- Ridge Valley/Marine Way
- Ridge Valley/Project

The following three (3) roadway segments will be evaluated in this Limited Scope Traffic Study:

- Marine Way between Sand Canyon and Ridge Valley
- Marine Way east of Ridge Valley
- Ridge Valley between Great Park Blvd and Marine Way

III. Existing Conditions

The study will include an assessment of existing conditions, including existing intersection counts (from data provided by the City of Irvine in pre-COVID-19 conditions) and existing transit information. As there are no existing uses on-site, there is no current contribution of traffic by the existing site.

In communications with the City of Irvine, the City of Irvine states, “The existing conditions data should be based on the most recent counts collected prior to COVID-19 conditions and a 2% growth rate per year should be added to those counts to represent 2020 conditions.

IV. Existing Conditions with Proposed Development (Not required for this Project)

Based on coordination between OCTA and the City of Irvine, there is no need for an Existing Plus Project scenario to be included in the traffic study.

V. Future Traffic Without Proposed Development (Short-term Interim Year only)

The study will include an analysis of the future condition with the proposed Project. Per City of Irvine requirements, “the Short-term Interim Year analysis to identify LOS impacts can be based on ITAM with and without project. Alternatively, the Short-term Interim Year analysis can be based on 2020 volumes with 2% growth per year to represent future conditions five years out. If this alternative is used, manual distribution of project trips is required, and city staff will need to confirm that distribution.”

A. Projected Traffic

For this study, the City of Irvine recommends the following: “There should be two Short-term Interim Year scenarios studied: Alt 1 that is based on the assumption that Marine Way is an existing two-lane roadway that connects to Sand Canyon at its existing location; and Alt 2 that is based on the near-term future assumption that Marine Way is a four-lane roadway that is realigned to connect to Sand Canyon at the Sand Canyon/I-5 NB on-off-ramps. For each of these two alternatives, all study intersections and links must be evaluated.”

B. Committed Improvements

The study will include a description of the committed improvements under the interim conditions. Interim improvements are not proposed by OCTA but the team will coordinate with the City of Irvine to identify and committed improvements that need to be considered.

VI. Proposed Project Impacts

As part of the evaluation for project impacts, the following elements will be done as part of the Limited Traffic Study:

A. Model Trip Generation - Manual Trip Generation will be conducted

B. Adjustments to Trip Generation adjustments are not anticipated, but any adjustment requests would be coordinated with the City of Irvine

C. Trip Distribution and Trip Assignment - Manual Trip Distribution will be conducted

D. Phased Projects - although the OCMF project will include a phased approach to construction, the project will analyze the full long-term compliment of trips/traffic anticipated with full build out of the site as planned.

VII. Future Traffic With Proposed Development

This task will be conducted in conjunction with Item V above.

VIII. Cumulative Analysis

OCTA and its contractors need to discuss with City of Irvine if this is applicable based on the need for CUP approval of site use

IX. Analysis/Performance Criteria

This task will be completed consistent with City’s Traffic Study Guidelines (April 2020) for intersection and roadway link LOS.

X. Special Issues (As Needed)

A. Site Access Analysis (City requirements shown below)

City of Irvine states, “An access analysis section must be included in the traffic study (i.e., within the Special Issues section) and all applicable Transportation Design Procedures (TDPs) must be evaluated, including but not limited to TDP-1 (turn lane pocket lengths), TDP-14 (driveway throat

length), and TDP-3, TDP-4, and TDP-10 (if a second project driveway is proposed to access Marine Way.)"

B. Transit Connectivity and Pedestrian Circulation this is anticipated to not be applicable since the OCMF will not be accessible for pedestrians and no transit service will be provided for the public at this facility.

C. Congestion Management Program (CMP) Consistency/Requirements - the OCMF project is exempt from the mandatory CMP Traffic Impact Analysis per Exhibit 6: CMP Traffic Impact Analysis Projects

D. Circulation Phasing Locations - not applicable for the OCMF project

E. CEQA VMT Analysis Summary - the OCMF project is anticipated to have only 80 employees at peak operation, therefore it does not meet 250 daily trip thresholds, therefore CEQA VMT analysis is not needed as confirmed by City

City of Irvine however states, "The Limited Scope Traffic Study must include this discussion regarding VMT impact analysis. The traffic study cannot be silent regarding VMT analysis." Therefore, the study will include a section that describes VMT analysis provisions and the rationale for why VMT is not applicable to the project.

F. Others, as appropriate

XI. Required Improvements/Recommendations

Based on City review of the draft Limited Scope Traffic Study, the team will address comments and identify and required improvements if applicable.

Please confirm that you approve of the approach outlined above and/or contact us with additional comments or thoughts on items that should be included in our analysis. We anticipate moving ahead with analysis upon confirmation of this approach. Should you have any questions or comments please contact me at your earliest convenience.

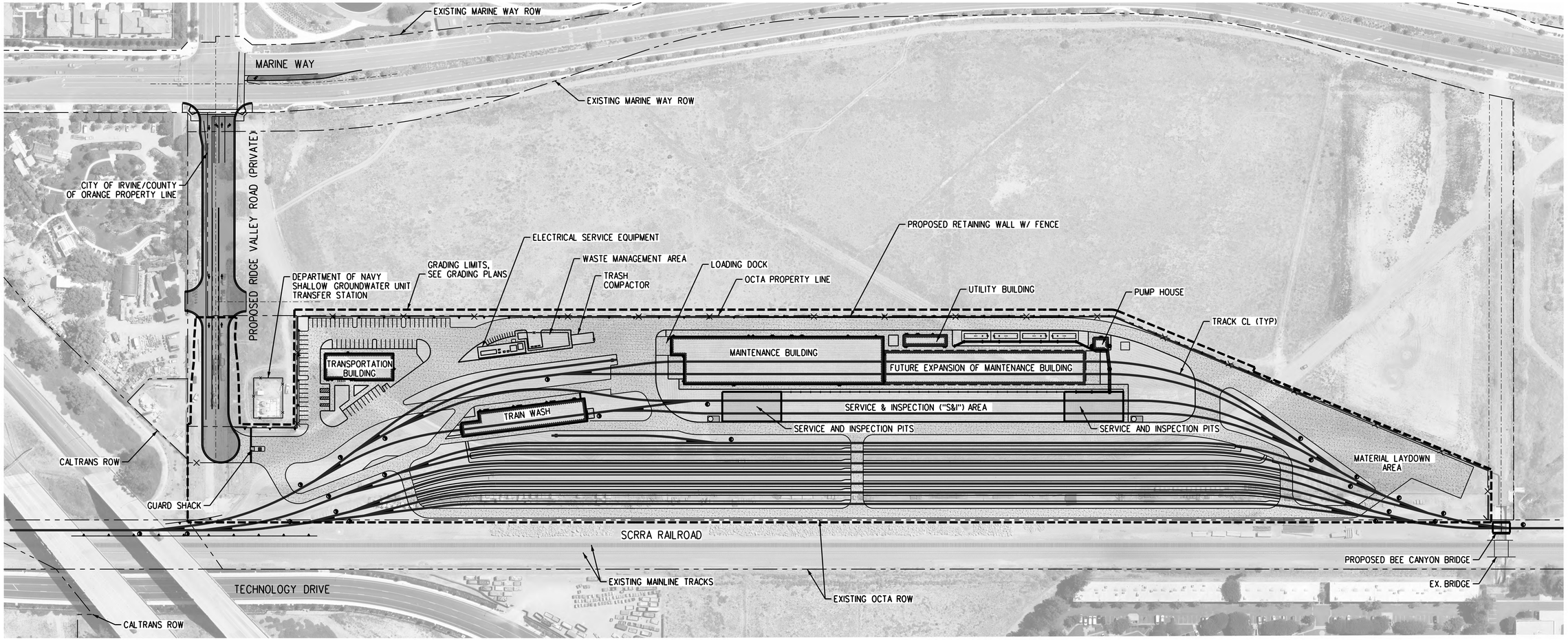
Sincerely,

Jaime R Guzman
AECOM – Deputy Project Manager
(323) 605-1691
jaime.guzman1@aecom.com

cc: Lora Cross, OCTA
Huey Yann Ooi, OCTA
Mrika Simoni, Gannett Fleming
Jason Neff, Gannett Fleming
Rob Hertz, AECOM

Attachment B

Project Site Plan



NOTES:

1. SEE GRADING PLANS FOR GRADING LIMIT.
2. SEE EXISTING SITE PLAN FOR PROPERTY OWNERS.
3. SEE FENCE PLAN FOR PROPOSED FENCE.
4. SEE RETAINING WALL PLANS FOR PROPOSED RETAINING WALL.

100 0 100 200

1"=100'

REV.	DATE		BY	SUB.	APP.
2	01/05/22	CONDITIONAL USE PERMIT SUBMITTAL - REVISION 2			
1	10/13/21	CONDITIONAL USE PERMIT SUBMITTAL - REVISION 1			
0	6/30/21	CONDITIONAL USE PERMIT SUBMITTAL			

INFORMATION CONFIDENTIAL: All plans, drawings, specifications, and or information furnished herewith shall remain the property of the the Southern California Regional Rail Authority and shall be held confidential and shall not be used for any purpose not provided for in agreements with the Southern California Regional Rail Authority.

DESIGNED BY D. SMITH
DRAWN BY D. SALAZAR
CHECKED BY J. NEFF
APPROVED BY M. FREEMAN
DATE 01/05/2022

NOT FOR CONSTRUCTION

METROLINK®

Gannett Fleming

SUBMITTED: _____ PROJECT MANAGER

APPROVED: _____

METROLINK ORANGE COUNTY MAINTENANCE FACILITY PROJECT CIVIL PROPOSED SITE PLAN - OVERALL VIEW

CASE NO. 00846471-PCPU
CONTRACT NO. C91143
DRAWING NO. CUP-009
REVISION 2
SHEET NO. 09 OF 55
SCALE AS SHOWN

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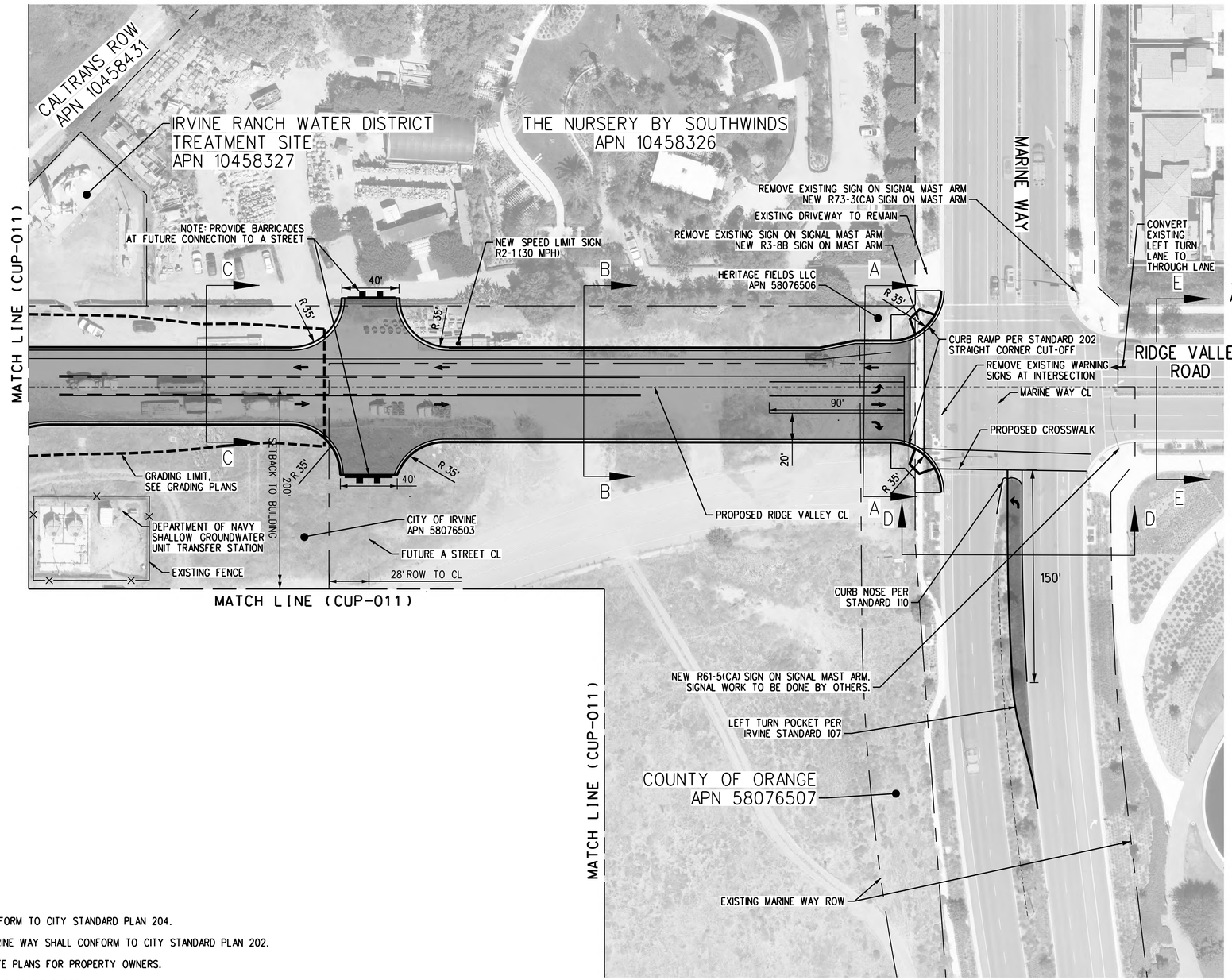

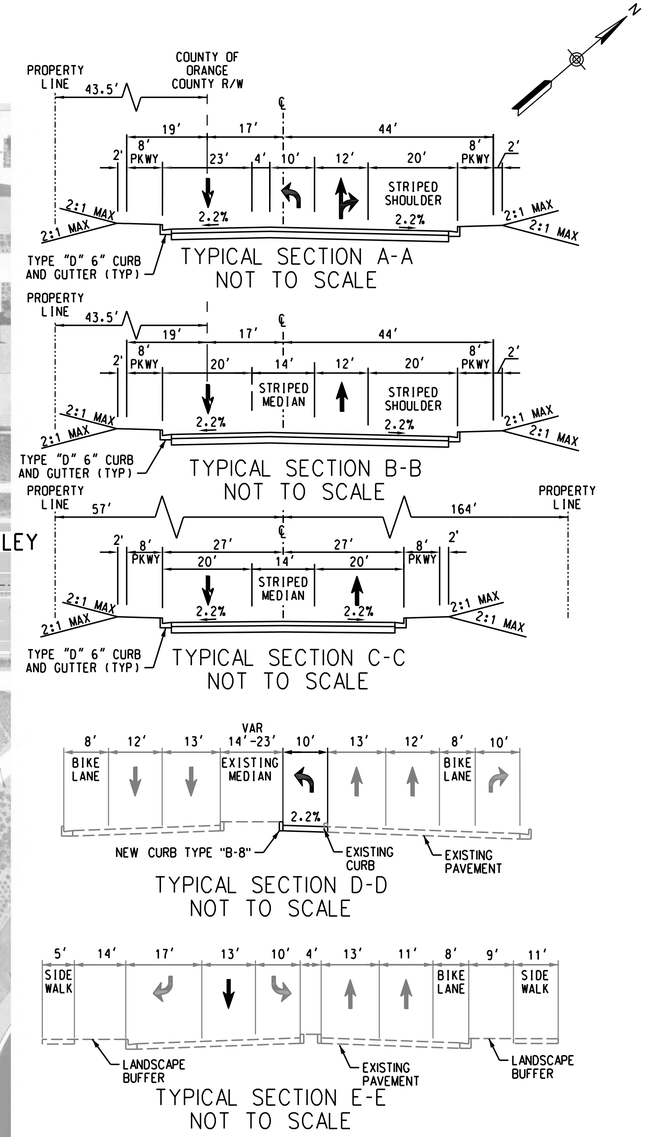

NOTES:

1. DRIVEWAYS SHALL CONFORM TO CITY STANDARD PLAN 204.
2. CURB RETURNS AT MARINE WAY SHALL CONFORM TO CITY STANDARD PLAN 202.
3. REFER TO EXISTING SITE PLANS FOR PROPERTY OWNERS.
4. REFER CUP-016 FOR LINE OF SIGHT DETAIL.
5. EASTMENTS WITH THE CITY OF IRVINE, COUNTY OF ORANGE, AND/OR HERITAGE FIELDS WILL BE PROVIDED IN THE FINAL DESIGN PHASE.
6. IN LEU OF SIDEWALK, DROP-OFF AT END OF CUL DE SAC WILL BE USED FOR WALKING IN FOR ANY ADA COMPLIANCE REQUIRED.

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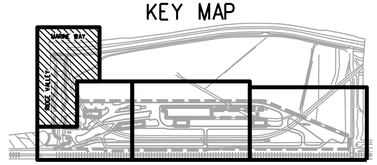
1"=40'

KEY MAP



REV.	DATE		BY	SUB.	APP.
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1	10/13/21	CONDITIONAL USE PERMIT SUBMITTAL - REVISION 1			
0	6/30/21	CONDITIONAL USE PERMIT SUBMITTAL			

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DESIGNED BY D. SMITH
DRAWN BY D. SALAZAR
CHECKED BY J. NEFF
APPROVED BY M. FREEMAN
DATE 01/05/2022

NOT FOR CONSTRUCTION

METROLINK®
Gannett Fleming

SUBMITTED: _____ PROJECT MANAGER
APPROVED: _____

METROLINK ORANGE COUNTY MAINTENANCE FACILITY PROJECT CIVIL PROPOSED SITE PLAN SHEET 1 OF 4

CASE NO. 00846471-PCPU
CONTRACT NO. C91143
DRAWING NO. CUP-010
REVISION 2
SHEET NO. 10 OF 55
SCALE AS SHOWN

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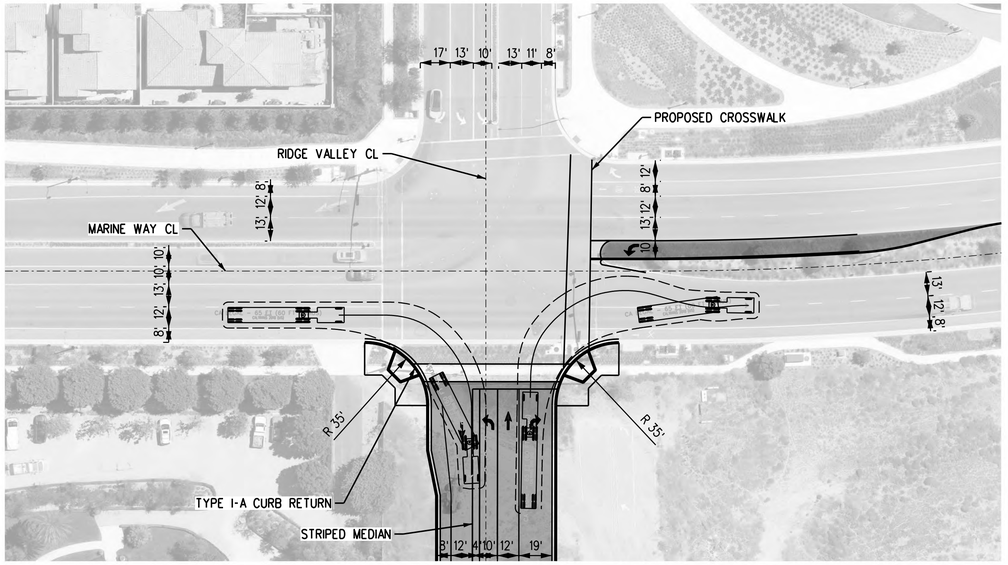
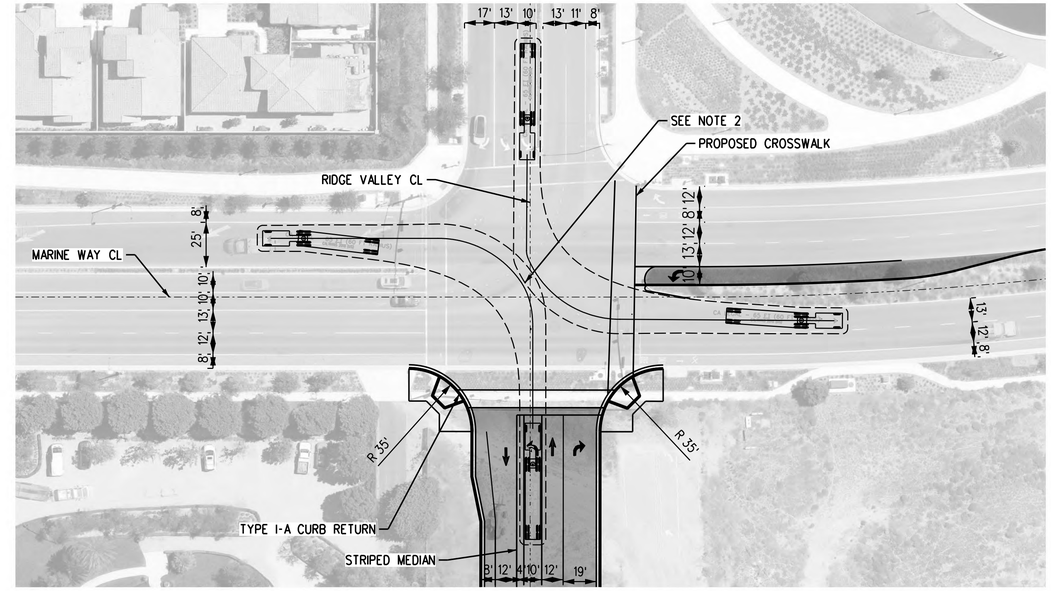
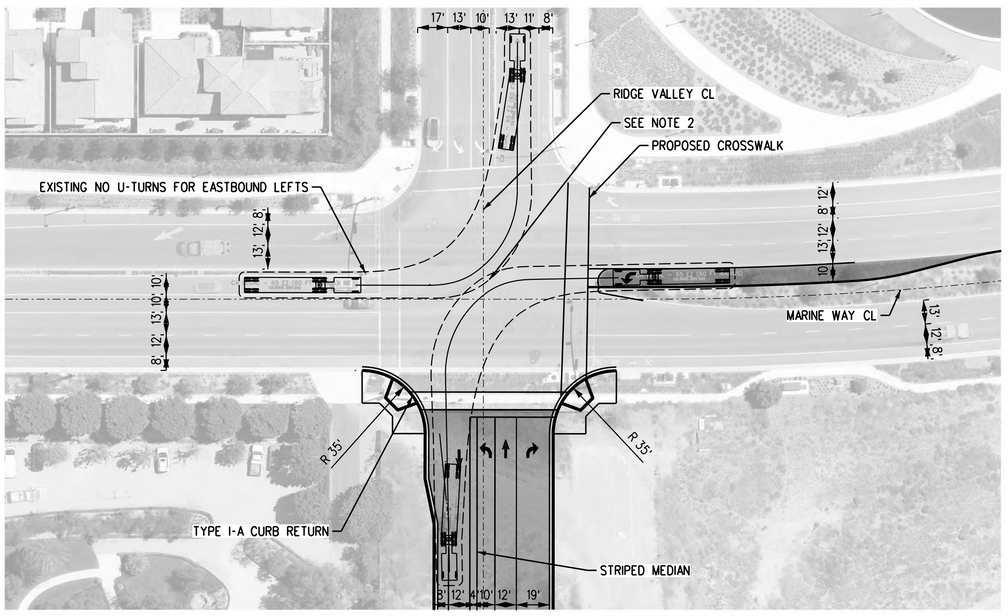


MARINE WAY AND RIDGE VALLEY INTERSECTION
EASTBOUND AND SOUTHBOUND RIGHT TURNS



MARINE WAY AND RIDGE VALLEY INTERSECTION
EASTBOUND AND WESTBOUND LEFT TURNS



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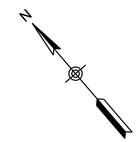
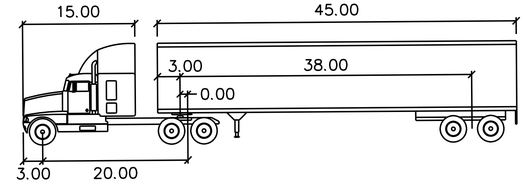
NORTHBOUND AND SOUTHBOUND LEFT TURNS





CA LEGAL - 65 FT (60 FT RADIUS)

	FEET		
TRACTOR WIDTH	: 8.50	LOCK TO LOCK TIME	: 6.0
TRAILER WIDTH	: 8.50	STEERING ANGLE	: 20.9
TRACTOR TRACK	: 8.50	ARTICULATING ANGLE	: 70.0
TRAILER TRACK	: 8.50		

TRUCK PATH CENTERLINE

3' CLEARANCE

NOTES:

1. SEE CUP-016 FOR LINE OF SIGHT DETAIL
2. NORTHBOUND AND SOUTHBOUND LEFTS AS WELL AS EASTBOUND AND WESTBOUND LEFTS WILL BE PROGRAMMED TO OPERATE IN A LEAD-LAG SEQUENCE. A RIGHT-TURN OVERLAP FOR SOUTHBOUND WILL OPERATE CONCURRENTLY WITH EASTBOUND LEFTS.

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1"=40'

REV.	DATE		BY	SUB.	APP.
2	01/05/22	CONDITIONAL USE PERMIT SUBMITTAL - REVISION 2			
1	10/13/21	CONDITIONAL USE PERMIT SUBMITTAL - REVISION 1			
0	6/30/21	CONDITIONAL USE PERMIT SUBMITTAL			

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DESIGNED BY D. SMITH
DRAWN BY P. NGUYEN
CHECKED BY J. NEFF
APPROVED BY M. FREEMAN
DATE 01/05/2022

NOT FOR CONSTRUCTION

METROLINK®
Gannett Fleming

SUBMITTED: _____ PROJECT MANAGER
APPROVED: _____

METROLINK ORANGE COUNTY
MAINTENANCE FACILITY PROJECT
GENERAL AUTOTURN LAYOUT PLANS
MARINE WAY AND RIDGE VALLEY

CASE NO. 00846471-PCPU
CONTRACT NO. C91143
DRAWING NO. CUP-047
REVISION 2
SHEET NO. 48 OF 55
SCALE AS SHOWN

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Attachment C

ICU Level of Service Calculations

Existing Baseline (2020)

1 (303) Sand Canyon Ave. / I-5 NB Ramps

	Lanes	Capacity	AM peak hour Volume	AM peak hour v/c	PM peak hour Volume	PM peak hour v/c
NBL	2	3,400	243	0.07 c	566	0.17 c
NBT	3	5,100	467	0.09	1,657	0.32
NBR	d	1,700	13	0.01	18	0.01
SBL	1	1,700	16	0.01	5	0.00
SBT	3	5,100	1,878	0.37 c	836	0.16 c
SBR	1	1,700	570	0.34	222	0.13
EBL	1.5		322		938	
EBT	0.5	3,400	0	0.09 c	0	0.28 c
EBR	2	3,400	526	0.15	217	0.06
WBL	1	1,700	6	0.00 c	37	0.02 c
WBT	1	1,700	0	0.00	0	0.00
WBR	0	0	3		0	
Right turn adjustment			NBR		NBR	
			SBR		SBR	
			EBR		EBR	
			WBR		WBR	
Clearance interval				0.05 c		0.05 c
Split phasing			N/S		N/S	
			E/W	+	E/W	+
Total capacity utilization				**0.58**		**0.68**
Level of service				**A**		**B**

2 (304) Sand Canyon Ave. / Marine Way

	Lanes	Capacity	AM peak hour Volume	AM peak hour v/c	PM peak hour Volume	PM peak hour v/c
NBL	0	0	0		0	
NBT	3	5,100	548	0.11	2,084	0.41 c
NBR	1	1,700	197	0.12	463	0.27
SBL	2	3,400	99	0.03	141	0.04 c
SBT	3	5,100	2,236	0.44 c	937	0.18
SBR	0	0	0		0	
EBL	0	0	0		0	
EBT	0	0	0		0	
EBR	0	0	0		0	
WBL	2	3,400	448	0.13 c	281	0.08 c
WBT	0	0	0		0	
WBR	1	1,700	146	0.09	130	0.08
Right turn adjustment			NBR		NBR	
			SBR		SBR	
			EBR		EBR	
			WBR		WBR	
Clearance interval				0.05 c		0.05 c
Split phasing			N/S		N/S	
			E/W		E/W	
Total capacity utilization				**0.62**		**0.58**
Level of service				**B**		**A**

3 (305) Sand Canyon Ave. / I-5 SB Ramps

	Lanes	Capacity	AM peak hour Volume	AM peak hour v/c	PM peak hour Volume	PM peak hour v/c
NBL	0	0	0		0	
NBT	4	6,800	473	0.07	1,922	0.28 c
NBR	1	1,700	121	0.07	380	0.22
SBL	2	3,400	732	0.22	450	0.13 c
SBT	4	6,800	1,967	0.29 c	726	0.11
SBR	0	0	0		0	
EBL	2.5		254	0.07 c	617	0.12 c
EBT	0	6,800	4		1	
EBR	1.5		893	0.26	250	0.15
WBL	0	0	0		0	
WBT	0	0	0		0	
WBR	0	0	0		0	
Right turn adjustment			NBR		NBR	
			SBR		SBR	
			EBR	0.19 c	EBR	
			WBR		WBR	
Clearance interval				0.05 c		0.05 c
Split phasing			N/S		N/S	
			E/W		E/W	
Total capacity utilization				**0.60**		**0.58**
Level of service				**A**		**A**

4 Ridge Valley / Marine Way

	Lanes	Capacity	AM peak hour Volume	AM peak hour v/c	PM peak hour Volume	PM peak hour v/c
NBL		0				
NBT		0				
NBR		0				
SBL	2	3,400	23	0.01 c	32	0.01 c
SBT	0	0	0		0	
SBR	1	1,700	526	0.31	171	0.10
EBL	2	3,400	114	0.03 c	390	0.11 c
EBT	2	3,400	149	0.04	262	0.08
EBR	0	0	0		0	
WBL	0	0	0		0	
WBT	2	3,400	80	0.02 c	220	0.06 c
WBR	1	1,700	16	0.01	37	0.02
Right turn adjustment			NBR		NBR	
			SBR	0.28 c	SBR	0.01 c
			EBR		EBR	
			WBR		WBR	
Clearance interval				0.05 c		0.05 c
Split phasing			N/S		N/S	
			E/W		E/W	
Total capacity utilization				**0.39**		**0.24**
Level of service				**A**		**A**

Existing Baseline (2020) plus Project

1 (303) Sand Canyon Ave. / I-5 NB Ramps

	Lanes	Capacity	AM peak hour Volume	AM peak hour v/c	PM peak hour Volume	PM peak hour v/c
NBL	2	3,400	255	0.08 c	573	0.17 c
NBT	3	5,100	469	0.09	1,658	0.33
NBR	d	1,700	13	0.01	18	0.01
SBL	1	1,700	16	0.01	5	0.00
SBT	3	5,100	1,878	0.37 c	836	0.16 c
SBR	1	1,700	570	0.34	222	0.13
EBL	1.5		322		938	
EBT	0.5	3,400	0	0.09 c	0	0.28 c
EBR	2	3,400	530	0.16	218	0.06
WBL	1	1,700	6	0.00 c	37	0.02 c
WBT	1	1,700	0	0.00	0	0.00
WBR	0	0	3		0	
Right turn adjustment			NBR		NBR	
			SBR		SBR	
			EBR		EBR	
			WBR		WBR	
Clearance interval				0.05 c		0.05 c
Split phasing			N/S		N/S	
			E/W	+	E/W	+
Total capacity utilization				**0.59**		**0.68**
Level of service				**A**		**B**

2 (304) Sand Canyon Ave. / Marine Way

	Lanes	Capacity	AM peak hour Volume	AM peak hour v/c	PM peak hour Volume	PM peak hour v/c
NBL	0	0	0		0	
NBT	3	5,100	548	0.11	2,084	0.41 c
NBR	1	1,700	203	0.12	463	0.27
SBL	2	3,400	103	0.03	142	0.04 c
SBT	3	5,100	2,236	0.44 c	937	0.18
SBR	0	0	0		0	
EBL	0	0	0		0	
EBT	0	0	0		0	
EBR	0	0	0		0	
WBL	2	3,400	457	0.13 c	287	0.08 c
WBT	0	0	0		0	
WBR	1	1,700	159	0.09	137	0.08
Right turn adjustment			NBR		NBR	
			SBR		SBR	
			EBR		EBR	
			WBR		WBR	
Clearance interval				0.05 c		0.05 c
Split phasing			N/S		N/S	
			E/W		E/W	
Total capacity utilization				**0.62**		**0.58**
Level of service				**B**		**A**

3 (305) Sand Canyon Ave. / I-5 SB Ramps

	Lanes	Capacity	AM peak hour Volume	AM peak hour v/c	PM peak hour Volume	PM peak hour v/c
NBL	0	0	0		0	
NBT	4	6,800	474	0.07	1,922	0.28 c
NBR	1	1,700	121	0.07	380	0.22
SBL	2	3,400	739	0.22	455	0.13 c
SBT	4	6,800	1,970	0.29 c	727	0.11
SBR	0	0	0		0	
EBL	2.5		259	0.08 c	617	0.12 c
EBT	0	6,800	4		1	
EBR	1.5		893	0.26	250	0.15
WBL	0	0	0		0	
WBT	0	0	0		0	
WBR	0	0	0		0	
Right turn adjustment			NBR		NBR	
			SBR		SBR	
			EBR	0.19 c	EBR	
			WBR		WBR	
Clearance interval				0.05 c		0.05 c
Split phasing			N/S		N/S	
			E/W		E/W	
Total capacity utilization				**0.61**		**0.58**
Level of service				**B**		**A**

4 Ridge Valley / Marine Way

	Lanes	Capacity	AM peak hour Volume	AM peak hour v/c	PM peak hour Volume	PM peak hour v/c
NBL	1	1,700	21	0.01	13	0.01
NBT	1	1,700	2	0.01 c	1	0.01 c
NBR	1	1,700	1	0.00	0	0.00
SBL	1	1,700	23	0.01 c	32	0.02 c
SBT	1	1,700	1	0.00	0	0.00
SBR	1	1,700	526	0.31	171	0.10
EBL	2	3,400	114	0.03 c	390	0.11 c
EBT	2	3,400	149	0.05	262	0.08
EBR	0	0	10		1	
WBL	1	1,700	0	0.00	0	0.00
WBT	2	3,400	80	0.02 c	220	0.06 c
WBR	1	1,700	16	0.01	37	0.02
Right turn adjustment			NBR		NBR	
			SBR	0.26 c	SBR	
			EBR		EBR	
			WBR		WBR	
Clearance interval				0.05 c		0.05 c
Split phasing			N/S		N/S	
			E/W		E/W	
Total capacity utilization				**0.38**		**0.25**
Level of service				**A**		**A**

Short-Term Interim Year Baseline (2025) Alternative 1

1 (303) Sand Canyon Ave. / I-5 NB Ramps

	Lanes	Capacity	AM peak hour Volume	AM peak hour v/c	PM peak hour Volume	PM peak hour v/c
NBL	2	3,400	291	0.09 c	710	0.21 c
NBT	3	5,100	602	0.12	1,829	0.36
NBR	d	1,700	33	0.02	31	0.02
SBL	1	1,700	40	0.02	10	0.01
SBT	3	5,100	2,175	0.43 c	1,074	0.21 c
SBR	1	1,700	749	0.44	310	0.18
EBL	1.5		461		1,126	
EBT	0.5	3,400	0	0.14 c	0	0.33 c
EBR	2	3,400	622	0.18	268	0.08
WBL	1	1,700	12	0.01 c	94	0.06 c
WBT	1	1,700	0	0.00	0	0.00
WBR	0	0	8		0	
Right turn adjustment			NBR		NBR	
			SBR		SBR	
			EBR		EBR	
			WBR		WBR	
Clearance interval				0.05 c		0.05 c
Split phasing			N/S		N/S	
			E/W	+	E/W	+
Total capacity utilization				**0.72**		**0.86**
Level of service				**C**		**D**

2 (304) Sand Canyon Ave. / Marine Way

	Lanes	Capacity	AM peak hour Volume	AM peak hour v/c	PM peak hour Volume	PM peak hour v/c
NBL	0	0	0		0	
NBT	3	5,100	701	0.14	2,342	0.46 c
NBR	1	1,700	240	0.14	674	0.40
SBL	1	1,700	124	0.07	201	0.12 c
SBT	4	6,800	2,607	0.38 c	1,222	0.18
SBR	0	0	0		0	
EBL	0	0	0		0	
EBT	0	0	0		0	
EBR	0	0	0		0	
WBL	2	3,400	535	0.16 c	487	0.14 c
WBT	0	0	0		0	
WBR	1	1,700	194	0.11	202	0.12
Right turn adjustment			NBR		NBR	
			SBR		SBR	
			EBR		EBR	
			WBR		WBR	
Clearance interval				0.05 c		0.05 c
Split phasing			N/S		N/S	
			E/W		E/W	
Total capacity utilization				**0.59**		**0.77**
Level of service				**A**		**C**

3 (305) Sand Canyon Ave. / I-5 SB Ramps

	Lanes	Capacity	AM peak hour Volume	AM peak hour v/c	PM peak hour Volume	PM peak hour v/c
NBL	0	0	0		0	
NBT	4	6,800	611	0.09	2,315	0.34 c
NBR	1	1,700	131	0.08	401	0.24
SBL	2	3,400	844	0.25	649	0.19 c
SBT	4	6,800	2,314	0.34 c	1,012	0.15
SBR	0	0	0		0	
EBL	2.5		305	0.09 c	702	0.14 c
EBT	0	6,800	4		1	
EBR	1.5		911	0.27	236	0.14
WBL	0	0	0		0	
WBT	0	0	0		0	
WBR	0	0	0		0	
Right turn adjustment			NBR		NBR	
			SBR		SBR	
			EBR	0.18 c	EBR	
			WBR		WBR	
Clearance interval				0.05 c		0.05 c
Split phasing			N/S		N/S	
			E/W		E/W	
Total capacity utilization				**0.66**		**0.72**
Level of service				**B**		**C**

4 Ridge Valley / Marine Way

	Lanes	Capacity	AM peak hour Volume	AM peak hour v/c	PM peak hour Volume	PM peak hour v/c
NBL		0				
NBT		0				
NBR		0				
SBL	2	3,400	26	0.01 c	35	0.01 c
SBT	0	0	0		0	
SBR	1	1,700	581	0.34	189	0.11
EBL	2	3,400	126	0.04 c	430	0.13 c
EBT	2	3,400	164	0.05	289	0.09
EBR	0	0	0		0	
WBL	0	0	0		0	
WBT	2	3,400	88	0.03 c	243	0.07 c
WBR	1	1,700	18	0.01	41	0.02
Right turn adjustment			NBR		NBR	
			SBR	0.31 c	SBR	0.01 c
			EBR		EBR	
			WBR		WBR	
Clearance interval				0.05 c		0.05 c
Split phasing			N/S		N/S	
			E/W		E/W	
Total capacity utilization				**0.44**		**0.27**
Level of service				**A**		**A**

Short-Term Interim Year Baseline (2025) Alternative 1 plus Project

1 (303) Sand Canyon Ave. / I-5 NB Ramps

	Lanes	Capacity	AM peak hour Volume	AM peak hour v/c		PM peak hour Volume	PM peak hour v/c	
NBL	2	3,400	304	0.09	c	717	0.21	c
NBT	3	5,100	604	0.12		1,830	0.36	
NBR	d	1,700	33	0.02		31	0.02	
SBL	1	1,700	40	0.02		10	0.01	
SBT	3	5,100	2,176	0.43	c	1,074	0.21	c
SBR	1	1,700	749	0.44		310	0.18	
EBL	1.5		461			1,126		
EBT	0.5	3,400	0	0.14	c	0	0.33	c
EBR	2	3,400	626	0.18		270	0.08	
WBL	1	1,700	12	0.01	c	94	0.06	c
WBT	1	1,700	0	0.00		0	0.00	
WBR	0	0	8			0		
Right turn adjustment			NBR			NBR		
			SBR			SBR		
			EBR			EBR		
			WBR			WBR		
Clearance interval				0.05	c		0.05	c
Split phasing			N/S			N/S		
			E/W	+		E/W	+	
Total capacity utilization				**0.72**			**0.86**	
Level of service				**C**			**D**	

2 (304) Sand Canyon Ave. / Marine Way

	Lanes	Capacity	AM peak hour Volume	AM peak hour v/c		PM peak hour Volume	PM peak hour v/c	
NBL	0	0	0			0		
NBT	3	5,100	701	0.14		2,342	0.46	c
NBR	1	1,700	248	0.15		676	0.40	
SBL	1	1,700	128	0.08		202	0.12	c
SBT	4	6,800	2,607	0.38	c	1,222	0.18	
SBR	0	0	0			0		
EBL	0	0	0			0		
EBT	0	0	0			0		
EBR	0	0	0			0		
WBL	2	3,400	545	0.16	c	494	0.15	c
WBT	0	0	0			0		
WBR	1	1,700	207	0.12		210	0.12	
Right turn adjustment			NBR			NBR		
			SBR			SBR		
			EBR			EBR		
			WBR			WBR		
Clearance interval				0.05	c		0.05	c
Split phasing			N/S			N/S		
			E/W			E/W		
Total capacity utilization				**0.59**			**0.78**	
Level of service				**A**			**C**	

3 (305) Sand Canyon Ave. / I-5 SB Ramps

	Lanes	Capacity	AM peak hour Volume	AM peak hour v/c		PM peak hour Volume	PM peak hour v/c	
NBL	0	0	0			0		
NBT	4	6,800	612	0.09		2,315	0.34	c
NBR	1	1,700	131	0.08		401	0.24	
SBL	2	3,400	851	0.25		655	0.19	c
SBT	4	6,800	2,316	0.34	c	1,013	0.15	
SBR	0	0	0			0		
EBL	2.5		311	0.09	c	704	0.14	c
EBT	0	6,800	4			1		
EBR	1.5		911	0.27		236	0.14	
WBL	0	0	0			0		
WBT	0	0	0			0		
WBR	0	0	0			0		
Right turn adjustment			NBR			NBR		
			SBR			SBR		
			EBR	0.18	c	EBR		
			WBR			WBR		
Clearance interval				0.05	c		0.05	c
Split phasing			N/S			N/S		
			E/W			E/W		
Total capacity utilization				**0.66**			**0.72**	
Level of service				**B**			**C**	

4 Ridge Valley / Marine Way

	Lanes	Capacity	AM peak hour Volume	AM peak hour v/c		PM peak hour Volume	PM peak hour v/c	
NBL	1	1,700	24	0.01		15	0.01	
NBT	1	1,700	3	0.02	c	1	0.01	c
NBR	1	1,700	1	0.00		1	0.00	
SBL	1	1,700	26	0.02	c	35	0.02	c
SBT	1	1,700	1	0.00		0	0.00	
SBR	1	1,700	581	0.34		189	0.11	
EBL	2	3,400	126	0.04	c	430	0.13	c
EBT	2	3,400	164	0.05		289	0.09	
EBR	0	0	12			3		
WBL	1	1,700	1	0.00		0	0.00	
WBT	2	3,400	88	0.03	c	243	0.07	c
WBR	1	1,700	18	0.01		41	0.02	
Right turn adjustment			NBR			NBR		
			SBR	0.29	c	SBR		
			EBR			EBR		
			WBR			WBR		
Clearance interval				0.05	c		0.05	c
Split phasing			N/S			N/S		
			E/W			E/W		
Total capacity utilization				**0.45**			**0.28**	
Level of service				**A**			**A**	

Short-Term Interim Year Baseline (2025) Alternative 2

1 (303) Sand Canyon Ave. / I-5 NB Ramps / Marine Way

	Lanes	Capacity	AM peak hour Volume	AM peak hour v/c		PM peak hour Volume	PM peak hour v/c	
NBL	2	3,400	228	0.07	c	653	0.19	c
NBT	4	6,800	472	0.07		1,684	0.25	
NBR	1	1,700	274	0.16		705	0.41	
SBL	2	3,400	136	0.04		171	0.05	
SBT	4	6,800	2,079	0.31	c	913	0.13	c
SBR	1	1,700	749	0.44		310	0.18	
EBL	2	3,400	461	0.14		1,126	0.33	c
EBT	1.5	5,100	28	0.02	c	40	0.02	
EBR	1.5		595	0.18		228	0.07	
WBL	2	3,400	547	0.16	c	581	0.17	
WBT	2	3,400	63	0.02		56	0.02	c
WBR	1	1,700	139	0.08		145	0.09	
Right turn adjustment			NBR			NBR		
			SBR	0.02	c	SBR		
			EBR	0.11	c	EBR		
			WBR			WBR	0.01	c
Clearance interval				0.05	c		0.05	c
Split phasing			N/S			N/S		
			E/W			E/W		
Total capacity utilization				**0.74**			**0.73**	
Level of service				**C**			**C**	

2 (304) Sand Canyon Ave. / Old Marine Way

	Lanes	Capacity	AM peak hour Volume	AM peak hour v/c		PM peak hour Volume	PM peak hour v/c	
NBL	0	0	0			0		
NBT	4	6,800	828	0.12		2,911	0.43	c
NBR	d	1,700	114	0.07		105	0.06	
SBL	0	0	94	0.06		113	0.07	c
SBT	4	6,800	3,048	0.46	c	1,596	0.25	
SBR	0	0	0			0		
EBL	0	0	0			0		
EBT	0	0	0			0		
EBR	0	0	0			0		
WBL	2	3,400	53	0.02	c	89	0.03	c
WBT	0	0	0			0		
WBR	1	1,700	44	0.03		84	0.05	
Right turn adjustment			NBR			NBR		
			SBR			SBR		
			EBR			EBR		
			WBR			WBR		
Clearance interval				0.05	c		0.05	c
Split phasing			N/S			N/S		
			E/W			E/W		
Total capacity utilization				**0.53**			**0.58**	
Level of service				**A**			**A**	

3 (305) Sand Canyon Ave. / I-5 SB Ramps

	Lanes	Capacity	AM peak hour Volume	AM peak hour v/c		PM peak hour Volume	PM peak hour v/c	
NBL	0	0	0			0		
NBT	4	6,800	611	0.09		2,315	0.34	c
NBR	1	1,700	131	0.08		401	0.24	
SBL	2	3,400	844	0.25		649	0.19	c
SBT	4	6,800	2,314	0.34	c	1,012	0.15	
SBR	0	0	0			0		
EBL	2.5		305	0.09	c	702	0.14	c
EBT	0	6,800	4			1		
EBR	1.5		911	0.27		236	0.14	
WBL	0	0	0			0		
WBT	0	0	0			0		
WBR	0	0	0			0		
Right turn adjustment			NBR			NBR		
			SBR			SBR		
			EBR	0.18	c	EBR		
			WBR			WBR		
Clearance interval				0.05	c		0.05	c
Split phasing			N/S			N/S		
			E/W			E/W		
Total capacity utilization				**0.66**			**0.72**	
Level of service				**B**			**C**	

4 Ridge Valley / Marine Way

	Lanes	Capacity	AM peak hour Volume	AM peak hour v/c		PM peak hour Volume	PM peak hour v/c	
NBL		0						
NBT		0						
NBR		0						
SBL	2	3,400	26	0.01	c	35	0.01	c
SBT	0	0	0			0		
SBR	1	1,700	581	0.34		189	0.11	
EBL	2	3,400	126	0.04	c	430	0.13	c
EBT	2	3,400	164	0.05		289	0.09	
EBR	0	0	0			0		
WBL	0	0	0			0		
WBT	2	3,400	88	0.03	c	243	0.07	c
WBR	1	1,700	18	0.01		41	0.02	
Right turn adjustment			NBR			NBR		
			SBR	0.31	c	SBR	0.01	c
			EBR			EBR		
			WBR			WBR		
Clearance interval				0.05	c		0.05	c
Split phasing			N/S			N/S		
			E/W			E/W		
Total capacity utilization				**0.44**			**0.27**	
Level of service				**A**			**A**	

Short-Term Interim Year Baseline (2025) Alternative 2 plus Project

1 (303) Sand Canyon Ave. / I-5 NB Ramps / Marine Way

			AM peak hour		PM peak hour	
	Lanes	Capacity	Volume	v/c	Volume	v/c
NBL	2	3,400	228	0.07 c	653	0.19 c
NBT	4	6,800	472	0.07	1,684	0.25
NBR	1	1,700	281	0.17	707	0.42
SBL	2	3,400	136	0.04	171	0.05
SBT	4	6,800	2,079	0.31 c	913	0.13 c
SBR	1	1,700	749	0.44	310	0.18
EBL	2	3,400	461	0.14	1,126	0.33 c
EBT	1.5	5,100	32	0.02 c	41	0.02
EBR	1.5		595	0.18	228	0.07
WBL	2	3,400	557	0.16 c	587	0.17
WBT	2	3,400	76	0.02	64	0.02 c
WBR	1	1,700	140	0.08	146	0.09
Right turn adjustment			NBR		NBR	
			SBR	0.01 c	SBR	
			EBR	0.11 c	EBR	
			WBR		WBR	0.01 c
Clearance interval				0.05 c		0.05 c
Split phasing			N/S		N/S	
			E/W		E/W	
Total capacity utilization				**0.73**		**0.73**
Level of service				**C**		**C**

2 (304) Sand Canyon Ave. / Old Marine Way

			AM peak hour		PM peak hour	
	Lanes	Capacity	Volume	v/c	Volume	v/c
NBL	0	0	0		0	
NBT	4	6,800	835	0.12	2,913	0.43 c
NBR	d	1,700	114	0.07	105	0.06
SBL	0	0	94	0.06	113	0.07 c
SBT	4	6,800	3,058	0.46 c	1,603	0.25
SBR	0	0	0		0	
EBL	0	0	0		0	
EBT	0	0	0		0	
EBR	0	0	0		0	
WBL	2	3,400	53	0.02 c	89	0.03 c
WBT	0	0	0		0	
WBR	1	1,700	44	0.03	84	0.05
Right turn adjustment			NBR		NBR	
			SBR		SBR	
			EBR		EBR	
			WBR		WBR	
Clearance interval				0.05 c		0.05 c
Split phasing			N/S		N/S	
			E/W		E/W	
Total capacity utilization				**0.53**		**0.58**
Level of service				**A**		**A**

3 (305) Sand Canyon Ave. / I-5 SB Ramps

			AM peak hour		PM peak hour	
	Lanes	Capacity	Volume	v/c	Volume	v/c
NBL	0	0	0		0	
NBT	4	6,800	612	0.09	2,315	0.34 c
NBR	1	1,700	131	0.08	401	0.24
SBL	2	3,400	851	0.25	655	0.19 c
SBT	4	6,800	2,316	0.34 c	1,013	0.15
SBR	0	0	0		0	
EBL	2.5		311	0.09 c	704	0.14 c
EBT	0	6,800	4		1	
EBR	1.5		911	0.27	236	0.14
WBL	0	0	0		0	
WBT	0	0	0		0	
WBR	0	0	0		0	
Right turn adjustment			NBR		NBR	
			SBR		SBR	
			EBR	0.18 c	EBR	
			WBR		WBR	
Clearance interval				0.05 c		0.05 c
Split phasing			N/S		N/S	
			E/W		E/W	
Total capacity utilization				**0.66**		**0.72**
Level of service				**B**		**C**

4 Ridge Valley / Marine Way

			AM peak hour		PM peak hour	
	Lanes	Capacity	Volume	v/c	Volume	v/c
NBL	1	1,700	24	0.01	15	0.01
NBT	1	1,700	3	0.02 c	1	0.01 c
NBR	1	1,700	1	0.00	1	0.00
SBL	1	1,700	26	0.02 c	35	0.02 c
SBT	1	1,700	1	0.00	0	0.00
SBR	1	1,700	581	0.34	189	0.11
EBL	2	3,400	126	0.04 c	430	0.13 c
EBT	2	3,400	164	0.05	289	0.09
EBR	0	0	12		3	
WBL	1	1,700	1	0.00	0	0.00
WBT	2	3,400	88	0.03 c	243	0.07 c
WBR	1	1,700	18	0.01	41	0.02
Right turn adjustment			NBR		NBR	
			SBR	0.29 c	SBR	
			EBR		EBR	
			WBR		WBR	
Clearance interval				0.05 c		0.05 c
Split phasing			N/S		N/S	
			E/W		E/W	
Total capacity utilization				**0.45**		**0.28**
Level of service				**A**		**A**

Attachment D

HCM Level of Service Calculations

HCM 6th Signalized Intersection Summary
1: I-5 Northbound Ramps & Sand Canyon Ave

Baseline Conditions
AM Peak Hour

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	322	0	526	6	0	3	243	467	13	16	1878	570
Future Volume (veh/h)	322	0	526	6	0	3	243	467	13	16	1878	570
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1945
Adj Flow Rate, veh/h	350	0	572	7	0	3	264	508	14	17	2041	620
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	478	0	1049	22	0	19	680	3053	948	99	2333	753
Arrive On Green	0.13	0.00	0.13	0.01	0.00	0.01	0.06	0.20	0.20	0.06	0.46	0.46
Sat Flow, veh/h	3563	0	3170	1781	0	1585	3456	5106	1585	1781	5106	1648
Grp Volume(v), veh/h	350	0	572	7	0	3	264	508	14	17	2041	620
Grp Sat Flow(s),veh/h/ln	1781	0	1585	1781	0	1585	1728	1702	1585	1781	1702	1648
Q Serve(g_s), s	8.5	0.0	0.0	0.4	0.0	0.2	6.6	7.4	0.6	0.8	32.6	29.5
Cycle Q Clear(g_c), s	8.5	0.0	0.0	0.4	0.0	0.2	6.6	7.4	0.6	0.8	32.6	29.5
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	478	0	1049	22	0	19	680	3053	948	99	2333	753
V/C Ratio(X)	0.73	0.00	0.55	0.32	0.00	0.15	0.39	0.17	0.01	0.17	0.87	0.82
Avail Cap(c_a), veh/h	574	0	1134	99	0	88	680	3053	948	99	2383	769
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	0.33	0.33	0.33	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	0.98	0.98	0.98	1.00	1.00	1.00
Uniform Delay (d), s/veh	37.4	0.0	24.6	44.1	0.0	44.0	36.9	17.5	14.8	40.5	22.1	21.3
Incr Delay (d2), s/veh	3.9	0.0	0.5	8.1	0.0	3.6	0.4	0.1	0.0	0.8	5.0	9.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.9	0.0	5.0	0.2	0.0	0.1	2.7	2.6	0.2	0.4	11.9	11.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	41.3	0.0	25.0	52.2	0.0	47.6	37.2	17.6	14.8	41.3	27.1	31.2
LnGrp LOS	D	A	C	D	A	D	D	B	B	D	C	C
Approach Vol, veh/h		922			10			786			2678	
Approach Delay, s/veh		31.2			50.8			24.2			28.1	
Approach LOS		C			D			C			C	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	9.5	58.3		5.6	22.2	45.6		16.6				
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gmax), s	5.0	47.5		5.0	10.5	42.0		14.5				
Max Q Clear Time (g_c+I1), s	2.8	9.4		2.4	8.6	34.6		10.5				
Green Ext Time (p_c), s	0.0	3.2		0.0	0.2	6.6		1.6				
Intersection Summary												
HCM 6th Ctrl Delay			28.1									
HCM 6th LOS			C									

Notes

User approved volume balancing among the lanes for turning movement.

HCM 6th Signalized Intersection Summary
3: I-5 Southbound Ramps & Sand Canyon Ave

Baseline Conditions
AM Peak Hour

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	254	4	893	0	0	0	0	473	121	732	1967	0
Future Volume (veh/h)	254	4	893	0	0	0	0	473	121	732	1967	0
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No						No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870				0	1870	1870	1870	1870	0
Adj Flow Rate, veh/h	222	0	1031				0	514	132	796	2138	0
Peak Hour Factor	0.92	0.92	0.92				0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2				0	2	2	2	2	0
Cap, veh/h	1276	0	1136				0	1592	392	844	3485	0
Arrive On Green	0.36	0.00	0.36				0.00	0.25	0.25	0.49	1.00	0.00
Sat Flow, veh/h	3563	0	3170				0	6696	1585	3456	6696	0
Grp Volume(v), veh/h	222	0	1031				0	514	132	796	2138	0
Grp Sat Flow(s),veh/h/ln	1781	0	1585				0	1609	1585	1728	1609	0
Q Serve(g_s), s	3.8	0.0	27.8				0.0	5.9	6.2	19.7	0.0	0.0
Cycle Q Clear(g_c), s	3.8	0.0	27.8				0.0	5.9	6.2	19.7	0.0	0.0
Prop In Lane	1.00		1.00				0.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	1276	0	1136				0	1592	392	844	3485	0
V/C Ratio(X)	0.17	0.00	0.91				0.00	0.32	0.34	0.94	0.61	0.00
Avail Cap(c_a), veh/h	1366	0	1215				0	1592	392	864	3485	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	2.00	2.00	1.00
Upstream Filter(I)	1.00	0.00	1.00				0.00	1.00	1.00	0.59	0.59	0.00
Uniform Delay (d), s/veh	19.8	0.0	27.5				0.0	27.7	27.8	22.4	0.0	0.0
Incr Delay (d2), s/veh	0.1	0.0	9.6				0.0	0.5	2.3	12.3	0.5	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.5	0.0	11.4				0.0	2.1	2.4	6.2	0.1	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	19.8	0.0	37.1				0.0	28.2	30.1	34.8	0.5	0.0
LnGrp LOS	B	A	D				A	C	C	C	A	A
Approach Vol, veh/h		1253						646			2934	
Approach Delay, s/veh		34.0						28.6			9.8	
Approach LOS		C						C			A	
Timer - Assigned Phs	1	2				6		8				
Phs Duration (G+Y+Rc), s	26.5	26.8				53.3		36.7				
Change Period (Y+Rc), s	4.5	4.5				4.5		4.5				
Max Green Setting (Gmax), s	22.5	19.5				46.5		34.5				
Max Q Clear Time (g_c+I1), s	21.7	8.2				2.0		29.8				
Green Ext Time (p_c), s	0.3	2.6				23.4		2.4				
Intersection Summary												
HCM 6th Ctrl Delay			18.6									
HCM 6th LOS			B									

Notes

User approved volume balancing among the lanes for turning movement.

HCM 6th Signalized Intersection Summary
1: I-5 Northbound Ramps & Sand Canyon Ave

Baseline Conditions
PM Peak Hour

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	938	0	217	37	0	0	566	1657	18	5	836	222
Future Volume (veh/h)	938	0	217	37	0	0	566	1657	18	5	836	222
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1945
Adj Flow Rate, veh/h	1020	0	236	40	0	0	615	1801	20	5	909	241
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	1103	0	1736	63	66	0	823	2042	634	99	1110	358
Arrive On Green	0.31	0.00	0.31	0.04	0.00	0.00	0.08	0.13	0.13	0.06	0.22	0.22
Sat Flow, veh/h	3563	0	3170	1781	1870	0	3456	5106	1585	1781	5106	1648
Grp Volume(v), veh/h	1020	0	236	40	0	0	615	1801	20	5	909	241
Grp Sat Flow(s),veh/h/ln	1781	0	1585	1781	1870	0	1728	1702	1585	1781	1702	1648
Q Serve(g_s), s	24.9	0.0	0.0	2.0	0.0	0.0	15.7	31.2	1.0	0.2	15.3	12.1
Cycle Q Clear(g_c), s	24.9	0.0	0.0	2.0	0.0	0.0	15.7	31.2	1.0	0.2	15.3	12.1
Prop In Lane	1.00		1.00	1.00		0.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	1103	0	1736	63	66	0	823	2042	634	99	1110	358
V/C Ratio(X)	0.93	0.00	0.14	0.64	0.00	0.00	0.75	0.88	0.03	0.05	0.82	0.67
Avail Cap(c_a), veh/h	1128	0	1758	99	104	0	823	2042	634	99	1214	392
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	0.33	0.33	0.33	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	0.00	0.63	0.63	0.63	1.00	1.00	1.00
Uniform Delay (d), s/veh	30.1	0.0	10.0	42.9	0.0	0.0	38.8	37.0	23.9	40.3	33.5	32.3
Incr Delay (d2), s/veh	12.5	0.0	0.0	10.4	0.0	0.0	2.4	3.9	0.1	0.2	6.8	9.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	12.4	0.0	1.1	1.1	0.0	0.0	7.4	14.6	0.3	0.1	6.4	5.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	42.6	0.0	10.0	53.2	0.0	0.0	41.2	40.9	23.9	40.5	40.3	42.0
LnGrp LOS	D	A	A	D	A	A	D	D	C	D	D	D
Approach Vol, veh/h		1256			40			2436			1155	
Approach Delay, s/veh		36.4			53.2			40.8			40.7	
Approach LOS		D			D			D			D	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	9.5	40.5		7.7	25.9	24.1		32.4				
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gmax), s	5.0	33.5		5.0	17.1	21.4		28.5				
Max Q Clear Time (g_c+I1), s	2.2	33.2		4.0	17.7	17.3		26.9				
Green Ext Time (p_c), s	0.0	0.3		0.0	0.0	2.3		0.9				
Intersection Summary												
HCM 6th Ctrl Delay			39.8									
HCM 6th LOS			D									

Notes

User approved volume balancing among the lanes for turning movement.

HCM 6th Signalized Intersection Summary
3: I-5 Southbound Ramps & Sand Canyon Ave

Baseline Conditions
PM Peak Hour

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	617	1	250	0	0	0	0	1922	380	450	726	0
Future Volume (veh/h)	617	1	250	0	0	0	0	1922	380	450	726	0
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No						No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870				0	1870	1870	1870	1870	0
Adj Flow Rate, veh/h	756	0	182				0	2089	413	489	789	0
Peak Hour Factor	0.92	0.92	0.92				0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2				0	2	2	2	2	0
Cap, veh/h	994	0	295				0	2669	657	861	4593	0
Arrive On Green	0.19	0.00	0.19				0.00	0.41	0.41	0.25	0.71	0.00
Sat Flow, veh/h	5344	0	1585				0	6696	1585	3456	6696	0
Grp Volume(v), veh/h	756	0	182				0	2089	413	489	789	0
Grp Sat Flow(s),veh/h/ln	1781	0	1585				0	1609	1585	1728	1609	0
Q Serve(g_s), s	12.1	0.0	9.5				0.0	25.3	18.6	11.1	3.6	0.0
Cycle Q Clear(g_c), s	12.1	0.0	9.5				0.0	25.3	18.6	11.1	3.6	0.0
Prop In Lane	1.00		1.00				0.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	994	0	295				0	2669	657	861	4593	0
V/C Ratio(X)	0.76	0.00	0.62				0.00	0.78	0.63	0.57	0.17	0.00
Avail Cap(c_a), veh/h	1395	0	414				0	2824	696	861	4593	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00				0.00	1.00	1.00	0.95	0.95	0.00
Uniform Delay (d), s/veh	34.7	0.0	33.7				0.0	22.8	20.8	29.6	4.2	0.0
Incr Delay (d2), s/veh	1.6	0.0	2.1				0.0	2.4	4.5	0.8	0.1	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.2	0.0	3.7				0.0	8.7	6.7	4.3	0.7	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	36.3	0.0	35.8				0.0	25.2	25.3	30.4	4.3	0.0
LnGrp LOS	D	A	D				A	C	C	C	A	A
Approach Vol, veh/h		938						2502			1278	
Approach Delay, s/veh		36.2						25.2			14.3	
Approach LOS		D						C			B	
Timer - Assigned Phs	1	2				6		8				
Phs Duration (G+Y+Rc), s	26.9	41.8				68.8		21.2				
Change Period (Y+Rc), s	4.5	4.5				4.5		4.5				
Max Green Setting (Gmax), s	13.5	39.5				57.5		23.5				
Max Q Clear Time (g_c+I1), s	13.1	27.3				5.6		14.1				
Green Ext Time (p_c), s	0.1	10.0				5.4		2.7				
Intersection Summary												
HCM 6th Ctrl Delay			24.4									
HCM 6th LOS			C									

Notes

User approved volume balancing among the lanes for turning movement.

HCM 6th Signalized Intersection Summary
1: I-5 Northbound Ramps & Sand Canyon Ave

Baseline + Project
AM Peak Hour

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	322	0	530	6	0	3	256	469	13	16	1879	570
Future Volume (veh/h)	322	0	530	6	0	3	256	469	13	16	1879	570
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1945
Adj Flow Rate, veh/h	350	0	576	7	0	3	278	510	14	17	2042	620
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	466	0	1024	22	0	19	664	3070	953	99	2373	766
Arrive On Green	0.13	0.00	0.13	0.01	0.00	0.01	0.13	0.40	0.40	0.06	0.46	0.46
Sat Flow, veh/h	3563	0	3170	1781	0	1585	3456	5106	1585	1781	5106	1648
Grp Volume(v), veh/h	350	0	576	7	0	3	278	510	14	17	2042	620
Grp Sat Flow(s),veh/h/ln	1781	0	1585	1781	0	1585	1728	1702	1585	1781	1702	1648
Q Serve(g_s), s	8.5	0.0	0.0	0.4	0.0	0.2	6.7	5.8	0.5	0.8	32.1	29.0
Cycle Q Clear(g_c), s	8.5	0.0	0.0	0.4	0.0	0.2	6.7	5.8	0.5	0.8	32.1	29.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	466	0	1024	22	0	19	664	3070	953	99	2373	766
V/C Ratio(X)	0.75	0.00	0.56	0.32	0.00	0.15	0.42	0.17	0.01	0.17	0.86	0.81
Avail Cap(c_a), veh/h	534	0	1085	99	0	88	664	3070	953	99	2440	788
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	0.67	0.67	0.67	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	0.98	0.98	0.98	1.00	1.00	1.00
Uniform Delay (d), s/veh	37.7	0.0	25.2	44.1	0.0	44.0	34.6	12.4	10.9	40.5	21.5	20.7
Incr Delay (d2), s/veh	5.1	0.0	0.6	8.1	0.0	3.6	0.4	0.1	0.0	0.8	4.4	9.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.0	0.0	5.1	0.2	0.0	0.1	2.7	1.8	0.1	0.4	11.6	11.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	42.8	0.0	25.8	52.2	0.0	47.6	35.0	12.5	10.9	41.3	25.9	29.7
LnGrp LOS	D	A	C	D	A	D	C	B	B	D	C	C
Approach Vol, veh/h		926			10			802			2679	
Approach Delay, s/veh		32.2			50.8			20.3			26.8	
Approach LOS		C			D			C			C	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	9.5	58.6		5.6	21.8	46.3		16.3				
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gmax), s	5.0	48.5		5.0	10.5	43.0		13.5				
Max Q Clear Time (g_c+I1), s	2.8	7.8		2.4	8.7	34.1		10.5				
Green Ext Time (p_c), s	0.0	3.2		0.0	0.2	7.7		1.3				
Intersection Summary												
HCM 6th Ctrl Delay			26.8									
HCM 6th LOS			C									

Notes

User approved volume balancing among the lanes for turning movement.

HCM 6th Signalized Intersection Summary
3: I-5 Southbound Ramps & Sand Canyon Ave

Baseline + Project
AM Peak Hour

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	260	4	893	0	0	0	0	474	121	740	1970	0
Future Volume (veh/h)	260	4	893	0	0	0	0	474	121	740	1970	0
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No						No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870				0	1870	1870	1870	1870	0
Adj Flow Rate, veh/h	228	0	1033				0	515	132	804	2141	0
Peak Hour Factor	0.92	0.92	0.92				0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2				0	2	2	2	2	0
Cap, veh/h	1278	0	1137				0	1576	388	851	3482	0
Arrive On Green	0.36	0.00	0.36				0.00	0.24	0.24	0.49	1.00	0.00
Sat Flow, veh/h	3563	0	3170				0	6696	1585	3456	6696	0
Grp Volume(v), veh/h	228	0	1033				0	515	132	804	2141	0
Grp Sat Flow(s),veh/h/ln	1781	0	1585				0	1609	1585	1728	1609	0
Q Serve(g_s), s	3.9	0.0	27.9				0.0	5.9	6.2	19.9	0.0	0.0
Cycle Q Clear(g_c), s	3.9	0.0	27.9				0.0	5.9	6.2	19.9	0.0	0.0
Prop In Lane	1.00		1.00				0.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	1278	0	1137				0	1576	388	851	3482	0
V/C Ratio(X)	0.18	0.00	0.91				0.00	0.33	0.34	0.95	0.61	0.00
Avail Cap(c_a), veh/h	1366	0	1215				0	1576	388	868	3482	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	2.00	2.00	1.00
Upstream Filter(I)	1.00	0.00	1.00				0.00	1.00	1.00	0.63	0.63	0.00
Uniform Delay (d), s/veh	19.8	0.0	27.4				0.0	27.9	28.0	22.3	0.0	0.0
Incr Delay (d2), s/veh	0.1	0.0	9.7				0.0	0.6	2.4	13.2	0.5	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.6	0.0	11.4				0.0	2.1	2.4	6.3	0.1	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	19.8	0.0	37.1				0.0	28.4	30.3	35.5	0.5	0.0
LnGrp LOS	B	A	D				A	C	C	D	A	A
Approach Vol, veh/h		1261						647			2945	
Approach Delay, s/veh		34.0						28.8			10.1	
Approach LOS		C						C			B	
Timer - Assigned Phs	1	2				6		8				
Phs Duration (G+Y+Rc), s	26.7	26.5				53.2		36.8				
Change Period (Y+Rc), s	4.5	4.5				4.5		4.5				
Max Green Setting (Gmax), s	22.6	19.4				46.5		34.5				
Max Q Clear Time (g_c+I1), s	21.9	8.2				2.0		29.9				
Green Ext Time (p_c), s	0.3	2.6				23.4		2.4				
Intersection Summary												
HCM 6th Ctrl Delay			18.8									
HCM 6th LOS			B									

Notes

User approved volume balancing among the lanes for turning movement.

HCM 6th Signalized Intersection Summary
1: I-5 Northbound Ramps & Sand Canyon Ave

Baseline + Project
PM Peak Hour

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	938	0	218	37	0	0	574	1658	18	5	837	222
Future Volume (veh/h)	938	0	218	37	0	0	574	1658	18	5	837	222
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1945
Adj Flow Rate, veh/h	1020	0	237	40	0	0	624	1802	20	5	910	241
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	1103	0	1738	63	66	0	825	2042	634	99	1106	357
Arrive On Green	0.31	0.00	0.31	0.04	0.00	0.00	0.08	0.13	0.13	0.06	0.22	0.22
Sat Flow, veh/h	3563	0	3170	1781	1870	0	3456	5106	1585	1781	5106	1648
Grp Volume(v), veh/h	1020	0	237	40	0	0	624	1802	20	5	910	241
Grp Sat Flow(s),veh/h/ln	1781	0	1585	1781	1870	0	1728	1702	1585	1781	1702	1648
Q Serve(g_s), s	24.9	0.0	0.0	2.0	0.0	0.0	15.9	31.2	1.0	0.2	15.3	12.1
Cycle Q Clear(g_c), s	24.9	0.0	0.0	2.0	0.0	0.0	15.9	31.2	1.0	0.2	15.3	12.1
Prop In Lane	1.00		1.00	1.00		0.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	1103	0	1738	63	66	0	825	2042	634	99	1106	357
V/C Ratio(X)	0.93	0.00	0.14	0.64	0.00	0.00	0.76	0.88	0.03	0.05	0.82	0.68
Avail Cap(c_a), veh/h	1128	0	1761	99	104	0	825	2042	634	99	1203	388
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	0.33	0.33	0.33	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	0.00	0.63	0.63	0.63	1.00	1.00	1.00
Uniform Delay (d), s/veh	30.1	0.0	9.9	42.9	0.0	0.0	38.9	37.0	23.9	40.3	33.6	32.4
Incr Delay (d2), s/veh	12.5	0.0	0.0	10.4	0.0	0.0	2.6	3.9	0.1	0.2	7.0	9.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	12.4	0.0	1.1	1.1	0.0	0.0	7.5	14.6	0.3	0.1	6.5	5.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	42.6	0.0	10.0	53.2	0.0	0.0	41.5	40.9	23.9	40.5	40.6	42.2
LnGrp LOS	D	A	A	D	A	A	D	D	C	D	D	D
Approach Vol, veh/h		1257			40			2446			1156	
Approach Delay, s/veh		36.4			53.2			40.9			40.9	
Approach LOS		D			D			D			D	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	9.5	40.5		7.7	26.0	24.0		32.4				
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gmax), s	5.0	33.5		5.0	17.3	21.2		28.5				
Max Q Clear Time (g_c+I1), s	2.2	33.2		4.0	17.9	17.3		26.9				
Green Ext Time (p_c), s	0.0	0.3		0.0	0.0	2.2		0.9				
Intersection Summary												
HCM 6th Ctrl Delay			39.8									
HCM 6th LOS			D									

Notes

User approved volume balancing among the lanes for turning movement.

HCM 6th Signalized Intersection Summary
3: I-5 Southbound Ramps & Sand Canyon Ave

Baseline + Project
PM Peak Hour

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	618	1	250	0	0	0	0	1922	380	456	727	0
Future Volume (veh/h)	618	1	250	0	0	0	0	1922	380	456	727	0
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No						No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870				0	1870	1870	1870	1870	0
Adj Flow Rate, veh/h	757	0	182				0	2089	413	496	790	0
Peak Hour Factor	0.92	0.92	0.92				0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2				0	2	2	2	2	0
Cap, veh/h	995	0	295				0	2669	657	860	4592	0
Arrive On Green	0.19	0.00	0.19				0.00	0.41	0.41	0.25	0.71	0.00
Sat Flow, veh/h	5344	0	1585				0	6696	1585	3456	6696	0
Grp Volume(v), veh/h	757	0	182				0	2089	413	496	790	0
Grp Sat Flow(s),veh/h/ln	1781	0	1585				0	1609	1585	1728	1609	0
Q Serve(g_s), s	12.1	0.0	9.5				0.0	25.3	18.6	11.3	3.6	0.0
Cycle Q Clear(g_c), s	12.1	0.0	9.5				0.0	25.3	18.6	11.3	3.6	0.0
Prop In Lane	1.00		1.00				0.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	995	0	295				0	2669	657	860	4592	0
V/C Ratio(X)	0.76	0.00	0.62				0.00	0.78	0.63	0.58	0.17	0.00
Avail Cap(c_a), veh/h	1395	0	414				0	2824	696	860	4592	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00				0.00	1.00	1.00	0.95	0.95	0.00
Uniform Delay (d), s/veh	34.7	0.0	33.7				0.0	22.8	20.8	29.6	4.2	0.0
Incr Delay (d2), s/veh	1.6	0.0	2.1				0.0	2.4	4.5	0.9	0.1	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.2	0.0	3.7				0.0	8.7	6.7	4.4	0.7	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	36.3	0.0	35.8				0.0	25.2	25.3	30.5	4.3	0.0
LnGrp LOS	D	A	D				A	C	C	C	A	A
Approach Vol, veh/h		939						2502			1286	
Approach Delay, s/veh		36.2						25.2			14.4	
Approach LOS		D						C			B	
Timer - Assigned Phs	1	2				6		8				
Phs Duration (G+Y+Rc), s	26.9	41.8				68.7		21.3				
Change Period (Y+Rc), s	4.5	4.5				4.5		4.5				
Max Green Setting (Gmax), s	13.5	39.5				57.5		23.5				
Max Q Clear Time (g_c+I1), s	13.3	27.3				5.6		14.1				
Green Ext Time (p_c), s	0.0	10.0				5.4		2.7				
Intersection Summary												
HCM 6th Ctrl Delay			24.5									
HCM 6th LOS			C									

Notes

User approved volume balancing among the lanes for turning movement.

HCM 6th Signalized Intersection Summary — Alternative 1 - Short Term Interim Conditions
1: I-5 Northbound Ramps & Sand Canyon Ave — AM Peak Hour

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	461	0	622	12	0	8	291	602	33	40	2175	749
Future Volume (veh/h)	461	0	622	12	0	8	291	602	33	40	2175	749
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1945
Adj Flow Rate, veh/h	501	0	676	13	0	9	316	654	36	43	2364	814
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	572	0	940	42	0	37	470	2862	888	99	2451	791
Arrive On Green	0.16	0.00	0.16	0.02	0.00	0.02	0.09	0.38	0.38	0.06	0.48	0.48
Sat Flow, veh/h	3563	0	3170	1781	0	1585	3456	5106	1585	1781	5106	1648
Grp Volume(v), veh/h	501	0	676	13	0	9	316	654	36	43	2364	814
Grp Sat Flow(s),veh/h/ln	1781	0	1585	1781	0	1585	1728	1702	1585	1781	1702	1648
Q Serve(g_s), s	12.4	0.0	4.9	0.6	0.0	0.5	8.0	7.9	1.3	2.1	40.3	43.2
Cycle Q Clear(g_c), s	12.4	0.0	4.9	0.6	0.0	0.5	8.0	7.9	1.3	2.1	40.3	43.2
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	572	0	940	42	0	37	470	2862	888	99	2451	791
V/C Ratio(X)	0.88	0.00	0.72	0.31	0.00	0.24	0.67	0.23	0.04	0.43	0.96	1.03
Avail Cap(c_a), veh/h	574	0	942	99	0	88	470	2862	888	127	2451	791
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	0.67	0.67	0.67	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	0.96	0.96	0.96	1.00	1.00	1.00
Uniform Delay (d), s/veh	36.9	0.0	28.3	43.2	0.0	43.2	39.0	14.8	12.8	41.1	22.7	23.4
Incr Delay (d2), s/veh	14.2	0.0	2.7	4.1	0.0	3.3	3.6	0.2	0.1	3.0	11.6	39.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.5	0.0	6.8	0.3	0.0	0.2	3.5	2.7	0.4	0.9	15.8	22.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	51.1	0.0	31.0	47.4	0.0	46.4	42.5	15.0	12.8	44.1	34.2	63.0
LnGrp LOS	D	A	C	D	A	D	D	B	B	D	C	F
Approach Vol, veh/h		1177			22			1006			3221	
Approach Delay, s/veh		39.6			47.0			23.6			41.6	
Approach LOS		D			D			C			D	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	9.5	54.9		6.6	16.7	47.7		18.9				
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gmax), s	6.4	46.1		5.0	9.3	43.2		14.5				
Max Q Clear Time (g_c+I1), s	4.1	9.9		2.6	10.0	45.2		14.4				
Green Ext Time (p_c), s	0.0	4.3		0.0	0.0	0.0		0.1				
Intersection Summary												
HCM 6th Ctrl Delay			37.8									
HCM 6th LOS			D									

Notes

User approved volume balancing among the lanes for turning movement.

HCM 6th Signalized Intersection Summary — Alternative 1 - Short Term Interim Conditions
3: I-5 Southbound Ramps & Sand Canyon Ave — AM Peak Hour

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	305	4	911	0	0	0	0	611	131	844	2314	0
Future Volume (veh/h)	305	4	911	0	0	0	0	611	131	844	2314	0
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No						No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870				0	1870	1870	1870	1870	0
Adj Flow Rate, veh/h	267	0	1062				0	664	142	917	2515	0
Peak Hour Factor	0.92	0.92	0.92				0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2				0	2	2	2	2	0
Cap, veh/h	1270	0	1130				0	1424	351	941	3498	0
Arrive On Green	0.36	0.00	0.36				0.00	0.22	0.22	0.54	1.00	0.00
Sat Flow, veh/h	3563	0	3170				0	6696	1585	3456	6696	0
Grp Volume(v), veh/h	267	0	1062				0	664	142	917	2515	0
Grp Sat Flow(s),veh/h/ln	1781	0	1585				0	1609	1585	1728	1609	0
Q Serve(g_s), s	4.7	0.0	29.2				0.0	8.1	6.9	23.2	0.0	0.0
Cycle Q Clear(g_c), s	4.7	0.0	29.2				0.0	8.1	6.9	23.2	0.0	0.0
Prop In Lane	1.00		1.00				0.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	1270	0	1130				0	1424	351	941	3498	0
V/C Ratio(X)	0.21	0.00	0.94				0.00	0.47	0.40	0.97	0.72	0.00
Avail Cap(c_a), veh/h	1290	0	1148				0	1424	351	941	3498	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	2.00	2.00	1.00
Upstream Filter(I)	1.00	0.00	1.00				0.00	1.00	1.00	0.46	0.46	0.00
Uniform Delay (d), s/veh	20.2	0.0	28.0				0.0	30.4	30.0	20.2	0.0	0.0
Incr Delay (d2), s/veh	0.1	0.0	14.4				0.0	1.1	3.4	14.4	0.6	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.9	0.0	12.6				0.0	3.0	2.7	6.8	0.1	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	20.2	0.0	42.4				0.0	31.5	33.4	34.6	0.6	0.0
LnGrp LOS	C	A	D				A	C	C	C	A	A
Approach Vol, veh/h		1329						806			3432	
Approach Delay, s/veh		38.0						31.9			9.7	
Approach LOS		D						C			A	
Timer - Assigned Phs	1	2				6		8				
Phs Duration (G+Y+Rc), s	29.0	24.4				53.4		36.6				
Change Period (Y+Rc), s	4.5	4.5				4.5		4.5				
Max Green Setting (Gmax), s	24.5	19.4				48.4		32.6				
Max Q Clear Time (g_c+I1), s	25.2	10.1				2.0		31.2				
Green Ext Time (p_c), s	0.0	3.0				30.8		0.9				
Intersection Summary												
HCM 6th Ctrl Delay			19.6									
HCM 6th LOS			B									

Notes

User approved volume balancing among the lanes for turning movement.

HCM 6th Signalized Intersection Summary — Alternative 1_Short Term Interim Conditions
1: I-5 Northbound Ramps & Sand Canyon Ave — PM Peak Hour

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	1126	0	268	94	0	0	710	1829	31	10	1074	310
Future Volume (veh/h)	1126	0	268	94	0	0	710	1829	31	10	1074	310
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1945
Adj Flow Rate, veh/h	1224	0	291	102	0	0	772	1988	34	11	1167	337
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	1093	0	1624	99	104	0	710	1952	606	99	1186	383
Arrive On Green	0.31	0.00	0.31	0.06	0.00	0.00	0.07	0.13	0.13	0.06	0.23	0.23
Sat Flow, veh/h	3563	0	3170	1781	1870	0	3456	5106	1585	1781	5106	1648
Grp Volume(v), veh/h	1224	0	291	102	0	0	772	1988	34	11	1167	337
Grp Sat Flow(s),veh/h/ln	1781	0	1585	1781	1870	0	1728	1702	1585	1781	1702	1648
Q Serve(g_s), s	27.6	0.0	0.0	5.0	0.0	0.0	18.5	34.4	1.7	0.5	20.5	17.8
Cycle Q Clear(g_c), s	27.6	0.0	0.0	5.0	0.0	0.0	18.5	34.4	1.7	0.5	20.5	17.8
Prop In Lane	1.00		1.00	1.00		0.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	1093	0	1624	99	104	0	710	1952	606	99	1186	383
V/C Ratio(X)	1.12	0.00	0.18	1.03	0.00	0.00	1.09	1.02	0.06	0.11	0.98	0.88
Avail Cap(c_a), veh/h	1093	0	1624	99	104	0	710	1952	606	99	1186	383
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	0.33	0.33	0.33	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	0.00	0.46	0.46	0.46	1.00	1.00	1.00
Uniform Delay (d), s/veh	31.2	0.0	11.8	42.5	0.0	0.0	41.9	39.3	25.0	40.4	34.4	33.3
Incr Delay (d2), s/veh	66.6	0.0	0.1	99.0	0.0	0.0	50.4	18.8	0.1	0.5	22.6	23.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	21.7	0.0	1.5	4.9	0.0	0.0	13.3	18.7	0.6	0.2	10.1	9.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	97.8	0.0	11.8	141.5	0.0	0.0	92.3	58.1	25.1	40.9	57.0	57.3
LnGrp LOS	F	A	B	F	A	A	F	F	C	D	E	E
Approach Vol, veh/h		1515			102			2794			1515	
Approach Delay, s/veh		81.3			141.5			67.1			56.9	
Approach LOS		F			F			E			E	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	9.5	38.9		9.5	23.0	25.4		32.1				
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gmax), s	5.0	34.4		5.0	18.5	20.9		27.6				
Max Q Clear Time (g_c+I1), s	2.5	36.4		7.0	20.5	22.5		29.6				
Green Ext Time (p_c), s	0.0	0.0		0.0	0.0	0.0		0.0				
Intersection Summary												
HCM 6th Ctrl Delay			69.4									
HCM 6th LOS			E									

Notes

User approved volume balancing among the lanes for turning movement.

HCM 6th Signalized Intersection Summary — Alternative 1_Short Term Interim Conditions
3: I-5 Southbound Ramps & Sand Canyon Ave — PM Peak Hour

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	702	1	236	0	0	0	0	2315	401	649	1012	0
Future Volume (veh/h)	702	1	236	0	0	0	0	2315	401	649	1012	0
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No						No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870				0	1870	1870	1870	1870	0
Adj Flow Rate, veh/h	843	0	172				0	2516	436	705	1100	0
Peak Hour Factor	0.92	0.92	0.92				0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2				0	2	2	2	2	0
Cap, veh/h	960	0	285				0	2805	691	810	4635	0
Arrive On Green	0.18	0.00	0.18				0.00	0.44	0.44	0.23	0.72	0.00
Sat Flow, veh/h	5344	0	1585				0	6696	1585	3456	6696	0
Grp Volume(v), veh/h	843	0	172				0	2516	436	705	1100	0
Grp Sat Flow(s),veh/h/ln	1781	0	1585				0	1609	1585	1728	1609	0
Q Serve(g_s), s	13.8	0.0	9.0				0.0	32.6	19.3	17.7	5.2	0.0
Cycle Q Clear(g_c), s	13.8	0.0	9.0				0.0	32.6	19.3	17.7	5.2	0.0
Prop In Lane	1.00		1.00				0.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	960	0	285				0	2805	691	810	4635	0
V/C Ratio(X)	0.88	0.00	0.60				0.00	0.90	0.63	0.87	0.24	0.00
Avail Cap(c_a), veh/h	980	0	291				0	2824	696	810	4635	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00				0.00	1.00	1.00	0.84	0.84	0.00
Uniform Delay (d), s/veh	36.0	0.0	34.0				0.0	23.5	19.8	33.1	4.2	0.0
Incr Delay (d2), s/veh	9.1	0.0	3.4				0.0	5.0	4.3	8.7	0.1	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.6	0.0	3.6				0.0	11.4	6.9	7.7	1.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	45.0	0.0	37.4				0.0	28.6	24.1	41.8	4.3	0.0
LnGrp LOS	D	A	D				A	C	C	D	A	A
Approach Vol, veh/h		1015						2952			1805	
Approach Delay, s/veh		43.7						27.9			19.0	
Approach LOS		D						C			B	
Timer - Assigned Phs	1	2				6		8				
Phs Duration (G+Y+Rc), s	25.6	43.7				69.3		20.7				
Change Period (Y+Rc), s	4.5	4.5				4.5		4.5				
Max Green Setting (Gmax), s	20.5	39.5				64.5		16.5				
Max Q Clear Time (g_c+I1), s	19.7	34.6				7.2		15.8				
Green Ext Time (p_c), s	0.3	4.6				8.4		0.3				
Intersection Summary												
HCM 6th Ctrl Delay			27.9									
HCM 6th LOS			C									

Notes

User approved volume balancing among the lanes for turning movement.

HCM 6th Signalized Intersection Summary — Alternative 1 - Short Term Interim Year + Project
1: I-5 Northbound Ramps & Sand Canyon Ave
AM Peak Hour

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	461	0	626	12	0	8	304	604	33	40	2176	749
Future Volume (veh/h)	461	0	626	12	0	8	304	604	33	40	2176	749
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1945
Adj Flow Rate, veh/h	501	0	680	13	0	9	330	657	36	43	2365	814
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	570	0	947	42	0	37	480	2865	889	99	2440	788
Arrive On Green	0.16	0.00	0.16	0.02	0.00	0.02	0.09	0.38	0.38	0.06	0.48	0.48
Sat Flow, veh/h	3563	0	3170	1781	0	1585	3456	5106	1585	1781	5106	1648
Grp Volume(v), veh/h	501	0	680	13	0	9	330	657	36	43	2365	814
Grp Sat Flow(s),veh/h/ln	1781	0	1585	1781	0	1585	1728	1702	1585	1781	1702	1648
Q Serve(g_s), s	12.4	0.0	4.7	0.6	0.0	0.5	8.3	7.9	1.3	2.1	40.6	43.0
Cycle Q Clear(g_c), s	12.4	0.0	4.7	0.6	0.0	0.5	8.3	7.9	1.3	2.1	40.6	43.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	570	0	947	42	0	37	480	2865	889	99	2440	788
V/C Ratio(X)	0.88	0.00	0.72	0.31	0.00	0.24	0.69	0.23	0.04	0.43	0.97	1.03
Avail Cap(c_a), veh/h	570	0	947	99	0	88	480	2865	889	127	2440	788
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	0.67	0.67	0.67	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	0.96	0.96	0.96	1.00	1.00	1.00
Uniform Delay (d), s/veh	37.0	0.0	28.2	43.2	0.0	43.2	38.9	14.8	12.7	41.1	22.9	23.5
Incr Delay (d2), s/veh	14.7	0.0	2.6	4.1	0.0	3.3	3.9	0.2	0.1	3.0	12.3	41.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.5	0.0	6.8	0.3	0.0	0.2	3.6	2.7	0.4	0.9	16.1	22.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	51.7	0.0	30.8	47.4	0.0	46.4	42.9	15.0	12.8	44.1	35.2	64.5
LnGrp LOS	D	A	C	D	A	D	D	B	B	D	D	F
Approach Vol, veh/h		1181			22			1023			3222	
Approach Delay, s/veh		39.7			47.0			23.9			42.7	
Approach LOS		D			D			C			D	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	9.5	55.0		6.6	17.0	47.5		18.9				
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gmax), s	6.4	46.2		5.0	9.6	43.0		14.4				
Max Q Clear Time (g_c+I1), s	4.1	9.9		2.6	10.3	45.0		14.4				
Green Ext Time (p_c), s	0.0	4.3		0.0	0.0	0.0		0.0				
Intersection Summary												
HCM 6th Ctrl Delay			38.5									
HCM 6th LOS			D									

Notes

User approved volume balancing among the lanes for turning movement.

HCM 6th Signalized Intersection Summary — Alternative 1 - Short Term Interim Year + Project
3: I-5 Southbound Ramps & Sand Canyon Ave
AM Peak Hour

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	311	4	911	0	0	0	0	612	131	851	2316	0
Future Volume (veh/h)	311	4	911	0	0	0	0	612	131	851	2316	0
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No						No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870				0	1870	1870	1870	1870	0
Adj Flow Rate, veh/h	272	0	1063				0	665	142	925	2517	0
Peak Hour Factor	0.92	0.92	0.92				0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2				0	2	2	2	2	0
Cap, veh/h	1272	0	1132				0	1420	350	941	3493	0
Arrive On Green	0.36	0.00	0.36				0.00	0.22	0.22	0.54	1.00	0.00
Sat Flow, veh/h	3563	0	3170				0	6696	1585	3456	6696	0
Grp Volume(v), veh/h	272	0	1063				0	665	142	925	2517	0
Grp Sat Flow(s),veh/h/ln	1781	0	1585				0	1609	1585	1728	1609	0
Q Serve(g_s), s	4.8	0.0	29.2				0.0	8.1	6.9	23.6	0.0	0.0
Cycle Q Clear(g_c), s	4.8	0.0	29.2				0.0	8.1	6.9	23.6	0.0	0.0
Prop In Lane	1.00		1.00				0.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	1272	0	1132				0	1420	350	941	3493	0
V/C Ratio(X)	0.21	0.00	0.94				0.00	0.47	0.41	0.98	0.72	0.00
Avail Cap(c_a), veh/h	1294	0	1152				0	1420	350	941	3493	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	2.00	2.00	1.00
Upstream Filter(I)	1.00	0.00	1.00				0.00	1.00	1.00	0.46	0.46	0.00
Uniform Delay (d), s/veh	20.1	0.0	28.0				0.0	30.5	30.0	20.3	0.0	0.0
Incr Delay (d2), s/veh	0.1	0.0	14.2				0.0	1.1	3.5	16.1	0.6	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.9	0.0	12.6				0.0	3.0	2.7	7.0	0.1	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	20.2	0.0	42.2				0.0	31.6	33.5	36.4	0.6	0.0
LnGrp LOS	C	A	D				A	C	C	D	A	A
Approach Vol, veh/h		1335						807			3442	
Approach Delay, s/veh		37.7						31.9			10.2	
Approach LOS		D						C			B	
Timer - Assigned Phs	1	2				6		8				
Phs Duration (G+Y+Rc), s	29.0	24.4				53.4		36.6				
Change Period (Y+Rc), s	4.5	4.5				4.5		4.5				
Max Green Setting (Gmax), s	24.5	19.3				48.3		32.7				
Max Q Clear Time (g_c+I1), s	25.6	10.1				2.0		31.2				
Green Ext Time (p_c), s	0.0	3.0				30.8		0.9				
Intersection Summary												
HCM 6th Ctrl Delay			19.9									
HCM 6th LOS			B									

Notes

User approved volume balancing among the lanes for turning movement.

HCM 6th Signalized Intersection Summary — Alternative 1 - Short Term Interim + Project
1: I-5 Northbound Ramps & Sand Canyon Ave
PM Peak Hour

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	1126	0	270	94	0	0	717	1830	31	10	1074	310
Future Volume (veh/h)	1126	0	270	94	0	0	717	1830	31	10	1074	310
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1945
Adj Flow Rate, veh/h	1224	0	293	102	0	0	779	1989	34	11	1167	337
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	1089	0	1585	109	114	0	672	1929	599	99	1220	394
Arrive On Green	0.31	0.00	0.31	0.06	0.00	0.00	0.06	0.12	0.12	0.06	0.24	0.24
Sat Flow, veh/h	3563	0	3170	1781	1870	0	3456	5106	1585	1781	5106	1648
Grp Volume(v), veh/h	1224	0	293	102	0	0	779	1989	34	11	1167	337
Grp Sat Flow(s),veh/h/ln	1781	0	1585	1781	1870	0	1728	1702	1585	1781	1702	1648
Q Serve(g_s), s	27.5	0.0	0.0	5.1	0.0	0.0	17.5	34.0	1.7	0.5	20.3	17.6
Cycle Q Clear(g_c), s	27.5	0.0	0.0	5.1	0.0	0.0	17.5	34.0	1.7	0.5	20.3	17.6
Prop In Lane	1.00		1.00	1.00		0.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	1089	0	1585	109	114	0	672	1929	599	99	1220	394
V/C Ratio(X)	1.12	0.00	0.18	0.94	0.00	0.00	1.16	1.03	0.06	0.11	0.96	0.86
Avail Cap(c_a), veh/h	1089	0	1585	109	114	0	672	1929	599	99	1220	394
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	0.33	0.33	0.33	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	0.00	0.50	0.50	0.50	1.00	1.00	1.00
Uniform Delay (d), s/veh	31.3	0.0	12.4	42.1	0.0	0.0	42.1	39.4	25.3	40.4	33.8	32.8
Incr Delay (d2), s/veh	68.2	0.0	0.1	66.4	0.0	0.0	80.4	23.3	0.1	0.5	17.3	20.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	21.8	0.0	1.6	4.3	0.0	0.0	15.4	19.2	0.6	0.2	9.5	8.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	99.5	0.0	12.5	108.4	0.0	0.0	122.5	62.7	25.3	40.9	51.1	53.4
LnGrp LOS	F	A	B	F	A	A	F	F	C	D	D	D
Approach Vol, veh/h		1517			102			2802			1515	
Approach Delay, s/veh		82.7			108.4			78.9			51.5	
Approach LOS		F			F			E			D	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	9.5	38.5		10.0	22.0	26.0		32.0				
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gmax), s	5.0	34.0		5.5	17.5	21.5		27.5				
Max Q Clear Time (g_c+I1), s	2.5	36.0		7.1	19.5	22.3		29.5				
Green Ext Time (p_c), s	0.0	0.0		0.0	0.0	0.0		0.0				
Intersection Summary												
HCM 6th Ctrl Delay			73.4									
HCM 6th LOS			E									

Notes

User approved volume balancing among the lanes for turning movement.

HCM 6th Signalized Intersection Summary — Alternative 1 - Short Term Interim + Project
3: I-5 Southbound Ramps & Sand Canyon Ave
PM Peak Hour

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	704	1	236	0	0	0	0	2315	401	655	1013	0
Future Volume (veh/h)	704	1	236	0	0	0	0	2315	401	655	1013	0
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No						No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870				0	1870	1870	1870	1870	0
Adj Flow Rate, veh/h	845	0	172				0	2516	436	712	1101	0
Peak Hour Factor	0.92	0.92	0.92				0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2				0	2	2	2	2	0
Cap, veh/h	961	0	285				0	2805	691	810	4634	0
Arrive On Green	0.18	0.00	0.18				0.00	0.44	0.44	0.23	0.72	0.00
Sat Flow, veh/h	5344	0	1585				0	6696	1585	3456	6696	0
Grp Volume(v), veh/h	845	0	172				0	2516	436	712	1101	0
Grp Sat Flow(s),veh/h/ln	1781	0	1585				0	1609	1585	1728	1609	0
Q Serve(g_s), s	13.9	0.0	9.0				0.0	32.6	19.3	17.9	5.2	0.0
Cycle Q Clear(g_c), s	13.9	0.0	9.0				0.0	32.6	19.3	17.9	5.2	0.0
Prop In Lane	1.00		1.00				0.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	961	0	285				0	2805	691	810	4634	0
V/C Ratio(X)	0.88	0.00	0.60				0.00	0.90	0.63	0.88	0.24	0.00
Avail Cap(c_a), veh/h	980	0	291				0	2824	696	810	4634	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00				0.00	1.00	1.00	0.83	0.83	0.00
Uniform Delay (d), s/veh	36.0	0.0	34.0				0.0	23.5	19.8	33.2	4.3	0.0
Incr Delay (d2), s/veh	9.2	0.0	3.4				0.0	5.0	4.3	9.3	0.1	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.6	0.0	3.6				0.0	11.4	6.9	7.8	1.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	45.1	0.0	37.4				0.0	28.6	24.1	42.6	4.4	0.0
LnGrp LOS	D	A	D				A	C	C	D	A	A
Approach Vol, veh/h		1017						2952			1813	
Approach Delay, s/veh		43.8						27.9			19.4	
Approach LOS		D						C			B	
Timer - Assigned Phs	1	2				6		8				
Phs Duration (G+Y+Rc), s	25.6	43.7				69.3		20.7				
Change Period (Y+Rc), s	4.5	4.5				4.5		4.5				
Max Green Setting (Gmax), s	20.5	39.5				64.5		16.5				
Max Q Clear Time (g_c+I1), s	19.9	34.6				7.2		15.9				
Green Ext Time (p_c), s	0.2	4.6				8.4		0.3				
Intersection Summary												
HCM 6th Ctrl Delay			28.0									
HCM 6th LOS			C									

Notes

User approved volume balancing among the lanes for turning movement.

HCM 6th Signalized Intersection Summary — Alternative 2 - Short Term Interim Conditions
1: I-5 Northbound Ramps & Sand Canyon Ave — AM Peak Hour

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	461	28	595	547	63	139	228	472	274	136	2079	749
Future Volume (veh/h)	461	28	595	547	63	139	228	472	274	136	2079	749
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1945
Adj Flow Rate, veh/h	501	30	647	595	68	151	248	513	298	148	2260	814
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	566	242	409	628	540	241	281	2244	697	178	2338	755
Arrive On Green	0.16	0.13	0.13	0.18	0.15	0.15	0.08	0.44	0.44	0.10	0.46	0.46
Sat Flow, veh/h	3563	1870	3170	3456	3554	1585	3456	5106	1585	1781	5106	1648
Grp Volume(v), veh/h	501	30	647	595	68	151	248	513	298	148	2260	814
Grp Sat Flow(s),veh/h/ln	1781	1870	1585	1728	1777	1585	1728	1702	1585	1781	1702	1648
Q Serve(g_s), s	16.5	1.7	15.5	20.4	2.0	10.7	8.5	7.5	8.4	9.8	51.7	31.2
Cycle Q Clear(g_c), s	16.5	1.7	15.5	20.4	2.0	10.7	8.5	7.5	8.4	9.8	51.7	31.2
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	566	242	409	628	540	241	281	2244	697	178	2338	755
V/C Ratio(X)	0.89	0.12	1.58	0.95	0.13	0.63	0.88	0.23	0.43	0.83	0.97	1.08
Avail Cap(c_a), veh/h	626	242	409	628	540	241	281	2244	697	270	2340	756
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	49.4	46.2	52.3	48.5	44.0	47.7	54.6	21.0	6.8	53.0	31.6	10.5
Incr Delay (d2), s/veh	13.4	0.2	272.5	23.8	0.1	5.1	26.5	0.2	1.9	12.6	12.2	55.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	8.4	0.8	21.7	10.9	0.9	4.6	4.6	2.8	3.1	4.8	21.7	22.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	62.7	46.5	324.8	72.3	44.1	52.8	81.0	21.2	8.7	65.7	43.9	66.4
LnGrp LOS	E	D	F	E	D	D	F	C	A	E	D	F
Approach Vol, veh/h		1178			814			1059			3222	
Approach Delay, s/veh		206.2			66.3			31.7			50.6	
Approach LOS		F			E			C			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	16.5	57.2	26.3	20.0	14.2	59.5	23.6	22.7
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	18.2	46.5	21.8	15.5	9.7	55.0	21.1	16.2
Max Q Clear Time (g_c+I1), s	11.8	10.4	22.4	17.5	10.5	53.7	18.5	12.7
Green Ext Time (p_c), s	0.2	4.3	0.0	0.0	0.0	1.3	0.5	0.3

Intersection Summary	
HCM 6th Ctrl Delay	78.7
HCM 6th LOS	E

Notes

User approved volume balancing among the lanes for turning movement.

HCM 6th Signalized Intersection Summary — Alternative 2 - Short Term Interim Conditions
3: I-5 Southbound Ramps & Sand Canyon Ave — AM Peak Hour

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	305	4	911	0	0	0	0	611	131	844	2314	0
Future Volume (veh/h)	305	4	911	0	0	0	0	611	131	844	2314	0
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No						No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870				0	1870	1870	1870	1870	0
Adj Flow Rate, veh/h	267	0	1062				0	664	142	917	2515	0
Peak Hour Factor	0.92	0.92	0.92				0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2				0	2	2	2	2	0
Cap, veh/h	1270	0	1130				0	1424	351	941	3498	0
Arrive On Green	0.36	0.00	0.36				0.00	0.22	0.22	0.27	0.54	0.00
Sat Flow, veh/h	3563	0	3170				0	6696	1585	3456	6696	0
Grp Volume(v), veh/h	267	0	1062				0	664	142	917	2515	0
Grp Sat Flow(s),veh/h/ln	1781	0	1585				0	1609	1585	1728	1609	0
Q Serve(g_s), s	4.7	0.0	29.2				0.0	8.1	6.9	23.7	26.4	0.0
Cycle Q Clear(g_c), s	4.7	0.0	29.2				0.0	8.1	6.9	23.7	26.4	0.0
Prop In Lane	1.00		1.00				0.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	1270	0	1130				0	1424	351	941	3498	0
V/C Ratio(X)	0.21	0.00	0.94				0.00	0.47	0.40	0.97	0.72	0.00
Avail Cap(c_a), veh/h	1290	0	1148				0	1424	351	941	3498	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00				0.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	20.2	0.0	28.0				0.0	30.4	30.0	32.4	15.4	0.0
Incr Delay (d2), s/veh	0.1	0.0	14.4				0.0	1.1	3.4	23.3	1.3	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.9	0.0	12.6				0.0	3.0	2.7	11.9	8.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	20.2	0.0	42.4				0.0	31.5	33.4	55.7	16.7	0.0
LnGrp LOS	C	A	D				A	C	C	E	B	A
Approach Vol, veh/h		1329						806			3432	
Approach Delay, s/veh		38.0						31.9			27.1	
Approach LOS		D						C			C	

Timer - Assigned Phs	1	2				6		8
Phs Duration (G+Y+Rc), s	29.0	24.4				53.4		36.6
Change Period (Y+Rc), s	4.5	4.5				4.5		4.5
Max Green Setting (Gmax), s	24.5	19.4				48.4		32.6
Max Q Clear Time (g_c+I1), s	25.7	10.1				28.4		31.2
Green Ext Time (p_c), s	0.0	3.0				16.3		0.9

Intersection Summary	
HCM 6th Ctrl Delay	30.4
HCM 6th LOS	C

Notes

User approved volume balancing among the lanes for turning movement.

HCM 6th Signalized Intersection Summary — Alternative 2 - Short Term Interim Conditions
1: I-5 Northbound Ramps & Sand Canyon Ave — PM Peak Hour

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	1126	40	228	581	56	145	653	1684	705	171	913	310
Future Volume (veh/h)	1126	40	228	581	56	145	653	1684	705	171	913	310
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1945
Adj Flow Rate, veh/h	1224	43	248	632	61	158	710	1830	766	186	992	337
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	1182	137	232	1054	165	73	745	1806	561	186	1239	400
Arrive On Green	0.33	0.07	0.07	0.31	0.05	0.05	0.22	0.35	0.35	0.10	0.24	0.24
Sat Flow, veh/h	3563	1870	3170	3456	3554	1585	3456	5106	1585	1781	5106	1648
Grp Volume(v), veh/h	1224	43	248	632	61	158	710	1830	766	186	992	337
Grp Sat Flow(s),veh/h/ln	1781	1870	1585	1728	1777	1585	1728	1702	1585	1781	1702	1648
Q Serve(g_s), s	36.5	2.4	5.5	17.1	1.8	4.1	22.3	38.9	38.9	11.5	20.1	21.4
Cycle Q Clear(g_c), s	36.5	2.4	5.5	17.1	1.8	4.1	22.3	38.9	38.9	11.5	20.1	21.4
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	1182	137	232	1054	165	73	745	1806	561	186	1239	400
V/C Ratio(X)	1.04	0.31	1.07	0.60	0.37	2.15	0.95	1.01	1.37	1.00	0.80	0.84
Avail Cap(c_a), veh/h	1182	221	375	1054	165	73	745	1806	561	186	1239	400
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	36.8	48.4	23.5	32.5	50.9	34.0	42.6	35.5	35.5	49.2	39.1	39.6
Incr Delay (d2), s/veh	35.8	1.3	60.3	0.9	1.4	559.8	22.3	24.6	176.2	65.6	5.5	19.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	21.6	1.2	5.1	7.3	0.9	13.4	11.2	18.8	42.2	8.2	8.5	10.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	72.5	49.7	83.8	33.5	52.3	593.8	64.9	60.1	211.7	114.8	44.6	58.6
LnGrp LOS	F	D	F	C	D	F	E	F	F	F	D	E
Approach Vol, veh/h		1515			851			3306			1515	
Approach Delay, s/veh		73.7			138.8			96.3			56.4	
Approach LOS		E			F			F			E	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	16.0	43.4	38.1	12.5	28.2	31.2	41.0	9.6
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	11.5	38.9	28.6	13.0	23.7	26.7	36.5	5.1
Max Q Clear Time (g_c+I1), s	13.5	40.9	19.1	7.5	24.3	23.4	38.5	6.1
Green Ext Time (p_c), s	0.0	0.0	1.8	0.6	0.0	2.1	0.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	88.1
HCM 6th LOS	F

Notes

User approved volume balancing among the lanes for turning movement.

HCM 6th Signalized Intersection Summary — Alternative 2 - Short Term Interim Conditions
3: I-5 Southbound Ramps & Sand Canyon Ave — PM Peak Hour

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	702	1	236	0	0	0	0	2315	401	649	1012	0
Future Volume (veh/h)	702	1	236	0	0	0	0	2315	401	649	1012	0
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No						No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870				0	1870	1870	1870	1870	0
Adj Flow Rate, veh/h	843	0	172				0	2516	436	705	1100	0
Peak Hour Factor	0.92	0.92	0.92				0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2				0	2	2	2	2	0
Cap, veh/h	988	0	293				0	2811	692	883	4718	0
Arrive On Green	0.18	0.00	0.18				0.00	0.44	0.44	0.26	0.73	0.00
Sat Flow, veh/h	5344	0	1585				0	6696	1585	3456	6696	0
Grp Volume(v), veh/h	843	0	172				0	2516	436	705	1100	0
Grp Sat Flow(s),veh/h/ln	1781	0	1585				0	1609	1585	1728	1609	0
Q Serve(g_s), s	16.8	0.0	10.9				0.0	39.8	23.5	21.0	6.1	0.0
Cycle Q Clear(g_c), s	16.8	0.0	10.9				0.0	39.8	23.5	21.0	6.1	0.0
Prop In Lane	1.00		1.00				0.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	988	0	293				0	2811	692	883	4718	0
V/C Ratio(X)	0.85	0.00	0.59				0.00	0.90	0.63	0.80	0.23	0.00
Avail Cap(c_a), veh/h	1093	0	324				0	2837	699	883	4718	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00				0.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	43.4	0.0	41.0				0.0	28.6	24.1	38.3	4.7	0.0
Incr Delay (d2), s/veh	6.2	0.0	2.3				0.0	4.9	4.3	5.2	0.1	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	7.8	0.0	4.4				0.0	14.6	8.8	8.9	1.4	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	49.6	0.0	43.3				0.0	33.6	28.4	43.5	4.8	0.0
LnGrp LOS	D	A	D				A	C	C	D	A	A
Approach Vol, veh/h		1015						2952			1805	
Approach Delay, s/veh		48.5						32.8			20.0	
Approach LOS		D						C			B	

Timer - Assigned Phs	1	2				6		8
Phs Duration (G+Y+Rc), s	32.6	52.6				85.2		24.8
Change Period (Y+Rc), s	4.5	4.5				4.5		4.5
Max Green Setting (Gmax), s	25.5	48.5				78.5		22.5
Max Q Clear Time (g_c+I1), s	23.0	41.8				8.1		18.8
Green Ext Time (p_c), s	0.7	6.3				8.4		1.6

Intersection Summary	
HCM 6th Ctrl Delay	31.6
HCM 6th LOS	C

Notes

User approved volume balancing among the lanes for turning movement.

HCM 6th Signalized Intersection Summary
1: I-5 Northbound Ramps & Sand Canyon Ave

02/02/2022

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	461	32	595	557	76	140	228	472	281	136	2079	749
Future Volume (veh/h)	461	32	595	557	76	140	228	472	281	136	2079	749
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1945
Adj Flow Rate, veh/h	501	35	647	605	83	152	248	513	305	148	2260	814
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	575	260	441	659	599	267	233	2146	666	178	2310	746
Arrive On Green	0.16	0.14	0.14	0.19	0.17	0.17	0.07	0.42	0.42	0.10	0.45	0.45
Sat Flow, veh/h	3563	1870	3170	3456	3554	1585	3456	5106	1585	1781	5106	1648
Grp Volume(v), veh/h	501	35	647	605	83	152	248	513	305	148	2260	814
Grp Sat Flow(s),veh/h/ln	1781	1870	1585	1728	1777	1585	1728	1702	1585	1781	1702	1648
Q Serve(g_s), s	16.5	2.0	16.7	20.6	2.4	10.6	8.1	7.8	9.0	9.8	52.2	30.9
Cycle Q Clear(g_c), s	16.5	2.0	16.7	20.6	2.4	10.6	8.1	7.8	9.0	9.8	52.2	30.9
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	575	260	441	659	599	267	233	2146	666	178	2310	746
V/C Ratio(X)	0.87	0.13	1.47	0.92	0.14	0.57	1.06	0.24	0.46	0.83	0.98	1.09
Avail Cap(c_a), veh/h	689	260	441	680	599	267	233	2146	666	270	2311	746
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	49.1	45.3	51.7	47.6	42.5	45.9	55.9	22.4	7.3	53.0	32.3	10.6
Incr Delay (d2), s/veh	10.3	0.2	222.1	17.2	0.1	2.8	76.5	0.3	2.3	12.6	14.3	60.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	8.2	0.9	20.3	10.5	1.1	4.4	5.9	3.0	3.4	4.8	22.3	23.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	59.4	45.5	273.7	64.8	42.6	48.7	132.4	22.7	9.6	65.7	46.5	71.3
LnGrp LOS	E	D	F	E	D	D	F	C	A	E	D	F
Approach Vol, veh/h		1183			840			1066			3222	
Approach Delay, s/veh		176.2			59.7			44.5			53.7	
Approach LOS		F			E			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	16.5	54.9	27.4	21.2	12.6	58.8	23.9	24.7
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	18.2	43.5	23.6	16.7	7.4	54.3	23.2	17.1
Max Q Clear Time (g_c+I1), s	11.8	11.0	22.6	18.7	10.1	54.2	18.5	12.6
Green Ext Time (p_c), s	0.2	4.3	0.3	0.0	0.0	0.1	0.9	0.4

Intersection Summary	
HCM 6th Ctrl Delay	75.9
HCM 6th LOS	E

Notes

User approved volume balancing among the lanes for turning movement.

HCM 6th Signalized Intersection Summary
3: I-5 Southbound Ramps & Sand Canyon Ave

02/02/2022

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	311	4	911	0	0	0	0	612	131	851	2316	0
Future Volume (veh/h)	311	4	911	0	0	0	0	612	131	851	2316	0
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No						No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870				0	1870	1870	1870	1870	0
Adj Flow Rate, veh/h	272	0	1063				0	665	142	925	2517	0
Peak Hour Factor	0.92	0.92	0.92				0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2				0	2	2	2	2	0
Cap, veh/h	1322	0	1176				0	1474	363	993	3564	0
Arrive On Green	0.37	0.00	0.37				0.00	0.23	0.23	0.29	0.55	0.00
Sat Flow, veh/h	3563	0	3170				0	6696	1585	3456	6696	0
Grp Volume(v), veh/h	272	0	1063				0	665	142	925	2517	0
Grp Sat Flow(s),veh/h/ln	1781	0	1585				0	1609	1585	1728	1609	0
Q Serve(g_s), s	6.2	0.0	38.1				0.0	10.7	9.1	31.3	34.4	0.0
Cycle Q Clear(g_c), s	6.2	0.0	38.1				0.0	10.7	9.1	31.3	34.4	0.0
Prop In Lane	1.00		1.00				0.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	1322	0	1176				0	1474	363	993	3564	0
V/C Ratio(X)	0.21	0.00	0.90				0.00	0.45	0.39	0.93	0.71	0.00
Avail Cap(c_a), veh/h	1499	0	1334				0	1474	363	1051	3564	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00				0.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	25.7	0.0	35.7				0.0	39.8	39.2	41.6	19.6	0.0
Incr Delay (d2), s/veh	0.1	0.0	8.2				0.0	1.0	3.1	13.8	1.2	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.6	0.0	15.6				0.0	4.1	3.7	14.4	11.5	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	25.8	0.0	43.9				0.0	40.8	42.3	55.4	20.8	0.0
LnGrp LOS	C	A	D				A	D	D	E	C	A
Approach Vol, veh/h		1335						807			3442	
Approach Delay, s/veh		40.2						41.0			30.1	
Approach LOS		D						D			C	

Timer - Assigned Phs	1	2				6		8
Phs Duration (G+Y+Rc), s	39.0	32.0				71.0		49.0
Change Period (Y+Rc), s	4.5	4.5				4.5		4.5
Max Green Setting (Gmax), s	36.5	19.5				60.5		50.5
Max Q Clear Time (g_c+I1), s	33.3	12.7				36.4		40.1
Green Ext Time (p_c), s	1.2	2.5				19.0		4.4

Intersection Summary	
HCM 6th Ctrl Delay	34.1
HCM 6th LOS	C

Notes

User approved volume balancing among the lanes for turning movement.

HCM 6th Signalized Intersection Summary Alternative 2 - Short Term Interim Conditions + Project
1: I-5 Northbound Ramps & Sand Canyon Ave

PM Peak Hour

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	1126	41	228	587	64	146	653	1684	707	171	913	310
Future Volume (veh/h)	1126	41	228	587	64	146	653	1684	707	171	913	310
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1945
Adj Flow Rate, veh/h	1224	45	248	638	70	159	710	1830	768	186	992	337
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	1182	137	232	1054	165	73	745	1806	561	186	1239	400
Arrive On Green	0.33	0.07	0.07	0.30	0.05	0.05	0.22	0.35	0.35	0.10	0.24	0.24
Sat Flow, veh/h	3563	1870	3170	3456	3554	1585	3456	5106	1585	1781	5106	1648
Grp Volume(v), veh/h	1224	45	248	638	70	159	710	1830	768	186	992	337
Grp Sat Flow(s),veh/h/ln	1781	1870	1585	1728	1777	1585	1728	1702	1585	1781	1702	1648
Q Serve(g_s), s	36.5	2.5	5.5	17.3	2.1	4.1	22.3	38.9	38.9	11.5	20.1	21.4
Cycle Q Clear(g_c), s	36.5	2.5	5.5	17.3	2.1	4.1	22.3	38.9	38.9	11.5	20.1	21.4
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	1182	137	232	1054	165	73	745	1806	561	186	1239	400
V/C Ratio(X)	1.04	0.33	1.07	0.61	0.42	2.16	0.95	1.01	1.37	1.00	0.80	0.84
Avail Cap(c_a), veh/h	1182	221	375	1054	165	73	745	1806	561	186	1239	400
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	36.8	48.4	23.5	32.6	51.0	34.0	42.6	35.5	35.5	49.2	39.1	39.6
Incr Delay (d2), s/veh	35.8	1.4	59.6	1.0	1.7	565.8	22.3	24.6	177.7	65.6	5.5	19.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	21.6	1.2	5.1	7.4	1.0	13.6	11.2	18.8	42.5	8.2	8.5	10.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	72.5	49.8	83.1	33.6	52.8	599.7	64.9	60.1	213.2	114.8	44.6	58.6
LnGrp LOS	F	D	F	C	D	F	E	F	F	F	D	E
Approach Vol, veh/h		1517			867			3308			1515	
Approach Delay, s/veh		73.6			139.0			96.7			56.4	
Approach LOS		E			F			F			E	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	16.0	43.4	38.0	12.6	28.2	31.2	41.0	9.6
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	11.5	38.9	28.6	13.0	23.7	26.7	36.5	5.1
Max Q Clear Time (g_c+I1), s	13.5	40.9	19.3	7.5	24.3	23.4	38.5	6.1
Green Ext Time (p_c), s	0.0	0.0	1.8	0.6	0.0	2.1	0.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	88.4
HCM 6th LOS	F

Notes

User approved volume balancing among the lanes for turning movement.

HCM 6th Signalized Intersection Summary Alternative 2 - Short Term Interim Conditions + Project
3: I-5 Southbound Ramps & Sand Canyon Ave

PM Peak Hour

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	704	1	236	0	0	0	0	2315	401	655	1013	0
Future Volume (veh/h)	704	1	236	0	0	0	0	2315	401	655	1013	0
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No						No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870				0	1870	1870	1870	1870	0
Adj Flow Rate, veh/h	845	0	172				0	2516	436	712	1101	0
Peak Hour Factor	0.92	0.92	0.92				0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2				0	2	2	2	2	0
Cap, veh/h	990	0	294				0	2811	692	882	4716	0
Arrive On Green	0.19	0.00	0.19				0.00	0.44	0.44	0.26	0.73	0.00
Sat Flow, veh/h	5344	0	1585				0	6696	1585	3456	6696	0
Grp Volume(v), veh/h	845	0	172				0	2516	436	712	1101	0
Grp Sat Flow(s),veh/h/ln	1781	0	1585				0	1609	1585	1728	1609	0
Q Serve(g_s), s	16.8	0.0	10.9				0.0	39.8	23.5	21.3	6.1	0.0
Cycle Q Clear(g_c), s	16.8	0.0	10.9				0.0	39.8	23.5	21.3	6.1	0.0
Prop In Lane	1.00		1.00				0.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	990	0	294				0	2811	692	882	4716	0
V/C Ratio(X)	0.85	0.00	0.59				0.00	0.90	0.63	0.81	0.23	0.00
Avail Cap(c_a), veh/h	1093	0	324				0	2837	699	882	4716	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00				0.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	43.4	0.0	41.0				0.0	28.6	24.1	38.4	4.7	0.0
Incr Delay (d2), s/veh	6.2	0.0	2.3				0.0	4.9	4.3	5.6	0.1	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	7.9	0.0	4.4				0.0	14.6	8.8	9.1	1.4	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	49.6	0.0	43.2				0.0	33.6	28.4	44.0	4.8	0.0
LnGrp LOS	D	A	D				A	C	C	D	A	A
Approach Vol, veh/h		1017						2952			1813	
Approach Delay, s/veh		48.5						32.8			20.2	
Approach LOS		D						C			C	

Timer - Assigned Phs	1	2				6		8
Phs Duration (G+Y+Rc), s	32.6	52.6				85.1		24.9
Change Period (Y+Rc), s	4.5	4.5				4.5		4.5
Max Green Setting (Gmax), s	25.5	48.5				78.5		22.5
Max Q Clear Time (g_c+I1), s	23.3	41.8				8.1		18.8
Green Ext Time (p_c), s	0.7	6.3				8.4		1.5

Intersection Summary	
HCM 6th Ctrl Delay	31.6
HCM 6th LOS	C

Notes

User approved volume balancing among the lanes for turning movement.

Appendix I
Public Outreach

Metrolink Orange County Maintenance Facility

Prepared for:

Orange County Transportation Authority

550 S. Main St.
Orange, CA 92868
and

Gannett Fleming
20 Pacifica, Suite 430
Irvine, CA 92618

Prepared by:

AECOM
300 S. Grand Ave.
Los Angeles, CA 90071

June 2022

REVISION	DESCRIPTION	DATE
0	Draft Appendix I Public Outreach	4/1/2022

Table of Contents

1. PUBLIC OUTREACH SUMMARY 1
2. PUBLIC OUTREACH MATERIALS 1

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1. PUBLIC OUTREACH SUMMARY

OCTA provided the nearby residents of the Travata community with several opportunities to meet to discuss the Project. Below is a summary of those meetings.

- OCMF Virtual Public Meeting , Oct. 5, 2021 – 5:30 p.m.
  - Travata was notified via flyer
  - Recording of meeting is available here: https://youtu.be/IuPm9uYc2ns. Also posted on www.octa.net/ocmf
- Thursday, Nov. 4, 10:30 a.m.
  - Member of OCTA Outreach went to Travata to provide residents with ways to access project information if they missed the virtual meeting.
  - Residents were notified via email through Travata property manager.
- Wednesday, Jan. 12, 5 p.m.
  - OCTA Outreach and Project Manager met with Travata to go over project, answer questions and clarify environmental process.
  - Residents were notified via email through Travata property manager.
- Wednesday, March 14, 5 p.m.
  - OCTA Outreach, Project Manager, Environmental Consultant, and City of Irvine staff met with Travata to go over project, answer questions on the Draft IS/MND that was circulated on Monday, February 28, 2022. A hardcopy of the Draft IS/MND was delivered to the community on February
  - Residents were notified via email through Travata property manager.

2. PUBLIC OUTREACH MATERIALS

The following are outreach materials for this Project, including the Notice of Intent to Adopt a Mitigated Negative Declaration (NOI) and newspaper (printed and website) publications.

February 28, 2022

To: Public Agencies, Organizations, and Interested Parties

From: Orange County Transportation Authority

Subject: **Notice of Public Review and Intent to Adopt a Mitigated Negative Declaration**

Pursuant to the *State of California Public Resources Code* and the *Guidelines for Implementation of the California Environmental Quality Act*, as most recently amended, this notice is issued to advise that the Orange County Transportation Authority (OCTA) has prepared a Draft Initial Study/Mitigated Negative Declaration (IS/MND) to evaluate the environmental effects of the Metrolink Orange County Maintenance Facility Project (Project). The Project will provide locomotive and railcar servicing and storage facilities for Metrolink's Orange County Line trains in order to improve Metrolink's operational efficiency and overall system performance.

This Initial Study was completed in accordance with OCTA's Guidelines for Implementing the California Environmental Quality Act (CEQA). The document relies on site-specific analysis prepared to address in detail the environmental impacts associated with the Project. On the basis of the Initial Study, OCTA staff has concluded that the Project will not have a significant effect on the environment with the implementation of best management practices and mitigation measures. Consequently, a Mitigated Negative Declaration is proposed.

The Project site is not listed on any lists enumerated under Section 65962.5 of the California Government Code.

Project Location: The proposed location for the Project lies in the City of Irvine (City). The main Project Footprint is located on a 21.3-acre OCTA-owned parcel in the City, adjacent to Marine Way and OCTA Metrolink Railroad, between mileposts (MP) 183.50 and 184.00. This location is within a closed military base (Marine Corps Air Station [MCAS] El Toro) formerly owned by the United States Department of the Navy (DON). After MCAS El Toro was closed, the site was quitclaimed by the Navy to Heritage Fields El Toro, LLC in 2011, and then by way of grant deed conveyed by Heritage Fields to the City that same year. OCTA then purchased the fee ownership of the Project Site from the City. Regional vehicle access to the Project Site is from I-5 at Sand Canyon Avenue. Local vehicle access is via Marine Way to Ridge Valley. Construction for the Project will also occur within the existing Metrolink railroad corridor between MP 183.30 and MP 184.50.

Project Description: The Project includes the construction of a new rail yard, a new rail bridge over the Bee Canyon Channel adjacent to an existing single-span rail bridge, lead tracks and yard tracks, storage, operations and maintenance buildings, train wash, ancillary structures, landscape improvements, street and traffic signal improvements, and safety and security features. Funding is currently not available to construct the entire facility at one time. Instead, a phase construction approach is proposed to build the initial portion of the facility including the most immediately needed elements. The addition of the remaining components will be advanced as the need arises and when funding becomes available.

Public Review Period: A 30-day public review period will begin on February 28, 2022. Comments can be submitted via email (ocmf@octa.net) or mailed to Lora Cross, Project Manager, Orange County Transportation Authority, 550 S. Main Street Orange, CA 92868. Comments must be submitted by no later than 5:00 p.m. on March 29, 2022. The Draft IS/MND and reference documents are also available for review with a link to comment on the Project webpage (www.octa.net/ocmf) and for review physically at the OCTA headquarters at 550 S. Main Street in the City of Orange.

For additional information regarding this Project, please contact:

Lora Cross
Project Manager
Orange County Transportation Authority
E-mail: ocmf@octa.net

HOLLYWOOD

Protesters seek end to COVID-19 mandates as they wane

By Linh Tat
ltat@scng.com

More than 100 protesters including parents and their kids march along Hollywood on Boulevard Sunday. The "March to Free L.A." rally to demand the county end all coronavirus mandates, including ones related to masking in schools, and for a return to normalcy. Today, state officials are expected to lift an indoor mask mandate within schools.

PHOTO BY GENE BLEVINS

On the eve of an anticipated announcement by Gov. Gavin Newsom's administration about when its indoor school masking mandate might be lifted, more than 100 people gathered in Hollywood on Sunday to demand the end of coronavirus mandates — with an emphasis on doing away with school masking requirements — in order to restore a sense of normalcy for students.

During the "March to Free L.A.," an event organized by The L.A. Uprising and California Students United and attended by parents from Los Angeles Unified and other Southern California districts, participants called on local, state and federal officials to stop treating the presence of the coronavirus as a state of emergency.

Two years into the pandemic, with transmission and hospitalization rates coming down again after the winter surge and with vaccines available in the United States to those who want them, there is a growing sentiment that the virus is here to stay, and that society must learn to live with it.

"Why are we having a state of emergency when we're hosting the Super Bowl and the Oscars? ... We want L.A. to go back to normal," said Danna Rosenthal, a member of The L.A. Uprising and California Students United, and a parent in L.A. Unified.

She and other parents have voiced concerns that prolonged coronavirus restrictions in schools are harming students, citing learning loss and mental health crises that many children have experienced throughout the pandemic.

"If the adults don't start realizing what we've done to kids, it's going to be a major tragedy going forward," Rosenthal said. "We need to start putting children first instead of asking the children to protect us."

Those who participated in the march say they've lost faith in public health officials and believe that coronavirus restrictions aren't grounded in science but, rather, politics.

They have been calling for L.A. County Public Health Director Barbara Ferrer to be fired or to step down.

Sunday's march down Hollywood Boulevard from La Brea Avenue to Vine Street came on the eve of a highly anticipated announcement that state officials are expected to make today regarding when California might lift its indoor school masking policy.

The march also took place two days after the U.S. Centers for Disease Control and Prevention eased up on its guidance to allow more counties to lift indoor masking mandates. However, under the new guidelines, L.A. County, like 37% of other counties in the U.S., is still considered a high-risk area for coronavirus transmissions. In such counties, the CDC continues to recommend that people, including students, wear masks indoors.

L.A. Unified School District officials have repeatedly touted the district's coronavirus safety protocols — whose standards are considered among the highest in the nation — for keeping students and staff safe. They have often cited those protocols as a core reason why no campus has had to shut down since schools reopened.

The head of the local teachers union also recently suggested that it's too early to discuss lifting indoor masking mandates in schools.

"These protocols, including the current testing regiment and indoor masking, have protected tens of thousands of educators and more than half a million students, along with their families," United Teachers Los Angeles President Cecily Myart-Cruz had said Wednesday. "It is premature to discuss removing these health and safety measures while there are still many unvaccinated youths in our early education programs and schools."

OCTA

Metrolink Orange County Maintenance Facility Project

Notice of Public Review and Intent to Adopt a Mitigated Negative Declaration

Pursuant to the State of California Public Resources Code and the Guidelines for Implementation of the California Environmental Quality Act, as most recently amended, this notice is issued to advise that the Orange County Transportation Authority (OCTA) has prepared a Draft Initial Study/Mitigated Negative Declaration (IS/MND) to evaluate the environmental effects of the Metrolink Orange County Maintenance Facility Project (Project). The Project will provide locomotive and railcar servicing and storage facilities for Metrolink's Orange County Line trains in order to improve Metrolink's operational efficiency and overall system performance.

This Initial Study was completed in accordance with OCTA's Guidelines for Implementing the California Environmental Quality Act (CEQA). The document relies on site-specific analysis prepared to address in detail the environmental impacts associated with the Project. On the basis of the Initial Study, OCTA staff has concluded that the Project will not have a significant effect on the environment with the implementation of best management practices and mitigation measures. Consequently, a Mitigated Negative Declaration is proposed.

The Project site is not listed on any lists enumerated under Section 65962.5 of the California Government Code.

Project Location: The proposed location for the Project lies in the City of Irvine (City). The main Project Footprint is located on a 21.3-acre OCTA-owned parcel in the City, adjacent to Marine Way and OCTA Metrolink Railroad, between mileposts (MP) 183.50 and 184.00. This location is within a closed military base (Marine Corps Air Station [MCAS] El Toro) formerly owned by the United States Department of the Navy (DON). After MCAS El Toro was closed, the site was quitclaimed by the Navy to Heritage Fields El Toro, LLC in 2011, and then by way of grant deed conveyed by Heritage Fields to the City that same year. OCTA then purchased the fee ownership of the Project Site from the City. Regional vehicle access to the Project Site is from I-5 at Sand Canyon Avenue. Local vehicle access is via Marine Way to Ridge Valley. Construction for the Project will also occur within the existing Metrolink railroad corridor between MP 183.30 and MP 184.50.

Project Description: The Project includes the construction of a new rail yard, a new rail bridge over the Bee Canyon Channel adjacent to an existing single-span rail bridge, lead tracks and yard tracks, storage, operations and maintenance buildings, train wash, ancillary structures, landscape improvements, street and traffic signal improvements, and safety and security features. Funding is currently not available to construct the entire facility at one time. Instead, a phase construction approach is proposed to build the initial portion of the facility including the most immediately needed elements. The addition of the remaining components will be advanced as the need arises and when funding becomes available.

Public Review Period: A 30-day public review period will begin on February 28, 2022. Comments can be submitted via email (ocmf@octa.net) or mailed to Lora Cross, Project Manager, Orange County Transportation Authority, 550 S. Main Street Orange, CA 92868. Comments must be submitted by no later than 5:00 p.m. on March 29, 2022. The Draft IS/MND and reference documents are also available for review with a link to comment on the Project webpage (www.octa.net/ocmf) and for review physically at the OCTA headquarters at 550 S. Main Street in the City of Orange.

For additional information regarding this Project, please contact:

Lora Cross
Project Manager
Orange County Transportation Authority
E-mail: ocmf@octa.net

Sign up today - Free
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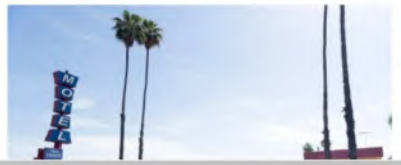
*See terms on site.

Pacaso
Make your second home dreams a reality

Procession, memorial service planned for Huntington Beach officer killed in helicopter crash

Community members were invited to pay their respects to 14-year HBPD officer Nicholas Vella during a procession around city streets Tuesday morning.



LATEST HEADLINES

Suspect arrested in Garden Grove sober living home stabbing 16 hours ago

Contagious equine virus removes horses from Swallows Day parade, other events 1 day ago

Temperatures to warm up after chilly weekend in Southern California 44 mins ago

Coronavirus: Orange County reported 1,066 new cases and 31 new deaths over the weekend 3 hours ago

Fullerton district street

Appendix J
Response to Comments

Metrolink Orange County Maintenance Facility

Prepared for:

Orange County Transportation Authority

550 S. Main St.
Orange, CA 92868
and

Gannett Fleming
20 Pacifica, Suite 430
Irvine, CA 92618

Prepared by:

AECOM
300 S. Grand Ave.
Los Angeles, CA 90071

June 2022

REVISION	DESCRIPTION	DATE
0	Draft IS-MND Response to Comments	4/1/2022
1	Final IS-MND Response to Comments	5/9/2022

Table of Contents

1. INTRODUCTION 1

2. RESPONSES TO COMMENTS 1

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1. INTRODUCTION

The Draft Initial Study/Mitigated Negative Declaration (Draft IS/MND) for the Metrolink Orange County Maintenance Facility Project (Project) was circulated for public review on February 28, 2022 through March 29, 2022. A total of 85 comment letters were received. Written responses are presented for all comments received during the public review period. Each comment letter comment has been assigned a comment number that reflects the order in which the comments was entered into our comment log.

2. RESPONSES TO COMMENTS

The following matrix provides all comments letter text received during the public review period and the responses associated with all individual comments contained in the comment letter.

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Comment No.	Date Received	Commentor Name(s)	Contact Info	Comment Received	Response to Comment
1	03/02/22	Chris & Joyce Loo	loo1995@aol.com Irvine, CA	Dear Sir: We would like to take this opportunity to inform you of our objection to the proposed construction of the Metrolink maintenance facility by the Orange County Transportation Authority (OCTA) at the former El Toro Marine Base. Our opposition to the facility is predicated upon the creation of potentials for health hazards, noise issues, increased traffic activity possibly resulting in congestion, devaluation of surrounding real estate property, and air pollution. Prior to the purchase of our residence in April 2019 at the Travata Community across from the Great Park, we had explored many other residential locations. We found Travata to offer many amenities which facilitated our decision to purchase. It should be noted that at no time during our purchasing process was there a disclosure regarding the proposed OCTA maintenance facility. The disclosure of such information would have deterred us from making the purchase. We did not become aware of the proposed facility until November 2021. As a suggestion, we would like to see the city planners collaborate with OCTA to find another location which would be suitable and conducive for a rail maintenance facility. Sincerely, Chris/Joyce Loo	Opposition of the Project has been noted and will be considered by OCTA. Section 3.3 of the IS/MND states impacts related to air quality would be less than significant with mitigation measures incorporated, and the criteria air pollutant emissions associated with the proposed Project would not expose sensitive receptors to substantial criteria pollutant concentrations. Section 3.13 of the IS/MND states impacts related to noise would be less than significant with mitigation measures, and the generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the Project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies would be less than significant. Additionally, total Project sound levels would not meet or exceed the FTA thresholds for both on-site operational noise sources associated with the Rail Shops and Yard, as well as automobile and truck traffic in and out of the site. Section 3.17 of the IS/MND states impacts related to vehicle miles traveled (VMT) would be less than significant. The estimated daily trip volumes would not exceed local or regional thresholds and meets the requirements of the Congestion Management Program (CMP) Highway System. Section 3.14 of the IS/MND states impacts related to population and housing would not occur because the proposed Project is located on vacant land where no housing currently exists, and the land use is designated as the Great Park. The displacement of households or businesses would not occur. The analysis of potential economic impacts, including those specific to real estate property values is not required per CEQA Guidelines. Regarding disclosure of the Project, per Planning Commission resolution 16-3551 which was adopted November 17, 2016, disclosure statements for the Travata community were to include notification of OCTA facilities in the area including the future Metrolink Maintenance Facility. Regarding possible relocation of the Project to another site, in June of 2010 OCTA entered into an agreement for reserving the 21 acre site for purchase from the City of Irvine for the purpose of a rail maintenance facility. It is not feasible to move the site further south on the rail road due to the location of Irvine Metrolink station and there is no other open land along the Orange County rail line that would make it feasible ot move the location of the station.
2	03/02/22	Howard Lichtman	ldcinc1980@gmail.com (310) 710-8001 105 Palencia, Irvine CA	Proposed OCTA facility location. The Travata Community is directly in the background. March 2, 2022 Lora Cross, Project Manager Orange County Transportation Authority 550 S. Main Street Orange, CA 92868. Our recently constructed Travata community (55 years and over) has been given a major blow by finding out about the plans to build an OCTA train maintenance facility directly across the street from our community. This project was never disclosed to us in the required disclosure documents, prior to purchasing our properties, and we would have never bought our homes in the Travata development if we had known what was being planned. A 24 hour a day train maintenance facility within 500 feet of our community is totally unacceptable. Noise, light, air / ground pollution and its visual presence have the potential to drastically alter the quality of our lives and values of our properties. Our community is made up of senior citizens and this is the wrong project for the proposed location. This is a very serious matter and we do not want to end up with another "North Irvine - All American Asphalt Plant" nightmare in our backyard. Please find another location away from our community. A portion of the south / adjacent RV Storage Depot or further south Great Park land to the south of the RV Storage Depot (both properties adjacent to the railroad tracks) are just a few of alternate locations that should be considered. PLEASE FIND ANOTHER LOCATION!!!!! Sincerely, Howard Lichtman Homeowner 105 Palencia, Irvine, CA. 92618	Refer to Comment Response 1 regarding concern over disclosure of project. Refer to Comment Response 1 regarding impacts related to noise and air quality. Section 3.1 of the IS/MND states sensitive receptors (the Great Park and residences) would be too far from the Project Site to experience spillover lighting due to security lighting. Additionally, the nighttime lighting fixtures would be installed to direct the majority of the light to within and directly adjacent to the OCMF, and away from sensitive areas, to the maximum extent feasible. Therefore, impacts would be less than significant. This section also states views from the residences located northwest of the Project Site would be blocked by existing mature trees on their properties, as well as the concrete wall that surrounds the residential complex. The view would also be blocked by fencing that would surround the Project Site during construction and a six-foot concrete wall with landscaping during operations. The Project would not substantially alter the visual character for residential viewers primarily due to the distance of the Project buildings from the residential viewers, and because the residences are surrounded by an existing tall concrete wall and large trees within their property. Additionally, no aesthetically significant view or landmark would be altered or blocked. Therefore, impacts would be less than significant. OCTA is not familiar with the All American Asphalt Plan and therefore cannot comment on it. The OCMF is not a manufacturing site. Refer to Comment Response 1 regarding relocation of the Project.
3	03/03/22	David Wang and Jeanne Lu	wlaohio@aol.com 148 Burgess, Irvine CA	to: Lora Cross, Project Manager, Orange County Transportation Authority Dear Ms. Cross: Our recently constructed Travata community (55 years and over) has been given a major blow by finding out about the plans to build an OCTA train maintenance facility directly across the street from our community. This project was never disclosed to us in the required disclosure documents, prior to purchasing our properties, and we would have never bought our homes in the Travata development if we had known what was being planned. A 24 hour a day train maintenance facility within 500 feet of our community is totally unacceptable. Noise, light, air / ground pollution and its visual presence have the potential to drastically alter the quality of our lives and values of our properties. Our community is made up of senior citizens and this is the wrong project for the proposed location. We need to have a meeting with city council and city planner representatives as soon as possible to discuss this matter and to voice our concerns. A meeting at our Travata Community Center with city representatives is requested as soon as possible. This is a very serious matter and we do not want to end up with another "North Irvine - All American Asphalt Plant" nightmare in our backyard. Best regards David Wang and Jeanne Lu Residents at 148 Burgess Irvine, CA92618	Refer to Comment Response 1 for impacts related to noise and air quality. Refer to Comment Response 2 for impacts related to lighting and visual quality. Regarding a request for a meeting, on March 14th, 2022 OCTA held a meeting with the Travata Community in which City Planners were present to answer questions. A separate meeting was held on March 15th between City Planners and Travata residences. Refer to Comment Response 2 regarding All-American Asphalt. Opposition of the Project has been noted and will be considered by OCTA.
4	03/06/22	Thomas and Nancy Cooper	tcooper1213@icloud.com 144 Palencia, Irvine CA	Dear Orange County Transit Authority members, We are senior citizens living in the Travata neighborhood which is adjacent to the proposed Irvine Metrolink Rail Yard site. We relocated to Irvine and to our specific location next to the Great Park for the healthy Irvine environment and for the ability to enjoy healthy walks in the Great Park with clean air, and peaceful surroundings. We are quite disturbed to have recently learned about OCTA plans to build a noisy, pollution generating, view blocking, rail yard right next door. We believe the proposed use would violate zoning ordinances and clearly result in excessive noise at night and degradation of air quality, not to mention already high traffic on Marine Way. These would certainly have substantial adverse effects on nearby residents. We ask that you stop this Metrolink Rail Yard in its tracks and move it much further away from a residential area. It is currently only about 500-600 feet from our homes. We are totally against the proposed Metrolink Rail Yard, and we object to the Mitigated Negative Declaration. Sincerely, Thomas L Cooper and Nancy A Cooper 144 Palencia Irvine, CA 92618	Refer to Comment Response 1 regarding impacts related to noise, air quality, and traffic. Refer to Comment Response 2 regarding impacts to visual quality. As discussed in Section 3.11 of the IS/MND, the proposed Project is located on land zoned as 6.1 "Institutional", which applies to land for public and quasi-public facilities such as churches, schools, or utilities. The Project can be categorized as one of the conditional uses under 6.1 Institutional zoning—government facility. Additionally, the use of some heavy equipment and chemical processes for the purpose of maintaining rail vehicles on site does not qualify the OCMF as heavy industrial use. There are no heavy industrial manufacturing or production features involved in activities at the OCMF during construction and operations. As such, the Project would be consistent with existing land use and zoning requirements. Refer to Comment Response 1 regarding relocation of the Project. Opposition of the Project has been noted and will be considered by OCTA.
5	03/08/22	Patricia Langevin	plange6604@cox.net 134 Burgess, Irvine CA	To Whom It May Concern, My name is Patricia Langevin, 134 Burgess, Irvine 92618. I am writing this letter to oppose the proposed Metrolink Rail Maintenance Facility to be built at Marine Way and Ridge Valley. I have been an Irvine resident for 44 years and purchased my new home in Travata near the Great Park in November of 2018. I have read the Mitigated Negative Declaration Document and the Contour Map of the 30 year Cancer Risk report on the Proposed Metrolink Facility and I have several objections to this project. I am very concerned about the added noise, light, traffic, and air pollution that the building and operation of this facility would bring to my community. I would have never purchased my new home had I know this was to be developed just 500 feet from my neighborhood. I would appreciate your support in choosing another site for this project. Thank you. Sincerely, Patricia Langevin	As detailed in Table 3.3-15, Summary of Excess Cancer Risks, of the MND, and shown in Figure 10.2-2 (Contour Map of 30-Year Residential Cancer Risk) of Appendix B of the MND, the maximum excess cancer risk for an individual resident in the age restricted community would be 1.68 in a million, less than the threshold of 10 in a million. The maximum excess cancer risk for an individual in a non-age restricted community is 9.25 in a million, also less than the SCAQMD threshold of 10 in a million. Therefore, the Project would not expose the surrounding residents to significant air quality impacts. Refer to Comment Response 1 regarding impacts to noise, air quality, and traffic. Refer to Comment Response 2 regarding impacts to lighting.
6	03/08/22	James F. Geiger	james.geiger@rcn.com 258 Carlow, Irvine CA	Ms Cross, I received subject letter and reviewed reference documents associated with the proposed rail yard project. I was stunned and appalled to learn that OCTA would propose such a heavy, noisy, pollution-generating industrial site literally across the street from an over-55 residential community (Travata) and the Great Park recreation complex serving thousands of families in pursuit of healthy outdoor activities. The documents discussing environmental and aesthetic impacts glossed over the reality that such a large complex operating 24/7 and receiving/dispatching rail cars day and night would have a devastating impact to the quality of life for so many proximal Irvine residents. I was particularly struck by mention that a "six foot fence surrounding the rail yard" would shield any negative views of activity conducted within the confines of the site, notwithstanding the fact that constant noise during nighttime and early morning hour operations will regard that boundary as irrelevant. As recent home purchasers in the Travata community, my wife and I had no idea this potential project was coming. We chose Irvine as our home since the city prides itself on being one of the 10 best places to live in America. Living adjacent to a rail yard with 24/7 maintenance operations is a terrifying prospect to this homeowner, and I'll be adding my voice in whatever venue is available to protest and hopefully defeat this reprehensible proposal. Respectfully, James F. Geiger, Colonel, USAF (ret) 258 Carlow Irvine, CA 92618	Refer to Comment Response 1 regarding impacts related to noise and air quality. Refer to Comment Response 2 regarding impacts related to visual quality. Refer to Comment Response 1 regarding concern over disclosure of project.
7	03/09/22	Edward Benveniste	qnumber5@att.net 239 Carlow, Irvine CA	I'm a resident here at the Travata Community in Irvine. I recently learned that the OCTA is contemplating a maintenance facility directly across from our neighborhood. At the time of my purchase, I was never informed in the form of any disclosures of the possibility of this happening. I would have seriously reconsidered my purchase had I known. I am very concerned about noise disturbance, lighting disturbance, pollution, aesthetics and the negative effect this facility will have on the value of my property. What alarms me most, is that the facility will be functioning during unacceptable hours in such close proximity to the residents here at Travata. I am very much against this project being built so close to my home and feel an alternative location should be considered. Sincerely, Edward Benveniste 239 Carlow Irvine, CA 92618	Refer to Comment Response 1 regarding concern over disclosure of project. Refer to Comment Response 1 regarding impacts related to noise and air quality. Refer to Comment Response 2 for impacts related to lighting and aesthetics. Economic impacts are not considered significant under CEQA Guidelines.

Comment No.	Date Received	Commentor Name(s)	Contact Info	Comment Received	Response to Comment
8	03/09/22	Kelvin Ko	kokelvin@gmail.com 111 Carlow, Irvine CA	To: Lora Cross Project Manager OCTA Orange, CA Dear Lora, Please consider finding an alternate site to build the captioned project. I am currently residing at Travata, Irvine, an over 55 senior community. Your planned project will adversely impact the quality of life of our community. The noise, light and pollution would be unbearable. The people of our community are at the last stage of our lives. Please don't let that happen to us. Thanks Sincerely, Kelvin Ko kokelvin@gmail.com 111 Carlow Irvine, CA 92618	Refer to Comment Response 1 regarding relocation or alternative site of the Project. Refer to Comment Response 1 for impacts related to noise and air quality, and Comment Response 2 for impacts related to lighting.
9	03/10/22	Debra Geiger	geiger.debra@rcn.com	Ms Cross, My husband and I, both USAF Veterans, purchased a home in the Travata Community in October 2021. We carefully reviewed and researched the disclosure documents and there was NOTHING provided about the plans to build an OCTA train maintenance facility directly across the street from our intended home. Had there been such a disclosure, we NEVER would have purchased this home. And because we financed using a VA loan, these plans also place the VA Administration at risk should this facility be built and housing prices subsequently decline. Noise and air pollution are a significant concern to me as I suffer from Tinnitus from my time in the military and have a significant breathing issue related to Diesel fuel (so much so that we had to sell a boat we loved because it ran on diesel fuel). The diesel fumes caused by trains is likely one of the primary reasons for locating train stations in commercial and industrial areas and not near residences. The proposed train yard site is far closer to residential areas than any Metrolink station. The Mitigated Negative Declaration (MND) notes that rail yard activities produce high levels of diesel particulates. Trains are a major contributor of toxic air contaminants along with construction equipment. The report states that 'diesel particulate matter continues to account for about two-thirds of the cancer risk from air toxins'. This is the WRONG PROJECT for senior citizens like me living nearby the proposed location. Our move to Irvine was to bring us closer to our 2 grandchildren (a 2-year old and a newborn) who live within 10 miles of our home. The 2-year old already spends significant time at our home--and in Great Park which is across the street. It is wrong to expose our grandchildren, and the hundreds of other children who participate in events at Great Park, to these toxins. The MND recognizes the train yard as an institutional land use--the same categorization as for churches and schools. However, the use of 'heavy duty equipment such as cranes and forklifts,' along with the use of industrial chemicals and processes should class the yard as a heavy industry--which is a non-permitted use at the proposed site. We urge you to reassess the categorization of this facility and find an appropriately zoned area for it! To use sports metaphors, this proposed Metrolink Rail Yard in its current proposed location is a FOUL--and we are dropping a penalty flag!!! Locate a new site for this Metrolink Rail Yard and help Irvine maintain its reputation as a community that is concerned for the wellness/safety of its residents. Respectfully, Colonel Debra A. Geiger, USAF (Retired)	Refer to Comment Response 1 regarding concern over disclosure of project. Refer to Comment Response 1 for impacts related to noise and air quality, and Comment Response 5 related to hazardous toxins and cancer risks. In addition, as described in Section 3.3.3 of the MND, operational activities would include emissions from locomotive operations; heavy-duty equipment used on-site (such as cranes and forklifts); fuel tank emissions; natural gas consumption; and on-road vehicle travel for worker, delivery, and haul trips to and from the site. As shown in Table 3.3-10, Localized Operational Maximum Daily Emissions, which summarizes the Project's total operational on-site emissions including locomotive operations, the Project's on-site operational emissions would not exceed the SCAQMD localized thresholds of significance. Thus, the impacts to the nearby sensitive receptors and surrounding land uses would be less than significant. For the purposes of the regional emissions analysis, based on information provided by OCTA, the Project would not result in an increase in commuter rail service or additional locomotive train travel in the region. On the contrary, due to the optimal location of the Project Site, the Project is also anticipated to result in reduced locomotive travel in the region and result in a reduction in the emissions associated with locomotive travel in the region. It is also anticipated that total regional emissions associated with train idling would decrease at the existing maintenance facilities due to more efficient operations and logistics with the shift of a portion of operations to the Project site. Thus, as shown in Table 3.3-9, the Project's net increase in regional emissions would also not exceed the regional thresholds of significance. Refer to Comment Response 4 for impacts related to land use and zoning. Refer to Comment Response 1 regarding relocation of the Project.
10	03/11/22	Joseph and Sandy Toma	joetoma@me.com 135 Palencia, Irvine CA	To Whom it may concern, Our recently constructed Travata community (55 years and over) has been given a major blow by finding out about the plans to build an OCTA train maintenance facility directly across the street from our community. This project was never disclosed to us in the required disclosure documents, prior to purchasing our properties. Based on this recently discovered information, we would have never bought our home in the Travata development if we had known what was being planned. A 24 hour a day train maintenance facility within 500 feet of our community is totally unacceptable. Noise, light, air / ground pollution and its visual presence have the potential to drastically alter the quality of our lives and values of our properties. Our community is made up of senior citizens and this is the wrong project for the proposed location. Regards, Sandy and Joe Toma 135 Palencia Irvine, Ca 92618	Refer to Comment Response 1 regarding concern over disclosure of project. Refer to Comment Response 1 for impacts related to noise and air quality. Refer to Comment Response 2 for impacts related to lighting and visual quality.
11-1	03/14/22	Robert and Pamela Swanson	bpswanson@hotmail.com 209 Carlow, Irvine CA	To: OCTA Re: Opposition to Metrolink Rail Maintenance Facility (OCTA) In 2018, we purchased our home In the senior community of Travata, across from the Irvine Great Park. At that time, we gave careful consideration to the surrounding areas: the 133 and 5 Freeways, the railroad tracks and the Great Park. We believed that those were acceptable as is and would not infringe on our right to a quiet enjoyment of our property. We are opposed to the OCTA's plans to build a 24/7 Metrolink maintenance facility across the street from our community. This project was never disclosed to us in the required disclosure documents prior to purchasing our properties, and we would have never bought our home in the Travata development if we had known what was being planned. A 24 hour a day train maintenance facility within 500 feet of our community is totally unacceptable. Noise, light, air / ground pollution and its visual presence have the potential to drastically alter the quality of our lives and values of our properties. This is the wrong project for the proposed location for the following reasons: 1. ZONING: The train yard is classed as an 'institutional' land use, the same categorization as for a school or church. By its' own admission, the use of 'heavy duty equipment such as cranes and forklifts' along with the use of industrial chemicals and processes should class the yard as heavy industry, a non-permitted use at the proposed site. 2. NOISE: (a) No actual measurements of noise levels at existing Metrolink train yards were provided, only estimates were used. (b) Measurements of sound levels at the site were taken at a time when there are no trains stopping or leaving the site. Trains were only passing by and yet caused substantial spikes in noise near Travata. Once operational, the train noise from many more trains compounded by the longer noise impact of the slowing and possible use of the whistle to enter the yard would substantially increase the frequency and duration of the noise spikes. The noise impact alone may explain why Metrolink stations are not located anywhere near residential areas. This is not even taking the sounds from the equipment use in the train yard into consideration. (c) City of Irvine Municipal Code Noise Ordinance does not have an upper limit for construction noise as those activities are considered temporary. However, the rail yard is expected to be under construction for 4.5 years, ie not temporary. The predicted noise levels during construction are expected to be at or in excess of the highest exterior noise levels allowed for residential areas in the City of Irvine. 3. AESTHETICS: The MND states that there will be no impact on the views of hills to southwest when the train yard plans call for a 5 story structure in the middle of the yard not to mention 4 permanent cranes (how tall?). Travata's view of the hills to the southwest (Quail Hill and Shady/Bommer Canyon) will certainly be negatively impacted. The report is deliberately misleading as neither of the photos provided show the hill formations which are generally very visible. 4. LIGHTING: (a) (Nighttime lighting would certainly impact residents' views over the site contrary to the report. We have to assume that the 4 cranes of unknown height will be well lit 24/7; (b) MND incorrectly states that field lighting at the Great Park obscures our views anyway which is not true as the rail yard is to the right of the Great Park and field lighting is quite a distance from our homes.	Opposition of the Project has been noted and will be considered by OCTA. Refer to Comment Response 4 for impacts related to land use and zoning. Refer to Comment Response 1 for impacts related to noise and air quality. Refer to Comment Response 2 for impacts related to lighting and visual quality.
11-2	03/14/22	Robert and Pamela Swanson	bpswanson@hotmail.com 209 Carlow, Irvine CA	5. AIR QUALITY: The MND notes that rail yard activities produce high levels of diesel particulates. Trains are a major contributor of toxic air contaminants along with construction equipment and ships. The report states that 'diesel particulate matter continues to account for about two-thirds of the cancer risk from air toxins. The operational impacts from the rail yard will be primarily from diesel particulate matter. The diesel fumes caused by trains is likely one of the primary reasons for locating train stations in commercial and industrial areas and not near residences. The proposed train yard site is far closer to residential areas than any Metrolink station. 6. TRAFFIC: Access to the rail yard is along the same single lane road (Marine Way) that is presently well beyond its capacity to handle all users. Travata residents, Great Park users, food bank, distribution center, recycling plant, nursery and soon water park users all are forced onto a single lane road. This road already clearly showed its inadequacy for use as an evacuation road when the Cypress Village community (that includes Travata) was under a voluntary evacuation during the October 2020 wildfire. Traffic was jammed and very slow moving and at a time when the Great Park sports fields were closed due to the pandemic. 7. MANDATORY FINDINGS OF SIGNIFICANCE: The project has environmental impacts that will cause substantial adverse effects on humans both directly and indirectly as a result of the negative impact on air quality, noise, light, aesthetic and traffic effects as discussed herein. These impacts cannot be mitigated to make the rail yard project feasible at its' current location. Its' original Sand Canyon location was >.5 miles from Travata and the rest of Cypress Village residents and as such was feasible. The new location at 500 – 650 feet from Travata is not feasible and the negative impacts are unable to be mitigated successfully. This proposed facility is not an acceptable use of land so near to a residential neighborhood especially when there are alternative sites closer to the Metrolink station on Ada and Barranca where there are only park and commercial neighbors. Robert and Pamela Swanson 209 Carlow, Irvine, CA 92618	Refer to Comment Response 9 regarding impacts related to air quality and diesel particulate matter. Refer to Comment Response 1 traffic. In addition, Section 3.20 of the Draft IS/MND states the Project does not include any characteristics such as permanent road closure or long-term blocking of road access that would physically impair or otherwise conflict with the City's Emergency Preparedness Program. Furthermore, the Project shall comply with fire prevention regulations codified by local, regional, and state authorities. Therefore, no construction or operational impacts related to substantially impairing an adopted emergency response plan or emergency evacuation plan would occur. Section 3.21 of the IS/MND states the Project with mitigation measures would not result in substantial adverse effects on human beings, either directly or indirectly. Refer to Comment Response 1 regarding relocation of the Project.
12	03/14/22	Stuart Kaufman	skaufman@luckymail.com	1. Trash compactors & waste management located close to Travata. Why not locate farther away? 2. Will wall/fence in front of project be landscape to help with the view? 3. New wall should be sound wall! Landscaped in front. 4. How are you mitigating traffic? 5. Has a property value study been done showing r.e. value decline. 6. Buildings need to be sound proofed.	The trash compactor and waste management facilities are located at the western end of the maintenance building in an area that is outside of the operating area of the yard, is in close proximity to the loading docks and maintenance building itself, and is refuse vehicle accessible from the main entrance of the OCMF for pick up and removal of trash and waste from the site. Refer to Comment Response 2 regarding impacts related to aesthetics and visual quality. Refer to Comment Response 1 regarding impacts related to traffic. The analysis of potential economic impacts, including those specific to real estate property, is not required per CEQA Guidelines. Refer to Section 3.13 as well as Appendix F Noise Technical Memorandum regarding anticipated noise levels.

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13	03/14/22	Ann Harris	126 Burgess, Irvine CA	1. Zoning: A. The current zoning is Institutional: there is no doubt that the proposed use of a maintenance facility that uses heavy equipment and hazard waste materials belong in an industrial use zone. B. In order to rectify the conflict in zoning and use: will the agency seek a ZONE CHANGE or petition for a CONDITIONAL USE PERMIT? 2. TRAFFIC: A. Exactly how many vehicle trips per day will this site create when fully operational? B. Your Environmental Study does not distinguish the difference of heavy truck traffic and passenger vehicles. This is a major concern with so many heavy truck already using Marine Way. C. Will the ingress/regress be located off Marine Way and will this be the only employee and public ingress/regress access? 3. ENVIRONMENTAL ISSUES: A. (SOUND) What is the maximum sound decimal when fully operational? B. Will there be a sound/site barrier build on Marine Way? What type of barrie will it be? C. Will the washing bays be enclosed in covered structures? D. What is the water source for the washing bays? Will they be using culinary water or a secondary water source? E. How many gallons of water will this operation use per week? F. How are they going to dispose of the hazard waste water? 4. LOSS OF PUBLIC REVENUES: A. SINCE BOTH THE PROPERTY AND FACILITY IS OWNED AND OPERATED BY THE COUNTY; A TAX EXEMPT ENITY; WILL THERE BE ANY OFF SETS TO MAKE UP FOR LOST REVENUES TO THE PUBLIC? B. IF SO WHAT WILL THE OFF SETS BE AND HOW MUCH WILL THEY GENERATE BACK INTO THE PUBLIC COFFERS? I request that this be submitted into the public record as comments for this project. THANK YOU ANN HARRIS 126 BURGESS IRVINE, CA 92618	Refer to Comment Response 4 regarding impacts related to land use and zoning. Refer to Comment Response 1 regarding impacts related to traffic. Approximately 220 vehicles trips would be made per day when fully operational. Table 3.17-3 (Project Trip Generation) of the IS/MND identifies approximately 40 "Other" vehicle trips accessing the Project Site daily (20 in and 20 out), of the total 220 vehicles. "Other" includes deliveries, visitors, and other ancillary traffic. As stated in Section 2.3.2 of the Draft IS/MND, access to the OCMF would require a roadway extension along Ridge Valley from the intersection of Ridge Valley and Marine Way. The only site access comes from the new Ridge Valley Extension. At the entrance a security booth, gate arms, and fencing are provided to limit unauthorized access to the site. As stated in Table 3-13.8 (Operational Noise Levels and Impacts Summary) and in Section 3.13 of the Draft IS/MND, the total Project noise level would be 52 decimals, and includes contributions from both on-site operational noise sources associated with the Rail Shops and Yard, as well as automobile and truck traffic in and out of the site. Therefore, impacts would be less than significant. Refer to Comment Response 2 regarding impacts related to aesthetics and visual quality. The washing bays will be enclosed in the Train Wash Building. As stated in Section 3.19 of the IS/MND, water irrigation would be required for landscape within the Project Site and for train washing activities. In addition, the proposed OCMF would require onsite irrigation that would be tied to an existing recycled water main line located on Ridge Valley. Therefore, impacts would be less than significant. Section 2.3 of the IS/MND states, the Project would install a 115 foot by 115 foot by 5 feet deep underground cistern that would hold approximately 552,254 gallons for retention and capture/reuse. Additionally, Section 3.19 states domestic water requirements are estimated under 250 gallons per minute (gpm) and would require a two to four-inch connection line to an existing 12-inch water main line on Marine Way, which would adequately support the project needs. Therefore, impacts would be less than significant. Section 3.19 of the Draft IS/MND states the Project would require the construction of new underground wastewater pipes, that would tie into existing utilities located on Marine Way. During Project operations, solid waste would be collected by underground pipes that would connect to existing utilities on Marine Way that would transfer wastewater from the Project Site. Therefore, impacts would be less than significant. Tax revenues are not part of the CEQA evaluation.
14	03/14/22	Patty Olvea	averybusymom2@gmail.com 169 Carlow, Irvine CA	It is difficult for me to understand how your report says that there will be just limited environmental impact on the surrounding area. I live in the Travata neighborhood at the at the corner of Ridge Valley and Marine Way. This is a senior community and this project will impact our neighborhood and my life in a few ways. My main concern is sound and traffic. There are concerts, athletic fields, the Great Valley Park, and the water park currently under construction. There is already major traffic jams both on Marine Way and Ridge Valley after athletics are over, especially at the baseball stadium and soccer fields and Great Park and concerts. 2nd Major Concern - Noise especially when I am sleeping. Please do not do this project so close to homes	Refer to Comment Response 1 regarding impacts to noise and traffic.
15	03/14/22	Adly Fam	afam1946@yahoo.com 129 Palencia, Irvine CA	-Can liquids (washing, spilled fuel - - etc) leach in in the ground and get to the basin inside travata in the Palencia area? -Would the existence of this facility reduce the price of our homes. -Polution from fuels, cleaning liquids and process, sanding, welding, increased traffic - - How is this polution be measured and controlled. Did the Irvine Co. now the intended use of this land as a maintenance facility? When was your intended use communicated to the Irvine Co. or the City of Irvine?	Refer to Comment Response 14 regarding impacts to wastewater. Economic analysis is not required per CEQA Guidelines. Refer to Comment Response 9 regarding impacts related diesel particulate matter. Section 3.9 of the IS/MND states construction and operation of the Project Site would require the routine handling and storage of petroleum products and hazardous materials. Wastes, including used oils and hazardous wastes generated from the Project Site, would be properly managed, transported and disposed per regulatory standards specified under the CCR Title 22 Division 4.5. Additionally, operations of the Project include the routine handling and use of petroleum products and hazardous materials that could leak or spill if equipment such as tanks is damaged from a seismic event, fire, or other unforeseen incident. The Project would construct a Material Storage Building that would store hazardous materials and batteries. To minimize potential impacts, the design of the Project provides containment and/or diversionary structures or equipment to prevent illicit discharge of an oil or hazardous materials spill. Therefore, operational impacts that would create a significant hazard to the public or environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment would be less than significant. Refer to Comment Response 1 regarding impacts related to traffic. Refer to Comment Response 1 regarding concern over disclosure of project.
16-1	03/15/22	Kelvin Loh	loh.kelvin@gmail.com 104 Palencia, Irvine CA	To: OCTA (OCMF@OCTA.net), Mayor Farrah Khan (farrahkhan@cityofirvine.org), Vice Mayor Anthony Kuo (anthonykuo@cityofirvine.org, Councilmember Larry Agran (larryagran@cityofirvine.org), Councilmember Tammy Kim (tammykim@cityofirvine.org), Councilmember Mike Carroll (mikecarroll@cityofirvine.org) MY COMMENTS TO THE MITIGATED NEGATIVE DECLARATION ('MND') ISSUED TO OCTA FOR THE METROLINK RAIL YARD 1. ZONING: a. The train yard is classed as an 'institutional' land use, the same categorization as for a school or church. By its' own admission, the use of 'heavy duty equipment such as cranes and forklifts' along with the use of industrial chemicals and processes should class the yard as heavy industry, a non-permitted use at the proposed site. 2. NOISE: a. No actual measurements of noise levels at existing Metrolink train yards were provided, only estimates were used. b. Measurements of sound levels at the site were taken at a time when there are no trains stopping or leaving the site. Trains were only passing by and yet caused substantial spikes in noise near Travata. Once operational, the train noise from many more trains compounded by the longer noise impact of the slowing and possible use of the whistle to enter the yard would substantially increase the frequency and duration of the noise spikes. The noise impact alone may explain why Metrolink stations are not located anywhere near residential areas. This is not even taking the sounds from the equipment use in the train yard into consideration. c. City of Irvine Municipal Code Noise Ordinance does not have an upper limit for construction noise as those activities are considered temporary. However, the rail yard is expected to be under construction for 4.5 years, ie not temporary. The predicted noise levels during construction are expected to be at or in excess of the highest exterior noise levels allowed for residential areas in the City of Irvine. 3. AESTHETICS: a. The MND states that there will be no impact on the views of hills to southwest when the train yard plans call for a 5 story structure in the middle of the yard not to mention 4 permanent cranes (how tall?). Travata's view of the hills to the southwest (Quail Hill and Shady/Bommer Canyon) will certainly be negatively impacted. The report is deliberately misleading as neither of the photos provided show the hill formations which are generally very visible. 4. LIGHTING: a. Nighttime lighting would certainly impact residents' views over the site contrary to the report. (pg 33, 3.1.3.4.) We have to assume that the 4 cranes of unknown height will be well lit 24/7. b. MND incorrectly states that field lighting at the Great Park obscures our views anyway which is not true as the rail yard is to the right of the Great Park and field lighting is quite a distance from our homes. 5. AIR QUALITY: Noise and air quality impacts are likely the most important. Everyone should read pages 40 and 55-56 that I have attached, as those discuss the health risks from trains and train yards and are very impactful. Also attached is a contour map of the 30-year residential cancer risk. a. The MND notes that rail yard activities produce high levels of diesel particulates. Trains are a major contributor of toxic air contaminants along with construction equipment and ships. The report states that 'diesel particulate matter continues to account for about two-thirds of the cancer risk from air toxins'. b. The operational impacts from the rail yard will be primarily from diesel particulate matter. The MND notes that as of 2005, the Air Resources Board (Federal Agency) recommended a 1,000 foot buffer between residences and rail yards. (Travata's closest homes are within 500 feet of the train yard's nearest property line.) The next highest impact was determined to be between one-half to one mile from the site, which is where the original site for the rail yard was located along Sand Canyon.	Refer to Comment Response 4 regarding impacts related to land use and zoning. Refer to Comment Response 1 regarding impacts related to noise and air quality. Refer to Comment Response 2 regarding impacts related to lighting and visual quality. Refer to Comment Response 9 regarding impacts related to diesel fuel and particulate matter.
16-2	03/15/22	Kelvin Loh	loh.kelvin@gmail.com 104 Palencia, Irvine CA	c. MND notes that the EPA is attempting to reduce locomotive diesel emissions by as much as 90% but has no idea as to where Metrolink's fleet lies at present. d. The methodology used throughout the MND report may not be applicable to the proposed site's size and thus the results provided may need further clarification from an air dispersion analysis. e. The diesel fumes caused by trains is likely one of the primary reasons for locating train stations in commercial and industrial areas and not near residences. The proposed train yard site is far closer to residential areas than any Metrolink station. 6. TRAFFIC: a. Access to the rail yard is along the same single lane road (Marine Way) that is presently well beyond its capacity to handle all users. Travata residents, Great Park users, food bank, distribution center, recycling plant, nursery and soon water park users all are forced onto a single lane road. This road already clearly showed its inadequacy for use as an evacuation road when the Cypress Village community (that includes Travata) was under a voluntary evacuation during the October 2020 wildfire. Traffic was jammed and very slow moving and at a time when the Great Park sports fields were closed due to the pandemic. This inadequate roadway could see the same result as we all witnessed during the Paradise fire tragedy. 7. MANDATORY FINDINGS OF SIGNIFICANCE: a. The project has environmental impacts that will cause substantial adverse effects on humans both directly and indirectly as a result of the negative impact on air quality, noise, light, aesthetic and traffic effects as discussed herein. These impacts cannot be mitigated to make the rail yard project feasible at its' current location. Its' original Sand Canyon location was .5 miles from Travata and the rest of Cypress Village residents and as such was feasible. The new location at 500 – 650 feet from Travata is not feasible and the negative impacts are unable to be mitigated successfully. Submitted by Kelvin Loh 104 Palencia, Irvine, CA 92618 Travata 55+ Community	Refer to Comment Response 9 regarding impacts related to diesel fuel and particulate matter. Refer to Comment Response 20 regarding impacts related to the air dispersion analysis. Refer to Comment Response 1 regarding impacts to traffic and Comment Response 11-2 regarding impacts related to fire evacuation. Section 3.21 of the IS/MND states the Project with mitigation measures would not result in substantial adverse effects on human beings, either directly or indirectly.
17	03/15/22	Tim and Nancy Heitkamp	NHeitkamp@msn.com Irvine,CA	Dear Mayor and City employees My husband and I recently purchased a home in the Travata community across from the Great Park. We enjoy living across from the Great Park and utilize the walking paths daily. We recently learned that OCTA plans to build a 24/7 Metrolink maintenance facility with water treatment, (AKA Sewage Treatment) across the street which is of great concern. We came from the area near the 60 freeway in Ontario which has a water (sewage) treatment facility as well as one in Chino on Chino Hills Parkway. The odor that emits from both these facilities is extremely vial. To learn that a water (sewage) treatment facility is going up as well as an OCTA train maintenance facility is quite alarming. This is not an acceptable location being so close to residential property and a park that is utilized year-round by so many families. This park is the highlight of Irvine and Orange County and to greatly downgrade its usefulness and reputation should concern you. Who wants their kids playing sports and smelling human waste?? I beg the City Planners to work with the Community Development Dept. and OCTA to relocate this facility to a more acceptable location. There is property near the RV storage yard, the food bank and abandoned buildings. My understanding is this area of choice was made to keep it away from the concert venue and water park. These entertainment facilities are used seasonally. We in the Travata community use our facility year-round and enjoy being outside in the evenings where the noise, smell, light etc. will negatively impact our quality of life and greatly impact our property value. Sincerely, Tim and Nancy Heitkamp	The Project does not include wastewater treatment, including a sewage treatment plant. Refer to Comment Response 14 regarding impacts to wastewater. Refer to Comment Response 1 regarding relocation of the Project. Refer to Comment Response 1 regarding impacts to noise and Comment Response 2 for impacts related to lighting.

Comment No.	Date Received	Commentor Name(s)	Contact Info	Comment Received	Response to Comment
18-1	03/15/22	Dan and Charlotte Nelson	dannnsk@yahoo.com	Dear Mayor and council members: Our recently constructed Travata community (55 years and over) has been given a major blow by finding out about the plans to build an OCTA train maintenance facility directly across the street from our community. This project was never disclosed to us in the required disclosure documents, prior to purchasing our properties, and we would have never bought our homes in the Travata development if we had known what was being planned. A 24 hour a day train maintenance facility within 500 feet of our community is totally unacceptable. Noise, light, air / ground pollution and its visual presence have the potential to drastically alter the quality of our lives and values of our properties. Our community is made up of senior citizens and this is the wrong project for the proposed location. COMMENTS TO THE MITIGATED NEGATIVE DECLARATION ('MND') ISSUED TO OCTA FOR THE METROLINK RAIL YARD Below are key findings from the 651 page Mitigated Negative Declaration provided by OCTA and the requires comments from residents within the 30-day period ending March 28th: 1. ZONING: The train yard is classed as an 'institutional' land use, the same categorization as for a school or church. By its' own admission, the use of 'heavy duty equipment such as cranes and forklifts' along with the anticipated high levels of diesel emissions and use of industrial chemicals and processes should class the yard as heavy industry, a non-permitted use at the proposed site. 2. AIR QUALITY: Noise and air quality impacts are likely the most concerning. Page 40 from the MND is attached as it clearly discusses the health risks from trains and train yards. a. The MND notes that rail yard activities produce high levels of diesel particulates. Trains are a major contributor of toxic air contaminants along with construction equipment and ships. The report states that 'diesel particulate matter continues to account for about two-thirds of the cancer risk from air toxins'. b. The operational impacts from the rail yard will be primarily from diesel particulate matter. The MND notes that as of 2005, the Air Resources Board (Federal Agency) recommended a 1,000 foot buffer between residences and rail yards. (Travata's closest homes are within 500 feet of the 3. NOISE: a. No actual measurements of noise levels at existing Metrolink train yards were provided, only estimates were used. b. Measurements of sound levels at the site were taken at a time when trains were only passing by Travata and yet they caused substantial spikes in noise near Travata. Once operational, the train noise from many more trains compounded by the longer noise impact of the slowingtrains and possible use of the whistle to enter the yard would substantially increase the frequency and duration of the noise spikes. The noise impact alone may explain why Metrolink stations are not located anywhere near residential areas. This is not even taking the sounds from the equipment use in the train yard into consideration. c. City of Irvine Municipal Code Noise Ordinance does not have an upper limit for construction noise as those activities are considered temporary. However, the rail yard is expected to be under construction for 4.5 years, ie not temporary. The predicted noise levels during construction are expected to be at or in excess of the highest exterior noise levels allowed for residential areas in the City of Irvine. 4. AESTHETICS: The MND states that there will be no impact on the views of hills to the southwest. Yet the train yard willhave a 5 story structure in the middle of the yard and 4 permanent cranes. Travata's view of the hills to the southwest (Quail Hill and Shady/Bommer Canyon) will certainly be negatively impacted. The report is deliberately misleading as neither of the photos provided show the hill formations which are generally very visible.	Refer to Comment Response 1 regarding concern over disclosure of project. Refer to Comment Response 4 for impacts related to land use and zoning. Refer to Comment Response 1 for impacts related to air quality and noise. Refer to Comment Response 9 regarding impacts related to diesel fuel and particulate matter. Refer to Comment Response 2 for impacts related to aesthetics and visual quality.
18-2	03/15/22	Dan and Charlotte Nelson	dannnsk@yahoo.com	5. LIGHTING: a. Nighttime lighting would certainly impact residents' views over the site contrary to the report.We have to assume that the train yard and the 4 cranes of unknown height will be well lit 24/7. b. MND incorrectly states that field lighting at the Great Park obscures our views anyway which is not true as the rail yard is to the right of the Great Park and field lighting is quite a distance from our homes. 6. TRAFFIC: Access to the rail yard is along the same single lane road (Marine Way) that is presently well beyond its capacity to handle all users. Travata residents, Great Park users, food bank, distribution center, recycling plant, nursery and soon water park users all are forced onto a single lane road. This road already clearly showed its inadequacy for use as an evacuation road when the Cypress Village community (that includes Travata) was under a voluntary evacuation during the October 2020 wildfire. Traffic was jammed and very slow moving and at a time when the Great Park sports fields were closed due to the pandemic. This inadequate roadway could see the same result as we all witnessed during the Paradise fire tragedy. 7. MANDATORY FINDINGS OF SIGNIFICANCE: The project has environmental impacts that will cause substantial adverse effects on humans both directly and indirectly as a result of the negative impact on air quality, noise, light, aesthetic and traffic as discussed herein. These negative impacts cannot be mitigated to make the rail yard project feasible at its' current location. Please do not permit this project. Dan and Charlotte Nelson	Refer to Comment Response 2 regarding impacts related to lighting. Refer to Comment Response 1 regarding impacts to traffic and Comment Response 11-2 regarding impacts related to fire evacuation. Section 3.21 of the IS/MND states the Project with mitigation measures would not result in substantial adverse effects on human beings, either directly or indirectly.
19-1	03/16/22	Sarah Maloof	sarahjmaloof@gmail.com 127 Burgess, Irvine CA	OCTA Project Planners: My name is Sarah Maloof, and I am a homeowner in Travata, the 55+ Senior Community across the street from the proposed site for the new OCTA Metrolink Maintenance Facility in Irvine. I have reviewed the document called The Draft Initial Study/Mitigated Negative Declaration (IS/MND) posted on the OCTA site for the Orange County Maintenance Facility Project (OCMF). I am strongly opposed to the OCMF being located on the site detailed in the IS/MND, and I would like to provide the following comments: 1. ZONING: The rail yard is classed as an 'institutional' land use, the same categorization as for a school or church. The use of heavy equipment such as cranes and forklifts along with the anticipated high levels of diesel emissions, and use of industrial chemicals and processes should class the yard as heavy industry, a non-permitted use at the proposed site. 2. AIR QUALITY: The IS/MND clearly discusses the negative health risks from air pollutants and odors on sensitive receptors living within close proximity to facilities emitting diesel particulates. I am retired and spend much of my time in my home and around the Travata community. I consider myself a sensitive receptor having battled a mast cell disorder requiring me to carry an EpiPen. I can have allergic reactions to environmental conditions requiring medical assistance. The thought of living so close to a rail maintenance facility performing the functions described in the IS/MND is simply unacceptable. a. The IS/MND notes that rail yard activities produce high levels of diesel particulates. Trains are a major contributor of toxic air contaminants along with construction equipment and ships. The report states that 'diesel particulate matter continues to account for about two-thirds of the cancer risk from air toxins'. b. The operational impacts from the rail yard will be primarily from diesel particulate matter. The IS/MND notes that as of 2005, the Air Resources Board (Federal Agency) recommended a 1,000 foot buffer between residences and rail yards. (Travata's closest homes are within 500 feet of the train yard's nearest property line.). The next highest impact was determined to be between one-half to one mile from the site, which is where the original site for the railyard was located along Sand Canyon. c. IS/MND notes that the EPA is attempting to reduce locomotive diesel emissions by as much as 90% but has no idea as to where Metrolink's fleet registers. d. The methodology used throughout the IS/MND report may not be applicable to the proposed site's size and thus the results provided require further clarification from an air dispersion analysis. e. The diesel fumes and noise created by trains is likely one of the primary reasons for locating train stations in commercial and industrial areas and not near residences. The proposed train yard site is far closer to residential areas than any Metrolink station. 3. NOISE: a. No actual measurements of noise levels at existing Metrolink train yards were provided, only estimates were used. b. Measurements of sound levels at the site were taken at a time when trains were only passing by Travata and yet they caused substantial spikes in noise near Travata. Once operational, the train noise from many more trains compounded by the longer noise impact of the slowing trains and possible use of the whistle to enter the yard would substantially increase the frequency and duration of the noise spikes as well as the sounds from the outside equipment use in the train yard. In addition, the facility will be in operation 24/7 with the majority of activities occurring on the 2nd and 3rd shifts. The impact of any increased noise levels will be greater on the Travata community because of these operating hours. c. City of Irvine Municipal Code Noise Ordinance does not have an upper limit for construction noise as those activities are considered.	Opposition of the Project has been noted and will be considered by OCTA. Refer to Comment Response 4 regarding impacts to land use and zoning. Refer to Comment Response 1 for impacts related to air quality and noise. Refer to Comment Response 27 regarding impacts related to diesel fuel and particulate matter. As described in Appendix B, pollutant concentrations were estimated using the American Meteorological Society/U.S. EPA Regulatory Model (AERMOD) dispersion model, consistent with SCAQMD modeling guidance. Advanced coordination or approval of modeling protocols with SCAQMD is not required for projects for which the SCAQMD is not the lead agency. In addition as detailed in SCAQMD's Risk Assessment Procedures for Rules 1401, 1401.1, & 212, SCAQMD modeling staff recommends consultation and a modeling protocol before performing a risk assessment which deviates from SCAQMD's methodology (emphasis added). Although the Project's air dispersion and risk assessment modeling were conducted for the purposes of CEQA environmental documentation and not for the SCAQMD Rules 1401, 1401.1, or 212, the risk assessment modeling was performed consistent with SCAQMD methodology and approval of the modeling protocol from SCAQMD is not required.
19-2	03/16/22	Sarah Maloof	sarahjmaloof@gmail.com 127 Burgess, Irvine CA	4. AESTHETICS: The IS/MND states that there will be no impact on the views of hills to the southwest. Yet the train yard will have a 5 story structure in the middle of the yard and 4 permanent cranes. Travata's view of the hills to the southwest (Quail Hill and Shady/Bommer Canyon) will certainly be negatively impacted. The report is deliberately misleading as neither of the photos provided show the hill formations which are generally very visible. 5. LIGHTING: a. Nighttime lighting would certainly impact residents' views over the site contrary to the report. We have to assume that the train yard and the 4 cranes of unknown height will be well lit 24/7. b. IS/MND incorrectly states that field lighting at the Great Park obscures our views anyway which is not true as the rail yard is to the right of the Great Park and field lighting is quite a distance from our homes. 6. TRAFFIC: Access to the rail yard is along the same single lane road (Marine Way) that is presently well beyond its capacity to handle all users. Travata residents, Great Park users, food bank, distribution center, recycling plant, nursery and soon water park users all are forced onto a single lane road. This road already clearly showed its inadequacy for use as an evacuation road when the Cypress Village community (that includes Travata) was under a voluntary evacuation during the October 2020 wildfire. Traffic was jammed and very slow moving and at a time when the Great Park sports fields were closed due to the pandemic. This inadequate roadway could see the same result as we all witnessed during the Paradise fire tragedy. 7. MANDATORY FINDINGS OF SIGNIFICANCE: The project has environmental impacts that will cause substantial adverse effects on humans both directly and indirectly as a result of the negative impact on air quality, noise, light, aesthetic and traffic as discussed herein. These negative impacts cannot be mitigated to make the rail yard project feasible at its current location. One other item I would like to bring to your attention. It was not disclosed to me during the selling/purchasing process that the intended use for the land being proposed as the site for this OCMF project was in fact a Rail Maintenance Yard. If that had been disclosed I would not have purchased my home for the reasons I stated above. It is not clear to me where legal responsibility for this omission lies, but if the OCMF project moves forward on the proposed site I will look to determine who can be held responsible. Sincerely, Sarah Maloof 127 Burgess Irvine, CA 92618	Refer to Comment Response 2 regarding impacts related to lighting, aesthetics and visual quality. Refer to Comment Response 1 regarding impacts related to traffic and Comment Response 11-2 regarding impacts related to fire evacuation. Section 3.21 of the IS/MND states the Project with mitigation measures would not result in substantial adverse effects on human beings, either directly or indirectly. Refer to Comment Response 1 regarding concern over disclosure of project.
20-1	03/16/22	Melissa and Marilyn Sokolow	1spdwrtr@gmail.com 148 Palencia, Irvine CA	Dear OCTA, My elderly mother and I are residents of the Travata community in Irvine, California. After my father passed away in 2018, we felt that we needed to move from our house in Fountain Valley that we had lived in with him for more than 30 years. We found Travata in Irvine, which we viewed as a peaceful oasis where we were not reminded daily of our loss. My mother and I pooled our life savings to be able to purchase our little oasis, a brand-new house which cost over $1,000,000. We've been happy here since and have found a little peace in our lives. We first became aware of the proposed OCTA Project in the recent past when it was mentioned that literature was distributed to Travata residents concerning this rail yard facility. Before we bought our house, no Lennar sales staff ever mentioned anything about a Metrolink facility being proposed for the future. If this had been disclosed, we wouldn't have purchased our home; it would have been an immediate deal-breaker, at ANY price. We have been in complete pandemic lockdown since March 2020 due to my mother's age and fragility, but we are aware that there have been meetings and discussion about this proposal. Even before we read through the Mitigated Negative Declaration, we were opposed to this facility being built due to a plethora of health-related concerns/pollution concerns connected to this facility and its construction, including air pollution, ground pollution, noise pollution, drastic lighting changes, and all the health risks and damaging consequences stemming from these factors, as well as the anticipation of our property value decreasing. After reading through the Mitigated Negative Declaration, we feel even more strongly that this would destroy our beautiful neighborhood and our quality of life. We are, frankly, appalled after reading this document and, honestly, in disbelief that something like this would even be contemplated so close to a residential community with a beautiful world-famous park right across the street in IRVINE, CA, one of the top-rated cities in America. Several findings from the MND were either inaccurate or extremely concerning: 1) How can the OCTA facility be classified as an institutional land use, the same as a school or church? Clearly, this would be an industrial facility utilizing heavy-duty equipment, dangerous chemicals, and hazardous materials, such as diesel fuel, which incur risk of leaks, spills, and explosions. No educational facility or place of worship is composed of these things. 2) The MND notes that rail yard activities produce high levels of diesel particulates. Trains are a major contributor of toxic air contaminants along with construction equipment. It states that "diesel particulate matter continues to account for about 2/3 of the cancer risk from air toxins." The operational impacts from the OCTA facility would be primarily from diesel particulate matter. The MND says that as of 2005, the Air Resources Board, a federal agency, has recommended a 1,000 foot buffer between residences and rail yards. Travata's closest homes would be within 500 feet of this facility's property line. Quite alarming, to say the least! The diesel fumes and noise created by trains are likely primary reasons for locating train stations in commercial or industrial areas and not near residences. The proposed site for the Metrolink maintenance facility is far closer to residential neighborhoods than any Metrolink station. In addition, the MND itself notes that "some people of the population are especially sensitive to air pollutant emissions and should be given special consideration when evaluating air quality impacts from projects." Residences are considered to be one of these sensitive receptors because individuals can remain within them for 24 hours at a time. "Residential areas are considered sensitive to air pollution because residents (including children and the elderly) tend to be at home for extended periods of time, resulting in sustained exposure to pollutants present. Recreational land uses are considered moderately sensitive to air pollution. Exercise places a high demand on respiratory functions, which can be impaired by air pollution..." Additionally, noticeable air pollution can detract from enjoying recreation. Our immediate area is composed of exactly these two types of sensitive receptor: a senior community and the Great Park.	Refer to Comment Response 1 regarding concern over disclosure of project. Refer to Comment Response 1 regarding impacts related to noise and air quality. Refer to Comment Response 2 regarding impacts related to lighting, aesthetics and visual quality. Refer to Comment Response 4 regarding impacts to land use and zoning. Refer to Comment Response 16 related to hazardous materials. CEQA Guidelines do not require the analysis of potential economic impacts, including the effects of property values. Refer to Comment Response 9 regarding impacts related to diesel fuel and particulate matter.

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20-2	03/16/22	Melissa and Marilyn Sokolow	1spdwrtr@gmail.com 148 Palencia, Irvine CA	3) As far as potential noise pollution, measurements of sound levels around the site were only taken at a time when trains were simply passing through our area, and yet they caused substantial spikes in noise near Travata. Obviously, once the facility is built and operational, the train noise coming from many trains, sometimes simultaneously, would increase the severity, frequency, and duration of the noise. This is not even taking into consideration the sounds of facility equipment in use, which would only add to the noise pollution. On top of all of this, the planned 4 1/2 years of construction would yield noise levels predicted to be at or in excess of the highest exterior noise levels allowed for residential areas in Irvine. 4) Marine Way, the single-lane road that Travata borders on and the OCTA site would have its employees access from, is already overly crowded with traffic from local residents, Great Park visitors, recycling plant visitors, and soon water park visitors. Presently an inadequate passage for a high volume of vehicles, creating more traffic would turn the situation into a complete nightmare. 5) Contrary to what the MND states, nighttime lighting would certainly impact residents' views over the site. Common sense tells us that the train yard and multiple cranes would be well lit 24/7. In addition, it is incorrect for the MND to state that field lighting at the Great Park obscures our nighttime views anyway. The rail facility would be located to the right of the park, and the field lighting is quite a distance from our homes in Travata. 6) It is stated that there would be no impact on the view of the hills to the southwest even though the facility would have a multi-level structure right in its center along with multiple permanent cranes. Obviously, the view would be impacted in a very negative way. The photos in this section of the MND are very misleading, as they omit the hill formations that are generally visible at any time. In summation, this OCTA project would have major negative environmental impacts on air quality, noise level, traffic, lighting, and aesthetics, which would adversely affect the local residents, including seniors and children, both directly and indirectly. There is NO way to mitigate all of these negative impacts to ensure the safety of and protect the quality of life of our local residents. Clearly, the rail yard project is not feasible at the proposed location. Sincerely, Melissa and Marilyn Sokolow 148 Palencia in Irvine, CA	Refer to Comment Response 1 regarding impacts related to noise and traffic. Refer to Comment Response 2 regarding impacts related to lighting, aesthetics and visual quality.
21	03/17/22	Candice Ho	hocandice3@gmail.com 909-618-6399	Dear Sir and Madam To whom it may concern OCTA (ocmf@octa.net), Donald Wagner, 3rd District Supervisor, OCTA Board of Directors, City Of Irvine, Mayor Farrah Khan, Vice Mayor Anthony Kuo, Councilmember Tammy Kim, Councilmember Mike Carroll, Councilmember Larry Agran, City Manager, Oliver C. Chi, Bill Rodrigues, Principle Planner, Victor Mendes, Asst. Planner I hope the Mayor, Councilmembers, City Manager, City Planners, OC Project Manager and Staffs take our voices into consideration and make the City of Irvine beautiful. The City of Irvine is known to be a beautiful city and safe city to live in. Many people dream about living here because of the well planned and thoughtful development. We applaud to the City Planners and the City Manager for their hard well done work these past years. The City of Irvine has innovation hubs - aerospace, gaming industry, transportation, medical technology, alternative energy - combat climate change while delivering more energy than Earth could use. The Great Park is the one of the largest recreational park in the United States of America with numerous amounts of people that come to use the many amenities offered (i.e personal activities, weekend family hangouts, sports practice/ games) All of these are great for people to live and to work in the City of Irvine. In 2020, I moved to Travata in Irvine because of all the wonderful and amazing things I had heard from friends, family, colleagues, news outlets, and even people from other countries like Korea and Asia. It is seen as the successful wealthy city that all of our friends and family want to move to. With this new Transportation Maintenance Facilities Building being built, I feel heart broken to know my city Irvine has passed this project so close to a senior community home and the Great Park. With the land that Irvine has, I believe moving this building somewhere more remote would be better not only for the city but also for the individuals living near the proposed maintenance building. The City of Irvine Planning Department and the City Manager approved the project for Transportation Maintenance Facilities Building will be built across from the Great Park and the senior housing community Travata. The facility will be located between Ridge Valley and Marine Way around 500 ft from the Great Park and the senior community. This maintenance facility building will cause the City of Irvine: 1) Damage the reputation of the City of Irvine being safe, professional, lovely place to live 2) Ruin the beautiful scenery 3) Ruin the fresh air for outdoor activities and daily living by emitting harmful chemicals into the air 4) Disturb the quietness of our community and area we live in 5) Increase unnecessary traffic in our area 6) Increase the likelihood of health issues caused by the harmful chemicals (especially since there is a senior community near by) and children constantly at the park 7) Decrease the property value and value of homes in surrounding areas like Cypress village 8) Increase the possibility of crime with unknown individuals coming from other counties. Please reconsider this project in consideration for all residents of the City of Irvine, but especially those living near the proposed maintenance facility and younger individuals using the park for after school sports / leisure activities. Thank you for your time and reconsideration. Sincerely, Candice Ho email: hocandice3@gmail.com Cell: 909-618-6399	Refer to Comment Response 1 regarding relocation of the Project. Refer to Comment Response 1 for impacts related to noise, air quality, and traffic. Refer to Comment Response 4 for impacts related to hazardous materials. Section 3.15 of the Draft IS/MND states the Irvine Police Department – Spectrum Substation would be the principal service provider to meet the additional police service needs at the Project Site. Furthermore, the Irvine Police Department headquarters, as well as the nearby Irvine Valley College Police Department and Cal State Fullerton Police Department, would be available for situations when the aforementioned resources have been exhausted. It is anticipated that the capacity of police service is sufficient for the Project Site through coordination of three police departments. Refer to Comment Response 2 regarding impacts related to aesthetics and visual quality. CEQA Guidelines do not require the analysis of potential economic impacts, including the effects of property values.
22	03/17/22	Michelle Zamora	michellezamora4@gmail.com	I'm writing this email on behalf of my parents, Jerry and Isabel Zamora, to express my concern with the proposed OCTA Maintenance Facility Project to be located off Ridge Valley. This facility would be located near the Travata 55+ community where they reside. Based on the information available, it appears an Environmental Impact Review was not completed to determine the potential impact this facility would have on the surrounding communities, which consists of residences and the Great Park. You must be aware of the population density in the area due to the many communities that have been built and the popularity of the Great Park. The people who purchased homes in the Travata 55+ community, like my parents, planned for this to be their final home as they enjoy their retirement years. Based on my observations of the Travata residents, a majority of this community would be deemed the most vulnerable health wise due to their ages, which includes my parents who are both 78 years old. I'm concerned my parents' health and quality of life may be impacted if this facility is built based on the information I've read on the OCTA website. One concerning factor is the possible air pollution resulting from the facility being used for fueling and cleaning the cars. This possible pollution would negatively impact my father's health as he has issues with his respiratory system. I have enjoyed visiting with my parents at their home and have witnessed other families enjoying their time with their loved ones who reside at Travata too. It would be a shame if this facility created an environment that could negatively impact the health of so many people and all that needed to be done to prevent the situation was an Environmental Impact Review. And it would also cause great distress if the facility created an environment that would force residents to move at this stage of their lives. The OCTA website states "The Orange County Maintenance Facility (OCMF), to be constructed off of Ridge Valley in Irvine, California, will include train storage tracks, locomotive and car service platforms, and a service building with overhead cranes. Service platforms will include facilities for inspection, fueling and sanding, and interior and exterior car cleaning. Additional facility components will include office space for crews and facility staff, parts storage and management, water treatment, parking access roads, and security." The website description alone creates concerns that need to be addressed. Noise Pollution - Trains coming and going, being moved for storage, overhead cranes, car service process, hours of operation Air Quality – Fueling, sanding, cleaning of cars, water treatment Water Pollution – Water treatment process Traffic Safety – The street the proposed site is located off of is already busy due to the current surrounding communities and the public going to the Great Park and the Five Point Amphitheatre events. The potential impact to the residents surrounding this project needs to be taken into consideration. OCTA must do their due diligence by conducting a thorough Environmental Impact Review to determine if the proposed site is appropriate for this type of facility. And, it is the responsibility of the Irvine City Council to request and review all pertinent data before making any decisions on this project to ensure they are making decisions in the best interest of their constituents. I appreciate your time and consideration on this matter. Michelle Zamora	Refer to Comment Response 1 regarding impacts to noise, air quality and traffic. Refer to Comment Response 14 for impacts related to water quality and wastewater.
23	03/17/22	Henrietta Ly and Roger Chiu	henrily28@gmail.com 425-239-2906	OCTA (ocmf@octa.net) Donald Wagner, 3rd District Supervisor, OCTA Board of Directors, City Of Irvine, Mayor Farrah Khan, Vice Mayor Anthony Kuo, Councilmember Tammy Kim, Councilmember Mike Carroll, Councilmember Larry Agran Bill Rodrigues, Principle Planner, Victor Mendes, Asst. Planner To all above-named parties, We moved to Irvine from Washington state almost three years ago because we've heard a lot of good things about Irvine, how it's safe, and how the city planners had long term vision while developing this city. We love the Great Parks and all the green around us. When we heard that OCTA is planning to build a rail maintenance facility next to the Great Park sports fields where our future generations are using constantly, it's such a disappointment that our City officials are even considering the proposal. We're sure you've heard a lot of opposing voices and seen a lot of opposing emails. There are a lot of valid reasons such as toxic waste, noises, traffic congestion on Marine Way which is a one lane road etc... During the 2020 fire evacuation, the traffic was so bad on Ridge Valley turning to Marine Way. Being a senior, we were so happy to be able to reside in the Travata 55+ community, next to the Great Park with a view of the open space around us. It's such a warm and caring community. We don't want the building of the rail yard to destroy it. You may not know that it's a challenge for seniors to fall asleep at night. Can you imagine falling asleep and being woken up by the rail yard maintenance work? We know a resident who didn't want to buy the house close to the freeway because the noise bothered them. We've attached an article to show you the dangerous consequences of sleep deprivation on seniors which includes problems staying focused, lowered immunity, increased risk of emotional illness, decreased cognitive functioning and various physical effects. https://www.homecareassistancescottsdale.com/dangers-of-sleep-deprivation-for-seniors/ BTW, We've already heard an increase of train whistles lately. The first year we moved here, we didn't even know that the train passed by us. Please do not even consider the proposal from OCTA. KEEP IRVINE BEAUTIFUL Thank you, Henrietta Ly Roger Chiu henrily28@gmail.com rogerchiu28@gmail.com (425)239-2906	Refer to Comment Response 1 regarding impacts related to noise and traffic. Refer to Comment Response 2 regarding impacts related to aesthetics and visual quality. Refer to Section 3.13 as well as Appendix F Noise Technical Memorandum regarding anticipated noise levels. Opposition of the Project has been noted and will be considered by OCTA.
24	03/17/22	Izzy Zamora	izzezam@gmail.com 169 Palencia, Irvine CA	My husband and I are 78 yrs old, and have a great concern on OCTA Metrolink Maintenance Yard. This Train Yard is too close to our Senior Community, Great Park and other Family Communities. The City of Irvine and their elected officials are suppose to protect the citizens in Irvine. We are asking that you really look at how this Project will affect the air quality,health and quality of life for Seniors and Families near this Train Yard. Please look at what I have listed below and how these issues will have an impact on our lives. I'm sure you are well aware of these issues. 1. Zoning is classified as institutional land use, not industrial. 2. Human waste will be emptied from trains. 3. Storing and use of fuel,chemicals and solvents which will be used for trains. 4. Grinding of certain train parts which will cause metal dust to be released into the air. 5. Yard will be operating 24/7, which means more noise from trains and trucks coming in and out of yard. 6. Yard lights on 24/7. 7. More trucks and traffic which will create more potholes on the streets. 8. There are no safe levels of bad air emissions and odors. 9. This area has several windy periods, which will blow more toxic fumes and odors into our communities. I'm sure, you would not like your parents or families living so close to this maintenance yard. This type of project should not be close to any residential area. Thank you, and we really hope you are listening to our concerns. Jerry & Isabel Zamora 169 Palencia Irvine, Ca Sent from my iPad	Refer to Comment Response 4 regarding impacts related to land use and zoning. Refer to Comment Response 14 regarding impacts related to water quality and wastewater. Refer to Comment Response 1 regarding impacts related to air quality, noise and traffic. Refer to Comment Response 2 regarding impacts related to lighting.

Comment No.	Date Received	Commentor Name(s)	Contact Info	Comment Received	Response to Comment
25-1	03/18/22	Bonnie Liu	bonniepangliu@gmail.com	Hello, I am writing to strongly ask that the OCTA rail yard not be relocated so that it is not near Travata Community residents and Great Park users. The negative impacts to our health and well-being cannot be sufficiently mitigated. The following points emphasize the hazards of having the rail yard so close to our community: ZONING: The train yard site within Irvine's Great Park is not compatible with the existing institutional zoning designation. A train yard that involves the use of heavy machinery, hazardous chemicals and emits high levels of particulates into the surrounding residential and recreational areas violates the planning area's purpose. Per the MND, 'The Project type is closest to an industrial type' and therefore does not belong in an institutional zone. Why was this land ever sold to OCTA for a rail yard when it is clearly not compatible with the nearby residents and Great Park visitors. AIR QUALITY: The operational impacts from the rail yard will be primarily from diesel particulate matter. The MND notes that as of 2005, the Air Resources Board (Federal Agency) recommended a 1,000 foot buffer between residences and rail yards. (Travata's closest homes are within 500 feet of the train yard's nearest property line.) The next highest impact was determined to be between one-half to one mile from the site, which is where the original site for the rail yard was located along Sand Canyon. At the proposed site, the MND estimates an increased cancer risk for the community of Travata. At a minimum, this finding alone should indicate that a more rigorous study of the negative impacts on nearby residents and park users be undertaken. NOISE: Measurements of sound levels at the site were taken at a time when trains were only passing by Travata and yet they caused substantial spikes in noise near Travata. Once operational, the train noise from many more trains compounded by the longer noise impact of the slowing trains and possible use of the whistle to enter the yard would substantially increase the frequency and duration of the noise spikes. The noise impact alone may explain why Metrolink stations are not located anywhere near residential areas. This is not even taking the sounds from the equipment used in the train yard into consideration. TRAFFIC: Access to the rail yard is along the same single lane road (Marine Way) that is presently well beyond its capacity to handle all users. Travata residents, Great Park users, food bank, distribution center, recycling plant, nursery and soon water park users all are forced onto a single lane road. This road already clearly showed its inadequacy for use as an evacuation road when the Cypress Village community (that includes Travata) was under a voluntary evacuation during the October 2020 wildfire. Traffic was jammed and very slow moving and at a time when the Great Park sports fields were closed due to the pandemic. This inadequate roadway could see the same result as we all witnessed during the Paradise, California fire tragedy. HAZARDOUS MATERIALS: The MND repeatedly uses the word 'normal' when discussing the storage of petroleum products and hazardous chemicals. There is nothing more concerning than having these types of substances within such a short distance of residences and Great Park visitors. On any given day, there might be thousands of people within 1,000 feet of the site. This is very concerning given that we hear constantly about leaks, fires, etc. occurring at industrial sites such as the rail yard. This is a dangerous facility to be located anywhere near to such a busy area and one that already suffers from congested roadways. LIGHTING: Nighttime lighting would certainly impact residents' views over the site contrary to the report. As 80% of the train yard's operations will be during the overnight hours, all of the cranes and surrounding area will need to be well lit and quite visible from a large segment of Travata's residences along Marine Wayand Ridge Valley. Any resident trying to sleep in the upstairs rooms will definitely look out onto the train yard and will be impacted by the lighting. The MND incorrectly states that field lighting at the Great Park obscures our views anyway which is not true. The sports fields at the Great Park are only lit until 10pm.	Refer to Comment Response 4 regarding impacts related to land use and zoning. Refer to Comment Response 1 regarding impacts related to air quality, noise and traffic, and Comment Response 11-2 regarding impacts related to fire evacuation. Refer to Comment Response 2 regarding impacts related to lighting.
25-2	03/18/22	Bonnie Liu	bonniepangliu@gmail.com	CONCLUSION: The rail yard project has environmental impacts that will cause substantial adverse effects on humans both directly and indirectly as a result of the negative impacts on air quality, noise, hazardous materials and traffic as discussed herein. These negative impacts cannot be mitigated to make the rail yard project feasible at its' current location. At a minimum, we urge the City of Irvine to require that OCTA prepare a more rigorous Environmental Impact Study. We believe that this study will prove that this rail yard does not belong in the Great Park neighborhood and needs to be relocated away from residents and park visitors. Thank you for listening to our concerns. Sincerely, Bonnie Liu	Section 3.21 of the IS/MND states the Project with mitigation measures would not result in substantial adverse effects on human beings, either directly or indirectly.
26-1	03/18/22	Bob Onufer	onuferbob@gmail.com	Dear OCTA, Please find attached comments on the Draft Initial Study/Mitigated Negative Declaration (MND) for the proposed Metrolink Orange County Maintenance Facility Project. The comments demonstrate that the MND is deficient and not the appropriate document for a project with the potential for significant environmental effects such as this one. As the Lead Agency for this project, the Orange County Transportation Authority should withdraw the MND and prepare an Environmental Impact Report (EIR) for the subject project. In addition to being a resident of the Travata Community, a community that will be significantly and irreparably harmed should this project go forward, I am an environmental engineer with more than forty years of experience with a primary focus on air quality. I am currently an independent consultant involved in the permitting, emissions reporting, and document preparation for clients in the western United States with an emphasis on the South Coast Air Quality Management District (SCAQMD) jurisdiction. I have been certified as an expert witness and have testified to the interpretation and application of SCAQMD regulations in Orange County Superior Court. I have also testified more than two dozen times before air district hearing boards throughout California, most recently before the SCAQMD Hearing Board in February 2022. Prior to becoming an independent consultant, I was responsible for the air quality compliance of all facilities owned and operated by Kinder Morgan throughout the western United States including western Texas, Arizona, Nevada, California, Oregon, and Washington. I have prepared or been responsible for numerous CEQA projects including those requiring MNDs as well as EIRs. I have performed all the calculations listed in the air quality portion of the MND at one time or another including dispersion modeling with AERMOD, HARP modeling for risk, LST analyses, tank modeling, and utilizing CalEEMod for construction and ancillary emission estimates. The attached comments are based on my years of experience preparing and reviewing CEQA documents along with my experience working with the SCAQMD for more than 20 years. In my expert opinion the MND is flawed and should be replaced with an EIR. Should you wish to discuss the comments, I can be reached at (949) 606-3088 or by email. Best regards, Bob Onufer	Comment includes introductory remarks and states the MND is deficient, and requests an Environmental Impact Report (EIR) be prepared. This has been noted and will be considered by OCTA.
26-2	03/18/22	Bob Onufer	onuferbob@gmail.com	SUMMARY: The Project Proponent (Proponent) has prepared a draft Initial Study/Mitigated Negative Declaration (MND) for the Metrolink Orange County Maintenance Facility Project. The MND is not the appropriate form the CEQA document should take for a variety of reasons outlined herein. The more appropriate form is an Environmental Impact Report (EIR) as the Proponent has not adequately demonstrated that the project is less than significant even accounting for the proposed mitigation measure outlined in the MND. The Proponent has prepared the MND using assumptions which lead to the conclusion that the project impacts are less than significant. However, as presented in these comments, there are equally scientifically valid assumptions that will readily demonstrate the project has significant environmental effects. In some cases, data presented in the MND shows impacts just below significant (e.g., the MEIR significance threshold is 10 and the MEIR presented is 9.25). In other cases, the Proponent has dismissed emissions in a sentence, taking, what we believe, an unacceptable approach to these emissions. The MND also makes unsupported statements, uses assumptions that result in less than maximum impacts, and either omits or incorrectly calculates emissions for a number of sources. CEQA GUIDELINES: CEQA guidelines require that a three step process be used to determine the appropriate document type as contained in the following section: 15002 GENERAL CONCEPTS (k) Three Step Process An agency will normally take up to three separate steps in deciding which document to prepare for a project subject to CEQA. (1) In the first step the Lead Agency examines the project to determine whether the project is subject to CEQA at all. If the project is exempt, the process does not need to proceed any farther. The agency may prepare a Notice of Exemption. (See: Sections 15061 and 15062.) (2) If the project is not exempt, the Lead Agency takes the second step and conducts an Initial Study (Section 15063) to determine whether the project may have a significant effect on the environment. If the Initial Study shows that there is no substantial evidence that the project may have a significant effect, the Lead Agency prepares a Negative Declaration. (See: Sections 15070 et seq.) (3) If the Initial Study shows that the project may have a significant effect, the Lead Agency takes the third step and prepares an EIR. (See: Sections 15080 et seq.)	This comment summarizes the specific comments outlined in the letter; please refer to responses to comments 26-3 through 26-7. As described in Section 3.3, Air Quality, impacts would be less than significant with mitigation. As described in Section 3.8, Greenhouse Gas Emissions, impacts would be less than significant. Therefore, from an air quality and greenhouse gas emissions standpoint, the Project would not create significant environmental effects and an EIR is not required. This comment also quotes Section 15002(k) of the CEQA Guidelines; no response is required.
26-3	03/18/22	Bob Onufer	onuferbob@gmail.com	While Section 15064(f)(2) of the guidelines allows a Proponent to mitigate the effects to the point where they are no longer significant, Section 15064(g) states that when there is substantial evidence there may be a significant impact on the environment coupled with a disagreement over the significance of the effect, the Proponent will treat the effect as significant and prepare an EIR. This process has been upheld in the courts (see No. Oil Inc. v. City of Los Angeles (1974) 13 Cal.3d 68). These guidelines are quoted as follows: 15064 DETERMINING THE SIGNIFICANCE OF THE ENVIRONMENTAL EFFECTS CAUSED BY A PROJECT (f) The decision as to whether a project may have one or more significant effects shall be based on substantial evidence in the record of the lead agency. (1) If the lead agency determines there is substantial evidence in the record that the project may have a significant effect on the environment, the lead agency shall prepare an EIR (Friends of B Street v. City of Hayward (1980) 106 Cal.App.3d 988). Said another way, if a lead agency is presented with a fair argument that a project may have a significant effect on the environment, the lead agency shall prepare an EIR even though it may also be presented with other substantial evidence that the project will not have a significant effect (No Oil, Inc. v. City of Los Angeles (1974) 13 Cal.3d 68). (2) If the lead agency determines there is substantial evidence in the record that the project may have a significant effect on the environment but the lead agency determines that revisions in the project plans or proposals made by, or agreed to by, the applicant would avoid the effects or mitigate the effects to a point where clearly no significant effect on the environment would occur and there is no substantial evidence in light of the whole record before the public agency that the project, as revised, may have a significant effect on the environment then a mitigated negative declaration shall be prepared. (3) If the lead agency determines there is no substantial evidence that the project may have a significant effect on the environment, the lead agency shall prepare a negative declaration (Friends of B Street v. City of Hayward (1980) 106 Cal.App. 3d 988). (4) The existence of public controversy over the environmental effects of a project will not require preparation of an EIR if there is no substantial evidence before the agency that the project may have a significant effect on the environment. (5) Argument, speculation, unsubstantiated opinion or narrative, or evidence that is clearly inaccurate or erroneous, or evidence that is not credible, shall not constitute substantial evidence. Substantial evidence shall include facts, reasonable assumptions predicated upon facts, and expert opinion support by facts. (6) Evidence of economic and social impacts that do not contribute to or are not caused by physical changes in the environment is not substantial evidence that the project may have a significant effect on the environment. (7) The provisions of sections 15162, 15163, and 15164 apply when the project being analyzed is a change to, or further approval for, a project for which an EIR or negative declaration was previously certified or adopted (e.g. a tentative subdivision, conditional use permit). Under case law, the fair argument standard does not apply to determinations of significance pursuant to sections 15162, 15163, and 15164.	Comment describes Section 15064 of CEQA Guidelines and does not identify environmental concerns regarding the Project. The comment has been noted by OCTA. No response is needed.
26-4	03/18/22	Bob Onufer	onuferbob@gmail.com	15064(g) After application of the principles set forth above in Section 15064(f)(g), and in marginal cases where it is not clear whether there is substantial evidence that a project may have a significant effect on the environment, the lead agency shall be guided by the following principle: If there is disagreement among expert opinion supported by facts over the significance of an effect on the environment, the Lead Agency shall treat the effect as significant and shall prepare an EIR. Failure to make a good faith effort: The Proponent did not demonstrate that the MND was, and is, the appropriate form of the document. The MND appears to have been prepared to justify the project as less than significant rather than present objective data to analyze potential effects on the environment. Project Alternatives: The MND does not evaluate project alternatives but rather alternative configurations within a single project site. Differences in the alternatives are trivial and do not address the appropriateness of this site versus other sites. Any economic benefits to the Proponent, City, or other stakeholders should not be considered as part of a more robust alternative site study. An EIR will allow for a thorough study of alternatives along with a no project option. Failure to include South Coast Air Quality Management District (SCAQMD) as a Responsible Agency: The MND spends 148 of its 651 pages addressing air quality and the associated environmental effects. This represents 22.7 percent of the document, yet SCAQMD is not identified as a Responsible Agency. This is, at a minimum, a tremendous oversight. SCAQMD is the premiere air quality agency in the basin and has responsibility for the attainment of air quality standards as well as extensive experience in permitting, toxic emissions, dispersion modeling, and health risk assessment. Consultation with SCAQMD prior to the preparation of the MND would have led valuable insight into the application of the methodologies used and the selection of appropriate parameters and assumptions. The proponent will need to obtain a number of permits from the SCAQMD and, at a minimum, comply with the following rules: • Rule 201 Permit to Construct • Rule 219 Equipment Not Requiring a Written Permit Pursuant to Regulation II (regarding elimination of exemption for equipment subject to New Source Performance Standards (NSPS) or National Emissions Standards for Hazardous Air Pollutants (NESHAPs)) • Rule 463 Organic Liquid Storage • Rule 1113 Architectural Coatings • Rule 1303 Requirements (for New Source Review)	Refer to comment response 26-2 regarding the environmental document prepared for this Project. Comment on the deficiency of the MND and a request to prepare an EIR has been forwarded to OCTA for consideration. Commenter states project alternatives were not evaluated, however, the evaluation of project alternatives is not required under CEQA for an ISMND. As detailed in Response to Comment 26-5, consultation with SCAQMD is not required for projects for which the SCAQMD is not the lead agency. In addition as detailed in SCAQMD's Risk Assessment Procedures for Rules 1401, 1401.1, & 212, SCAQMD modeling staff recommends consultation and a modeling protocol before performing a risk assessment which deviates from SCAQMD's methodology (emphasis added). Although the Project's air dispersion and risk assessment modeling were conducted for the purposes of CEQA environmental documentation and not for the SCAQMD Rules 1401, 1401.1, or 212, the risk assessment modeling was performed consistent with SCAQMD methodology and approval or consultation with SCAQMD is not required. The Project would obtain all applicable SCAQMD permits and comply with all applicable SCAQMD Rules.

Comment No.	Date Received	Commentor Name(s)	Contact Info	Comment Received	Response to Comment
26-5	03/18/22	Bob Onufer	onuferbob@gmail.com	While not technically required to comply with the Leak Detection and Repair (LDAR) and component tagging requirements under Rule 1173, the CEQA document regardless of form must quantify all potential emissions and include these emissions as part of the worst-case day when assessing whether a project has significant effects on the environment. The MND fails to estimate the number and type of components associated with the project. These fugitive emissions need to be quantified in accordance with SCAQMD methodologies (copy attached). SCAQMD Rule 463 requires that permits be obtained for storage tanks with a volume of greater than 19,815 gallons storing organic liquids. The four proposed 30,000 gallon tanks fall into this category. Submittal of applications for these tanks requires compliance with SCAQMD Rule 1303. Rule 1303(a) requires the new source to employ Best Available Control Technology (BACT) or SCAQMD must deny the application. SCAQMD has established the installation of floating roofs as BACT for non-major polluting sources storing organic liquids with a true vapor pressure of less than 11 psia (copy of BACT document attached). The MND fails to address the BACT requirements. In addition to the rule requirements cited above, SCAQMD modelers generally need to approve the methods and parameters used when modeling pollutant dispersion. While the proponent makes a claim as to the appropriateness of its selected parameters, including the selection of meteorological data and receptor grid, it is possible, even likely, that SCAQMD would have a different opinion. The AERMOD model used in the study is a complex model which at times requires the use of data collected onsite. Since no modeling protocol was approved and no consultation with SCAQMD occurred, it is possible that all modeling performed for the MND would be deemed deficient by SCAQMD. A portion of the AERMOD implementation guide outlining the complexity of the modeling is attached. Failure to include all significant emissions: A major defect in the MND is the disregard of operational emissions from on-site operations, including locomotives. While the MND acknowledges the presence of these emissions and claims to utilize them in its Localized Significance Threshold (LST) analysis, it assumes the emissions do not exist for the purposes of comparing emissions with significance levels. Had the MND correctly identified these emissions as being present, the project would be significant for one or more pollutants including Greenhouse Gas emissions. The MND, however, states that these emissions don't "count" because they are currently being emitted elsewhere in the basin. This is an incorrect way to approach these emissions. The appropriate way to treat these emissions is to acknowledge they are real. quantifiable, and significant. If the proponent then wants to mitigate these emissions by offsetting them with reduced emissions elsewhere in the basin, it needs to do so through a legally enforceable, quantifiable, and permanent shutdown of these emissions. As presented in the MND, there is no offsetting emission reduction identified. Further, there is no requirement that any other existing OCTA facility could not operate at full capacity regardless of the operation of the proposed project. Even if the MND did provide an enforceable, pound-for-pound permanent offset, the MND (or more appropriately an EIR) would need to demonstrate the offset is environmentally equivalent. Removing pollutants, especially toxic pollutants such as diesel particulate matter, from a heavy industrial setting and transferring them to a residential setting near sensitive receptors is not environmentally equivalent. Even a pound-for-pound offset is not equivalent on its face if the offsets are coming from the inland portion of the basin. For example, if emission offsets are required for a project within the basin, offsets from the coastal area (which includes the proposed project site) may be used for either coastal or inland projects. However, offsets from inland sites may not be used for coastal area projects.	SCAQMD Rule 1173 is intended to control volatile organic compound (VOC) leaks and releases from components at refineries, chemical plants, lubricating oil and grease re-refiners, marine terminals, oil and gas production facilities, natural gas processing plants and pipeline transfer stations. As the Project is not a refinery, chemical plant, lubricating oil and grease re-refiner, marine terminal, oil and gas production field, natural gas processing plant, or pipeline transfer station, the Project would not be subject to component identification requirements under Rule 1173. As described in Section 3.3.3.2 of the MND, fugitive VOC emissions associated with train fueling and diesel fuel storage were estimated and accounted for in the operational emissions. As described in more detail in Appendix B to the MND, fugitive VOC emissions associated with fueling and fuel storage tanks were estimated using TankESP. TankESP accounts for fugitive VOC emissions associated with tank breathing losses and working losses (evaporative losses that are expelled through the vents on top of the roof of the tank). While the Project may include some valves and connectors, the quantity of such components would be minimal as the components would be limited to train fueling operations, which is negligible compared to facilities such as a refinery or transfer station that are typically operational uses of concern with regard to fugitive emissions. In addition, the fueling operations associated with the Project would only store California Low Sulfur Diesel, which has an aromatic hydrocarbon content, the compounds that affect volatility, of less than 10 percent by volume per CCR Section 2282; thus, resulting in low volatility compared to other fuels. Furthermore, as described in Section 3.3.3.2 of the MND, the operational VOC emissions associated with the Project are approximately 1.5 pounds per day, substantially below the SCAQMD VOC threshold of 55 pounds per day. SCAQMD has provided Guidelines for Fugitive Emissions Calculations (June 2003), available online at: http://www.aqmd.gov/docs/default-source/planning/annual-emission-reporting/guidelines-for-fugitive-emissions-calculations.pdf, with default emission factors for facilities subject to Rule 1173. Although this Project is not subject to Rule 1173, the default emission factors for a typical terminal/depot were reviewed. Based on an average of the default emission factors for the various types of sources at a terminal/depot, each source at a typical terminal or depot would result in approximately 0.31 pounds of VOC per day. Therefore, due to the few number of tanks and components associated with the Project and low volatility of diesel fuel, any fugitive emissions from the few additional components associated with the tanks would not generate a substantial source of emissions that would influence the significance findings of the MND. The Project would obtain all applicable SCAQMD permits for the storage tanks and comply with permit conditions, including BACT, as applicable, per SCAQMD Rule 463 and Rule 1303. The CEQA document is not a permit application to the SCAQMD for any project components; thus, BACT and any other SCAQMD permitting requirements are not applicable at this stage of the Project's CEQA environmental documentation. As described in Appendix B, pollutant concentrations were estimated using the American Meteorological Society/U.S. EPA Regulatory Model (AERMOD) dispersion model, consistent with SCAQMD modeling guidance. Advanced coordination or approval of modeling protocols with SCAQMD is not required for projects for which the SCAQMD is not the lead agency. In addition as detailed in SCAQMD's Risk Assessment Procedures for Rules 1401, 1401.1, & 212 (available online at: http://www.aqmd.gov/docs/default-source/permitting/rule-1401-risk-assessment/riskassessproc-v8-1.pdf), SCAQMD modeling staff recommends consultation and a modeling protocol before performing a risk assessment which deviates from SCAQMD's methodology (emphasis added). Although the Project's air dispersion and risk assessment modeling were conducted for the purposes of CEQA environmental documentation and not for the SCAQMD Rules 1401, 1401.1, or 212, the risk assessment modeling was performed consistent with SCAQMD methodology and approval of the modeling protocol from SCAQMD is not required. The analysis was conducted consistent with the AERMOD implementation guide and the project's localized emissions and health risk impacts were found to be less than significant. As described in Section 3.3.3 of the MND, operational activities would include emissions from locomotive operations; heavy-duty equipment used on-site (such as cranes and forklifts); fuel tank emissions; natural gas consumption; and on-road vehicle travel for worker, delivery, and haul trips to and from the site. The commenter incorrectly states that emissions from locomotive operations were not included for comparison to the significance thresholds. Table 3.3-10, Localized Operational Maximum Daily Emissions, summarizes the Project's total operational on-site emissions including locomotive operations and compares the emissions to the SCAQMD localized thresholds of significance. As shown in Table 3.3-10, the Project's on-site operational emissions, including locomotive activity, would not exceed the SCAQMD localized thresholds of significance. Thus, the impacts to the nearby sensitive receptors and surrounding land uses would be less than significant. For the purposes of the regional emissions analysis, based on information provided by OCTA, the Project would not result in an increase in commuter rail service or additional locomotive train travel in the region. Therefore, on a regional emissions basis, the locomotive operations due to the project would not be an increase beyond existing conditions. A maintenance facility located along the SCRRA Orange Subdivision through Orange County, such as the Project, would be the optimal location as it would reduce operating costs by limiting nonrevenue moves to the existing SCRRA storage and maintenance facilities in the cities of Los Angeles and Colton. The Project would provide equipment to inspect, clean, and maintain cars and locomotives on a regular and efficient basis. The storage and maintenance activities that would occur operationally at the OCMF would be a shift in current operations from the existing storage and maintenance facilities to the Project Site and would not be an "offset" as the commenter incorrectly describes. Rather, the activities at the OCMF would not be an increase beyond existing conditions at the regional level since these activities are already occurring at other facilities throughout the region. On the contrary, due to the optimal location of the Project Site, the Project is anticipated to result in reduced locomotive travel in the region and in a reduction in the emissions associated with locomotive travel in the region. It is also anticipated that total regional emissions associated with train idling would decrease at the existing maintenance facilities due to more efficient operations and logistics. Therefore, as described in Section 3.3.3.2, operational impacts would be less than significant and mitigation, including offsets, would not be required. Furthermore, irrespective of regional efficiencies in locomotive travel, the MND also estimated localized emissions and evaluated the impact of siting these emissions, including locomotive emissions, near the surrounding recreational, worker, and residential receptors and determined that impacts would be less than significant (refer to Tables 3.3-13, 3.3-15 and 3.3-16 of the MND).
26-6	03/18/22	Bob Onufer	onuferbob@gmail.com	Failure to use worst-case fleet data: Throughout the MND, the Proponent utilizes the fleet "mix" to develop emissions and perform calculations that inform significance and health risk thresholds. These are not worst-case or maximum day assumptions. Unless there is an enforceable requirement limiting locomotives to a "mix" favoring Tier 4 locomotives, Tier 2 locomotives should be used for emission calculations. This change alone will make the MEIR (currently at 9.25) exceed the significance threshold of 10. It will also result in the LST for PM2.5 exceeding the limit of 2.5 ug/m3. It is reasonable to assume that older locomotives will be relegated to maintenance facility work. There is also no guarantee that Tier 2 locomotives will be completely out-of-service even after 2028 especially with the expected growth of ridership noted in the MND. All calculations should assume Tier 2 engines unless the Proponent agrees to a legally enforceable condition outlawing the use of Tier 2 engines. Failure to analyze emissions using the facility's full potential: The MND does not cite any enforceable limits being placed on the proposed project. Since no limits are being placed on the proposed project, all emissions and environmental effects should be analyzed using the proposed project's maximum capacity. This does not appear to be the case as can be demonstrated using data presented in the MND that appears inconsistent. Page 357 of pdf version of the MND contains the calculations for Locomotive Operational Emissions. This table indicates that locomotives idle for approximately twenty minutes per day and otherwise operate for approximately two hours per day. Based on this locomotive use, the table shows the calculated emissions in lbs/day. To show inconsistencies in the MND report, the fuel usage corresponding to the reported emissions was calculated using the emissions presented for CO2, CH4, and N2O and the corresponding emission factors as cited in the notes provided with the tables. The daily emissions in lbs as presented in the MND are: CO2 – 38,943.59, CH4 – 3.06. and N2O – 0.99. The corresponding emission factors in grams/gallon of fuel as cited in the MND are: CO2 – 10,180, CH4 – 0.8, and N2O – 0.26. Converting to consistent units and calculating the amount of fuel corresponding to the reported emissions results in the following: CO2 – 1738.6 gallons, CH4 – 1736.6 gallons, and N2O – 1728.7 gallons. These results indicate that locomotive usage in line with the emissions used to determine significance in the MND would only require approximately 1730 gallons of diesel per day. Yet, the MND notes that the terminal will use 13,000 gallons of fuel per day on average and four 30,000-gallon storage tanks are planned to accommodate this usage. The difference in fuel requirements versus planned fuel deliveries cannot be attributed to other onsite equipment and the emergency generator since the MND also reports that annual CO2e emissions from onsite equipment is only 98 metric tons equaling 591.9 lbs/day on average, less than 2 percent of the emissions of CO2 alone from locomotive use. The planned fuel delivery is approximately 7.5 times greater than the value used for the locomotive emissions calculations. Should the actual fuel usage approach the fuel deliveries, all environmental effects would exceed significance by wide margins including the MEIR for cancer risk, and the LST thresholds for PM2.5 and NOx. Errors in modeling storage tanks: The proponent models tank emissions using TANKESP, a thirdparty software sold by Trinity Consultants. As third-party software, TANKESP may not have been vetted by SCAQMD and may not be deemed acceptable. Again, an upfront consultation with SCAQMD could have resolved this. E39While the USEPA no longer supports its TANKS Version 4.09d software, reliance on TANKESP may be premature. TANKESP does not contain data for renewable diesel, the commodity cited in the MND. The modeling, therefore, uses diesel as a surrogate for renewable diesel. Had the Proponent consulted with SCAQMD, it would have found out that SCAQMD does not consider these equivalent commodities. The vapor pressure of renewable diesel is two or more times that of traditional diesel used in the model. This discrepancy results in the model significantly underpredicting emissions. When permitting a tank to store diesel, renewable diesel or biodiesel (if envisioned later) each commodity needs to be uniquely permitted and appropriate parameters need to be developed when modeling or using the calculation methods contained in the USEPA AP-42 Chapter 7.1 (copies of the Safety Data Sheets for renewable and biodiesel are attached – see Section 9 for vapor pressure data). Without a daily limit on tank throughput, worst-case emissions must be based on the physical limits of the equipment. This means emissions should be based on a hot August day when all tanks are nearly empty and each receive 30,000 gallons of diesel. During the same day, a minimum of 10,000 gallons is transferred to the horizontal tank for fueling. This corresponds to approximately one-third of the monthly working loss emissions occurring on the worst-case day. As presented in the MND, evaporative emissions for the month of August for each of the 30,000-gallon tanks equal 2.868 lbs; working losses equal 3.307 lbs. Doubling the evaporative emissions to account for renewable diesel equals 5.736 lbs. Evaporative emissions are spread out over the entire month (although not quite evenly) and equal approximately 0.2 lbs for the worst-case day. To this are added one-third of the working loss emissions for a worst-case total of approximately 1.3 lbs or 5.2 lbs for the combined four tanks. Emissions from the 10,000-gallon tank need to be added to this total. This itself may not be significant but when to other worst-case numbers, totals may approach significance levels.	As described in Appendix B to the MND, based on information provided by OCTA, the current locomotive fleet mix includes approximately 27 percent Tier 2 engines and approximately 73 percent Tier 4 engines. The commenter incorrectly states that the project's impacts should have analyzed a Tier 2 fleet mix; this would not be an appropriate assumption to analyze the Project's impacts based on the reasonably forseeable and available data, as OCTA has already made progress towards retiring Tier 2 engines. For example, as detailed in a May 2020 press release by OCTA, Metrolink Locomotives Move toward a Cleaner Future, by summer 2020, Metrolink's projected that approximately 40 locomotives would be Tier 4. SCRRA has committed to an all-Tier 4 locomotive fleet mix by 2028. The use of reasonably forseeable data is supported by CEQA case law, including Smart Rail v. Exposition Metro Line Construction Authority (2013) 57 Cal.4th 439. As described in Section 3.3.3, the Project would not result in an increase in commuter rail service or additional locomotive train travel in the region. Therefore, the locomotive operational emissions cited by the commenter are emissions associated with on-site locomotive idling operations only and are not representative of the fuel consumption or total emissions associated with regional travel required of the locomotives that would be serviced at the Project site. Converting the locomotive net increase in operational emissions due to on-site activity to fuel use provides only an estimate of fuel consumption associated with such on-site locomotive activity; whereas, the operational fuel throughput of the proposed fuel storage tanks reflects the fuel required of trains being serviced at the proposed OCMF for their regional travel. The commenter provides an incorrect comparison of the on-site fuel use (as estimated using a conversion of the locomotive operational emissions presented in the MND) to the proposed storage tank fuel throughput; however, these are not relevant points of comparison, as these are two distinct operational activities (onsite idling activities versus existing locomotive regional travel). Localized emissions analyses and health risk (e.g., cancer risk) evaluations are focused on the emissions occurring in the vicinity of the surrounding receptors; therefore, the on-site locomotive emissions which were used in the anlaysis correctly evaluated the impacts to the surrounding sensitive receptors. As presented in Table 3.3-13 for the LST analysis and Table 3.3-15 for excess cancer risks, the Project's operational emissions would not exceed the localized thresholds of significance or cancer risk thresholds and this impact would be less than significant. TankESP, follows the methodology in the latest United States Environmental Protection Agency guidance in AP-42: Compilation of Air Emissions Factors, Chapter 7: Liquid Storage Tanks (June 2020). Therefore, it is an appropriate tool for use in estimating storage tank emissions. Please refer to Response to Comment 26-5 for an explanation that advanced coordination with SCAQMD is not required. The model does not utilize diesel as a surrogate for renewable diesel. The commenter is incorrect in assuming that renewable diesel would be utilized for the Project. Locomotives would be diesel fueled; thus, the storage tanks would store diesel and the diesel-fuel storage tank emissions have been estimated correctly. As described in Section 3.3.3.2, emissions from Project operations, including storage tank emissions, would be less than significant.
26-7	03/18/22	Bob Onufer	onuferbob@gmail.com	Undercounting of fuel truck miles: Consistent with tank usage based on equipment capacity, fuel deliveries must be based on the worst-case day. To accommodate 120,000 gallons of diesel fuel, fifteen truck trips would be required. The MND states that two trips are required. In addition, the MND uses a default mileage of 6.9 for the distance travelled by fuel trucks. This default underpredicts emissions since no fuel terminals are located within 6.9 miles of the proposed project site. The closest fuel terminal to the proposed project site is the Kinder Morgan Terminal located in Orange approximately 12 miles from the proposed project site, the next closest is the Chevron Terminal located approximately 15 miles from the proposed project site in Huntington Beach. It is also possible fuel may need to come even further distances (e.g., Long Beach or the Carson area). Utilizing 15 miles and 15 trips results in 450 miles (for round trips). This is about 13 times greater than the mileage used in the MND. Using EMFAC emission factors (copy attached) results in the following emissions: Pollutant CO NOx ROG SOx PM10 PM2.5 CO2 CH4 Emission Factor (lbs/mile) 0.00457902 0.01031407 0.00090210 0.00004009 0.00052122 0.00039592 4.21 0.0004176 Lbs/day 2.06 4.64 0.40 0.02 0.24 0.18 1896.7 0.19 Use of regulatory compliance as mitigation measure: AQ-1 specified in the MND as mitigation for architectural coating emissions cites compliance with SCAQMD Rule 1113 as a mitigation measure. Compliance with regulation cannot be considered a mitigation measure. MANDATORY FINDINGS OF SIGNIFICANCE: The project creates significant environmental effects that were not appropriately identified in the MND which are supported by the evidence contained in this comment letter. As such, and in accordance with CEQA guidance, the Lead Agency must withdraw the MND and prepare an EIR in accordance with CEQA standards.	The fuel truck trip distance of 6.9 miles is based on California Emissions Estimator Model default data for trip lengths for vendor-type truck trips for the Orange County. CalEEMod is the widely accepted land use tool for estimating emissions; (the model was developed for the California Air Pollution Officers Association (CAPCOA) in collaboration with the California Air Districts. Default data (e.g., emission factors, trip lengths, meteorology, source inventory, etc.) have been provided by the various California Air Districts to account for local requirements and conditions). The commenter suggests that there are no fuel terminals located within 6.9 miles of the Project site; rather the closest fuel terminal is approximately 12 miles from the Project site. However, based on the emission estimates associated with staff and truck vehicles presented in Table 3.3-9, Operational Maximum Daily Increase in Regional Emissions, even if the trip distance for the fuel-delivery truck trips were to be doubled, the Project's operational emissions would continue to remain below the SCAQMD thresholds of significance. In addition, the commenter incorrectly states that fifteen truck trips would be required on a worst-case day to accommodate 120,000 gallons of diesel fuel based on the storage tank capacity. It is not reasonable to assume that all fuel delivery would occur in a single day as the facility would not be consuming and replenishing 120,000 gallons of diesel fuel per day. The intent of the CEQA analysis is to analyze the Project using the most reasonably available information, consistent with precedent CEQA case law including Smart Rail v. Exposition Metro Line Construction Authority (2013) 57 Cal.4th 439, which is 2 daily fuel truck trips per day. As described in Section 3.3, MM-AQ-1, Utilize low VOC paint for architectural coating activities during Phase 2 construction, would require that the contractor utilize water-based or low VOC interior and exterior paints. As noted in MM-AQ-1, the VOC content of the architectural coatings shall comply with the VOC content limits in SCAQMD Rule 1113 or not exceed 100 grams per liter, whichever is lower. SCAQMD Rule 1113 includes a table of standards with varying VOC limits based on the coating category. Per SCAQMD Rule 1113, some coating categories have VOC limits ranging from 50 grams per liter to 730 grams per liter for clear shellac coatings. Considering that MM-AQ-1 limits the VOC limits to 100 grams per liter or lower, MM-AQ-1 exceeds the regulatory requirements of SCAQMD Rule 1113. As described in Section 3.3, Air Quality, impacts would be less than significant with mitigation. As described in Section 3.8, Greenhouse Gas Emissions, impacts would be less than significant. As detailed in the responses above, the emissions estimates used to substantiate the air quality and greenhouse gas emissions analyses utilize industry accepted methodology and accurately reflect Project operations; any potential revisions to the inputs, as acknowledged in the responses above, would not change the impact determinations in either Section 3.3, Air Quality, or Section 3.8, Greenhouse Gas Emissions, of the MND. Therefore, from an air quality and greenhouse gas emissions standpoint, the Project would not create significant environmental effects and EIR is not required.
27	03/18/22	Jennifer Fernatt	jennifernfernatt@gmail.com	To Whom It May Concern, I am writing to express my deep concern and vehement opposition to the proposed OCTA Maintenance Facility in Irvine. I was shocked to receive a distraught call from my grandparents who reside in the nearby Travata 55+ community. They purchased a new construction home from Lenard in December of 2020. I read the available reports online and have many concerns about the negative impact to them personally as well as to the local community. My most immediate concern is for their health. Many seniors are a vulnerable population and as they continue to age, experience increased health issues. There is no way to guarantee chemicals, waste, debris and harmful substances from the proposed nearby facility, despite comments that efforts will be made to mitigate the impact, will not be released into the environment that will undoubtably aggravate or exacerbate existing health conditions and potentially create new health problems or diseases. Would you not have the same concern for yourself or elderly loved ones? Additionally, I am concerned about the negative impact this will have on their property value. Many retired seniors are on reduced incomes and their homes are often their most significant asset. My grandparents personally placed a significant cash down payment when purchasing this property and said if this information was previously disclosed to them, they would not have purchased the property. Being in the real estate business, I have no doubt that, if approved, this facility will reduce the value and desirability of surrounding homes due to noise, light pollution, visible cranes, increased traffic, reduced air quality/contaminated air and living by a construction site for many years. I implore you to reject this proposal and will end with this; Would you want to live by this maintenance facility or have one constructed by your home? Thank you for your time. Jennifer Fernatt	Refer to Comment Response 1 regarding concern over disclosure of project. Refer to Comment Response 4 for impacts related to land use and zoning. Refer to Comment Response 1 for impacts related to air quality, noise, and traffic. Refer to Comment Response 16 regarding impacts related to hazardous materials. Refer to Comment Response 2 for impacts related to lighting, aesthetics and visual quality. The analysis of impacts to property values is not required by CEQA Guidelines. Opposition of the Project has been noted and will be considered by OCTA.

Comment No.	Date Received	Commentor Name(s)	Contact Info	Comment Received	Response to Comment
28-1	03/18/22	Frank B. Smith	smithfrankb@msn.com 864-640-5869 141 Palencia, Irvine CA	This email is to provide our feedback regarding the proposed OCTA Rail Yard within the Great Park. This facility is completely inconsistent with the Great Park as a focal point for community activities, sport facilities, and an area of quiet tranquility for Irvine's adjacent communities. This is particularly true for our Travata 55 Plus Community which is located within about 500 feet and will suffer from the disruption of its construction, and the ongoing nuisances of greater traffic, noise, light, and environmental pollution, plus other negative consequences for Travata, neighboring communities, and Great Park users. The project should have been rejected before the major investment in planning and design work because it just doesn't fit in this area. In addition, we had an opportunity to meet with OCTA management to explain their project and found them unable to answer questions regarding the design, hazards, risks, and other issues. In my opinion as a retired project manager/ project executive for major petroleum projects worldwide for nearly 40 years, the group we met with had neither the technical background, nor skills and knowledge to be handling a project such as this. The entire Travata Community is unified in opposition to this project being located in the Great Park and particularly within 500 feet of our community. Following are some more detailed and specific points developed amongst our community: ZONING: The train yard site within Irvine's Great Park is not compatible with the existing institutional zoning designation. A train yard that involves the use of heavy machinery, hazardous chemicals and emits high levels of particulates into the surrounding residential and recreational areas violates the planning area's purpose. Per the MND, 'The Project type is closest to an industrial type' and therefore does not belong in an institutional zone. Why was this land ever sold to OCTA for a rail yard when it is clearly not compatible with the nearby residents and Great Park recreational users. AIR QUALITY: The operational impacts from the rail yard will be primarily from diesel particulate matter. The MND notes that as of 2005, the Air Resources Board (Federal Agency) recommended a 1,000 foot buffer between residences and rail yards. (Travata's closest homes are within 500 feet of the train yard's nearest property line.) The next highest impact was determined to be between one-half to one mile from the site, which is where the original site for the rail yard was located along Sand Canyon. At the proposed site, the MND estimates an increased cancer risk for the community of Travata. At a minimum, this finding alone should indicate that a more rigorous study of the negative impacts on nearby residents and park users be undertaken. NOISE: Measurements of sound levels at the site were taken at a time when trains were only passing by Travata and yet they caused substantial spikes in noise near Travata. Once operational, the train noise from many more trains compounded by the longer noise impact of the slowing trains and possible use of the whistle to enter the yard would substantially increase the frequency and duration of the noise spikes. The noise impact alone may explain why Metrolink stations are not located anywhere near residential areas. This is not even taking the sounds from the equipment used in the train yard into consideration. TRAFFIC: Access to the rail yard is along the same single lane road (Marine Way) that is presently well beyond its capacity to handle all users. Travata residents, Great Park users, food bank, distribution center, recycling plant, nursery and soon water park users all are forced onto a single lane road. This road already clearly showed its inadequacy for use as an evacuation road when the Cypress Village community (that includes Travata) was under a voluntary evacuation during the October 2020 wildfire. Traffic was jammed and very slow moving and at a time when the Great Park sports fields were closed due to the pandemic. This inadequate roadway could see the same result as we all witnessed during the Paradise, California fire tragedy.	Refer to Comment Response 1 regarding concern over disclosure of project. Refer to Comment Response 4 for impacts related to land use and zoning. Refer to Comment Response 1 for impacts related to air quality, noise, and traffic, and Comment Response 11-2 regarding impacts related to fire evacuation. Refer to Comment Response 9 regarding impacts related to diesel fuel and particulate matter. Refer to Comment Response 2 for impacts related to lighting, aesthetics and visual quality. The analysis of impacts to property values is not required by CEQA Guidelines. Opposition of the Project has been noted and will be considered by OCTA.
28-2	03/18/22	Frank B. Smith	smithfrankb@msn.com 864-640-5869 141 Palencia, Irvine CA	HAZARDOUS MATERIALS: The MND repeatedly uses the word 'normal' when discussing the storage of petroleum products and hazardous chemicals. There is nothing more concerning than having these types of substances within such a short distance of residences and Great Park visitors. On any given day, there might be thousands of people within 1,000 feet of the site. This is very concerning given that we hear constantly about leaks, fires, etc. occurring at industrial sites such as the rail yard. This is a dangerous facility to be located anywhere near to such a busy area and one that already suffers from congested roadways. LIGHTING: Nighttime lighting would certainly impact residents' views over the site contrary to the report. As 80% of the train yard's operations will be during the overnight hours, all of the cranes and surrounding area will need to be well lit and quite visible from a large segment of Travata's residences along Marine Way and Ridge Valley. Any resident trying to sleep in the upstairs rooms will definitely look out onto the train yard and will be impacted by the lighting. The MND incorrectly states that field lighting at the Great Park obscures our views anyway which is not true. The sports fields at the Great Park are only lit until 10pm. CONCLUSION: The rail yard project has environmental impacts that will cause substantial adverse effects on humans both directly and indirectly as a result of the negative impacts on air quality, noise, hazardous materials and traffic as discussed herein. These negative impacts cannot be mitigated to make the rail yard project feasible at its' current location. At a minimum, we urge the City of Irvine to require that OCTA prepare a more rigorous Environmental Impact Study. We believe that this study will prove that this rail yard does not belong in the Great Park neighborhood and needs to be relocated away from residents and park visitors. We would appreciate confirmation from each recipient of this communication and an indication of your position on this matter. Thankyou, Frank and Aileen Smith Travata Community 141 Palencia Irvine, CA92618 Phone 864-640-5869	Refer to Comment Response 16 regarding impacts related to hazardous materials. Refer to Comment Response 2 regarding impacts related to lighting and visual quality. Section 3.21 of the IS/MND states the Project with mitigation measures would not result in substantial adverse effects on human beings, either directly or indirectly.
29	03/18/22	Karen Koch	therealkochs@gmail.com	Dear Mayor and Staff: I own a home in the Tristania condo community across from the Great Park. I love living across from the Great Park and I walk there daily. I just learned that OCTA plans to build a 24/7 Metrolink maintenance facility with water treatment, (AKA Sewage Treatment) near my street which concerns me. As you may know, the typical treatment plant is NOT usually pleasant. To learn that a water (sewage) treatment facility is going up as well as an OCTA train maintenance facility is disturbing. This is not a good location being so close to residential property and a park that is used daily by so many children. This park is a TREASURE for Irvine and Orange County. To add a sewage treatment facility and diesel dumping ground here greatly diminishes Irvine and Orange County's reputation. The environmental disaster possibilities are endless!!! Who wants any child playing sports while smelling toxic odors, breathing lead, diesel fumes and other carcinogens?? I ask that the City Planners work with the Community Development Dept. and OCTA to relocate this facility to a more desolate location. I understand this area was chosen to keep it away from the concert venue and water park. This was good; however, we in Cypress Village live here too and breathe the air DAILY. Near our community is NOT a wise choice either. Thank You for Your Consideration, Karen Koch ☺	The Project does not include wastewater treatment, including a sewage treatment plant. Refer to Comment Response 14 regarding impacts to wastewater. Refer to Comment Response 4 regarding impacts related to hazardous materials, and Comment Response 9 regarding impacts related to diesel fuel and particulate matter.
30	03/18/22	Stephanie Liu	stephaniestliu@gmail.com	Good evening, I am writing to urge you to not relocate the OCTA rail yard to be near Travata Community residents and Great Park users. The negative impacts to our health and well-being cannot be sufficiently mitigated. The following points emphasize the hazards of having the rail yard so close to our community: ZONING: The train yard site within Irvine's Great Park is not compatible with the existing institutional zoning designation. A train yard that involves the use of heavy machinery, hazardous chemicals and emits high levels of particulates into the surrounding residential and recreational areas violates the planning area's purpose. Per the MND, 'The Project type is closest to an industrial type' and therefore does not belong in an institutional zone. Why was this land ever sold to OCTA for a rail yard when it is clearly not compatible with the nearby residents and Great Park visitors. AIR QUALITY: The operational impacts from the rail yard will be primarily from diesel particulate matter. The MND notes that as of 2005, the Air Resources Board (Federal Agency) recommended a 1,000 foot buffer between residences and rail yards. (Travata's closest homes are within 500 feet of the train yard's nearest property line.) The next highest impact was determined to be between one-half to one mile from the site, which is where the original site for the rail yard was located along Sand Canyon. At the proposed site, the MND estimates an increased cancer risk for the community of Travata. At a minimum, this finding alone should indicate that a more rigorous study of the negative impacts on nearby residents and park users be undertaken. NOISE: Measurements of sound levels at the site were taken at a time when trains were only passing by Travata and yet they caused substantial spikes in noise near Travata. Once operational, the train noise from many more trains compounded by the longer noise impact of the slowing trains and possible use of the whistle to enter the yard would substantially increase the frequency and duration of the noise spikes. The noise impact alone may explain why Metrolink stations are not located anywhere near residential areas. This is not even taking the sounds from the equipment used in the train yard into consideration. TRAFFIC: Access to the rail yard is along the same single lane road (Marine Way) that is presently well beyond its capacity to handle all users. Travata residents, Great Park users, food bank, distribution center, recycling plant, nursery and soon water park users all are forced onto a single lane road. This road already clearly showed its inadequacy for use as an evacuation road when the Cypress Village community (that includes Travata) was under a voluntary evacuation during the October 2020 wildfire. Traffic was jammed and very slow moving and at a time when the Great Park sports fields were closed due to the pandemic. This inadequate roadway could see the same result as we all witnessed during the Paradise, California fire tragedy. HAZARDOUS MATERIALS: The MND repeatedly uses the word 'normal' when discussing the storage of petroleum products and hazardous chemicals. There is nothing more concerning than having these types of substances within such a short distance of residences and Great Park visitors. On any given day, there might be thousands of people within 1,000 feet of the site. This is very concerning given that we hear constantly about leaks, fires, etc. occurring at industrial sites such as the rail yard. This is a dangerous facility to be located anywhere near to such a busy area and one that already suffers from congested roadways. LIGHTING: Nighttime lighting would certainly impact residents' views over the site contrary to the report. As 80% of the train yard's operations will be during the overnight hours, all of the cranes and surrounding area will need to be well lit and quite visible from a large segment of Travata's residences along Marine Way and Ridge Valley.	Refer to Comment Response 4 regarding impacts related to land use and zoning. Refer to Comment Response 9 regarding impacts related to diesel fuel and particulate matter. Refer to Comment Response 1 regarding impacts related to air quality, noise, and traffic, and Comment Response 11-2 regarding impacts related to fire evacuation. Refer to Comment Response 16 regarding impacts related to hazardous materials. Refer to Comment Response 2 regarding impacts related to lighting.
31	03/19/22	Debbie Noonan	noonansfive@gmail.com	I am writing to convey that I am vehemently opposed to this project's close proximity to our (husband and my) residence at Travata's senior community, neighboring homes, and Great Park. We already have to put up with the noise and traffic of Interstate 5, Highway 133, trains passing by and engaging their whistles, participants using Great Park and FivePoint Amphitheatre, and soon to be open Wild Rivers. We are resigned to this because we knew about this situation when we purchased our home a year ago. But now a rail maintenance facility so close? We do not wish to tolerate the rest of our lives with more noise, traffic, and additional health risks associated with diesel gas storage, sewage disposal, pollutants in the air from grinding train wheels and diesel fuel combustion which is known to contain cancer causing particles. Please put the health of Irvine residents first and require this project to be placed further away from homes and Great Park where there are seniors and growing children! Thank you, Debbie Noonan Noonansfive@gmail.com	Opposition of the Project has been noted and will be considered by OCTA. Refer to Comment Response 1 regarding impacts related to noise, air quality, and traffic. Refer to Comment Response 9 regarding impacts related to diesel fuel and particulate matter, and Comment Response 5 regarding impacts related to cancer risk. Refer to Comment Response 16 regarding impacts related to hazardous materials. The Project does not include wastewater treatment, including a sewage treatment plant. Refer to Comment Response 14 regarding impacts to wastewater.

Comment No.	Date Received	Commentor Name(s)	Contact Info	Comment Received	Response to Comment
32	03/19/22	Alex and Kristen Negvesky	negveskyfamily@icloud.com	To Whom It May Concern, My husband and I moved to Irvine from the East Coast because of the quality of life here. For us, part of that Quality of Life has been the clean air and abundance of parks, especially The Great Park. We now enjoy the Farmer's Market and other events at Great Park with our young family. We hope that our children will eventually be playing soccer or tennis or multiple other sports at Great Park as well. We have recently been made aware of a disturbing development—development of an OCTA MetroLink Rail Yard immediately across from the park! This information has not been widely shared throughout the Irvine community and it needs to be…this is a matter for all those that visit/use the park. We have many concerns with this development to include increased traffic, storage of hazardous materials/chemicals, noise; but MOST CONCERNING is the impact on air quality. From what we have read, OCTA has made numerous assumptions regarding their ability to mitigate the particulate matter. It is easy to see/feel that when at Great Park the winds blow from the ocean directly over the proposed location of the rail yard, and into Great Park! These particulates will be inhaled by any of the children and adults who are playing on the fields as well as residents of the nearby residential senior community. There are experts galore in the fine universities within Orange County and nearby locales. Why is there not an independent analysis by any of these experts offered by the OCTA? This heavy industrial operation does not appear appropriate for an area zoned as "institutional use." As Irvine residents, we expect the city of Irvine to place the wellness of the families here as a top priority. Sincerely, Mr. Alex and Dr. Kristen Negvesky	Refer to Comment Response 1 regarding concern over disclosure of project. Refer to Comment Response 1 regarding impacts related to air quality, noise, and traffic. Refer to Comment Response 9 regarding impacts related to diesel fuel and particulate matter, and Comment Response 5 regarding impacts related to cancer risk. Refer to Comment Response 4 regarding impacts related to land use and zoning. Independent analysis from local universities and locals is not required by CEQA.
33	03/20/22	James Geiger	james.geiger@rcn.com	Dear City and County Officials, PLEASE vote to disapprove the Orange County Transit Authority's request to build a railway maintenance station directly across the street from Great Park and the Travata 55+ community! This horrific proposal would introduce an industrial complex operating 24 hours per day, seven days per week producing diesel contaminants into the air we breathe, non-stop overnight noise from moving trains and planned maintenance activities, and handling of hazardous materials where one mishap would spell disaster for the health of our senior community. As a military veteran with 26 years of active service, I have experienced first-hand the negative effects of continuous 24/7 diesel-fueled tent city and heavy machinery operations in two different forward-deployed conflict zones, further exacerbated by nighttime noise, glaring security lighting, and the ever-present danger of a mishap involving hazardous materials. That is exactly what our senior Travata community will face if this project goes through, a community where many residents are already dealing with a host of debilitating medical issues. For the thousands of families and community members wishing to pursue healthy outdoor recreation activities at the Great Park, they will be met with a blanket of foul air and harmful pollutants every hour of the day and night they plan to use that precious resource. Locating this industrial complex literally across the street from our retirement homes and the treasured community asset of Great Park would be terribly, terribly wrong. For a city that prides itself on being one of the best places to live in this country we all cherish and love, voting to approve this complex in it's currently proposed location would be devastating to every proximal community member valuing their own good health and the quality of life so espoused by Irvine leaders. Again, I implore you, please vote to disapprove the Orange County Transit Authority's request to build a railway maintenance station directly across the street from Great Park and the Travata 55+ community! Very Respectfully, James F. Geiger, Colonel, USAF (ret) Travata resident	Opposition of the Project has been noted and will be considered by OCTA. Refer to Comment Response 1 regarding impacts related to air quality and noise. Refer to Comment Response 16 regarding impacts related to hazardous materials. Refer to Comment Response 9 regarding impacts related to diesel fuel and particulate matter, and Comment Response 5 regarding impacts related to cancer risk. Refer to Comment Response 4 regarding impacts related to land use and zoning.
34-1	03/20/22	Annie Leong	leong.aml@gmail.com 131 Palencia, Irvine CA	March 20, 2022 Dear Mayor and Council Members: I very strongly oppose locating the rail yard in such close proximity to my home in Travata for the following reasons: •TRAFFIC: Access to the rail yard is along the same single lane road (Marine Way) that is presently well beyond its capacity to handle all users. Travata residents, Great Park users, food bank, distribution center, recycling plant, nursery and soon water park users all are forced onto a single lane road. This road already clearly showed its inadequacy for use as an evacuation road when the Cypress Village community (that includes Travata) was under a voluntary evacuation during the October 2020 wildfire. Traffic was jammed and very slow moving and at a time when the Great Park sports fields were closed due to the pandemic. This inadequate roadway could see the same result as we all witnessed during the Paradise, California fire tragedy. •NOISE: Measurements of sound levels at the site were taken at a time when trains were only passing by Travata and yet they caused substantial spikes in noise near Travata. Once operational, the train noise from many more trains compounded by the longer noise impact of the slowing trains and possible use of the whistle to enter the yard would substantially increase the frequency and duration of the noise spikes. The noise impact alone may explain why Metrolink stations are not located anywhere near residential areas. This is not even taking the sounds from the equipment used in the train yard into consideration. •HAZARDOUS MATERIALS: The MND repeatedly uses the word 'normal' when discussing the storage of petroleum products and hazardous chemicals. There is nothing more concerning than having these types of substances within such a short distance of residences and Great Park visitors. On any given day, there might be thousands of people within 1,000 feet of the site. This is very concerning given that we hear constantly about leaks, fires, etc. occurring at industrial sites such as the rail yard. This is a dangerous facility to be located anywhere near to such a busy area and one that already suffers from congested roadways. •AIR QUALITY: The operational impacts from the rail yard will be primarily from diesel particulate matter. The MND notes that as of 2005, the Air Resources Board (Federal Agency) recommended a 1,000 foot buffer between residences and rail yards. (Travata's closest homes are within 500 feet of the train yard's nearest property line.) The next highest impact was determined to be between one-half to one mile from the site, which is where the original site for the rail yard was located along Sand Canyon. At the proposed site, the MND estimates an increased cancer risk for the community of Travata. At a minimum, this finding alone should indicate that a more rigorous study of the negative impacts on nearby residents and park users be undertaken. •ZONING: The train yard site within Irvine's Great Park is not compatible with the existing institutional zoning designation. A train yard that involves the use of heavy machinery, hazardous chemicals and emits high levels of particulates into the surrounding residential and recreational areas violates the planning area's purpose. Per the MND, 'The Project type is closest to an industrial type' and therefore does not belong in an institutional zone. Why was this land ever sold to OCTA for a rail yard when it is clearly not compatible with the nearby residents and Great Park visitors. •LIGHTING: Nighttime lighting would certainly impact residents' views over the site contrary to the report. As 80% of the train yard's operations will be during the overnight hours, all of the cranes and surrounding area will need to be well lit and quite visible from a large segment of Travata's residences along Marine Way and Ridge Valley. Any resident trying to sleep in the upstairs rooms will definitely look out onto the train yard and will be impacted by the lighting. The MND incorrectly states that field lighting at the Great Park obscures our views anyway which is not true. The sports fields at the Great Park are only lit until 10pm.	Opposition of the Project has been noted and will be considered by OCTA. Refer to Comment Response 11-2 regarding impacts related to fire evacuation. Refer to Comment Response 1 regarding impacts related to traffic and noise. Refer to Comment Response 16 regarding impacts related to hazardous materials. Refer to Comment Response 9 regarding impacts related to diesel fuel and particulate matter. Refer to Comment Response 4 regarding impacts related to land use and zoning. Refer to Comment Response 2 regarding impacts related to lighting.
34-2	03/20/22	Annie Leong	leong.aml@gmail.com 131 Palencia, Irvine CA	CONCLUSION: The rail yard project has environmental impacts that will cause substantial adverse effects on humans both directly and indirectly as a result of the negative impacts on air quality, noise, hazardous materials and traffic as discussed herein. These negative impacts cannot be mitigated to make the rail yard project feasible at its' current location. At a minimum, we urge the City of Irvine to require that OCTA prepare a more rigorous Environmental Impact Study. We believe that this study will prove that this rail yard does not belong in the Great Park neighborhood and needs to be relocated away from residents and park visitors.	Section 3.21 of the IS/MND states the Project with mitigation measures would not result in substantial adverse effects on human beings, either directly or indirectly.
35	03/20/22	David and Mee Ro	davidro48@gmail.com 131 Burgess, Irvine CA	Dear Irvine Mayor and Council Members: My wife and I purchased our home In the Travata community(55 years and older senior citizens) across from the Great Park in September 2018. At that time, we gave careful consideration to our neighbors: the 133 and 5 Freeways, the railroad tracks, Cypress Village, the Great Park, and other surrounding communities. We believed that those were acceptable neighbors and would not infringe on our right to peaceful coexistence. We recently learned that OCTA plans to build a 24/7 Metrolink rail yard maintenance facility across Marine Way and Ridge Valley which is appalling. If any of you have traveled the 5 freeways at night over their facility in Oceanside, you will understand my community's alarm at this news. That facility is noisy and well-lit and most importantly, there are no residents anywhere near it, for good reason. And the operation that OCTA is proposing will be even larger combining operations from LA and Riverside as well. We have learned through our research that the Community Development Dept. and the City Planners did not even know that OCTA was considering the site for such an operation until late 2016 when OCTA responded during the public comment period for Travata. At that time this situation should have been discussed and an alternative site chosen. In response to OCTA's environmental report: why was this land ever sold to OCTA for a rail yard when it is clearly not compatible with the nearby residents and Great Park visitors?(zoning); at the proposed site, the Mitigated Negative Declaration estimates an increased cancer risk for the community of Travata(air quality); once operational, the train noise coupled with slowing trains, whistle, and the noise spikes would cause substantial spikes near senior Travata residents 24H/7D (noise); Marine Way is already well beyond its capacity to handle all users and showed inadequacy for use as an evacuation road during the October 2020 wildfire(traffic); this is a dangerous facility with the storage of petroleum/diesel fuel products and hazardous chemicals(hazardous materials); nighttime lighting would certainly impact residents' views over the site contrary to the report as 80% of the train yard's operation will be during the overnight hours, all of the cranes and surrounding area will need to be well lit and quite visible from a large segment of Travata residences along Marine Way and Ridge Valley. Please note that the sports fields at the Great Park are only lit until 10 pm(lighting). In conclusion, the rail yard project has environmental impacts that will cause substantial adverse effects on humans both directly and indirectly as a result of the negative impacts on zoning concerns, air/ground pollution, noise, hazardous materials, traffic, and potentially drastic alteration of everyone's lives and values of our properties and the surrounding communities as discussed herein. These negative impacts cannot be mitigated to make the rail yard project feasible at its current location. At a minimum, we urge the City of Irvine to require that OCTA prepare a more rigorous Environmental Impact Study. Needless to say, this proposed facility is not an acceptable use of land so near to a residential neighborhood especially when there are alternative sites closer to the Metrolink station on Ada and Barranca where there are only park and commercial neighbors. I encourage the City Planners to work with the Community Development Dept. and OCTA to relocate this facility to a more acceptable location. Thank you for your assistance, David & Mee Ro 131 Burgess Irvine, CA 92618 For whoever exalts himself will be humbled, and whoever humbles himself will be exalted. Matthew 23:12	As described in Section 3.3.3 of the IS/MND, the Project would not result in an increase in commuter rail service or additional locomotive train travel in the region. Refer to Comment Response 1 regarding concern over disclosure of project. Refer to Comment Response 4 regarding impacts related to land use and zoning. Refer to Comment Response 5 regarding impacts related to cancer risk. Refer to Comment Response 1 regarding impacts related to air quality, noise, and traffic, and Comment Response 11-2 regarding impacts related to fire evacuation. Refer to Comment Response 9 regarding impacts related to diesel fuel and particulate matter, and Comment Response 16 regarding impacts related to hazardous materials. Refer to Comment Response 2 regarding impacts related to lighting and visual quality. Refer to Comment Response 1 regarding relocation or alternative site of the Project. Comment on the deficiency of the MND and a request to prepare an EIR has been forwarded to OCTA for consideration.
36-1	03/20/22	Karen Blakeley	karensblakeley@gmail.com 109 Palencia, Irvine CA	My husband and I purchased a home in the Travata community in late 2019. In late 2021, our community learned that OCTA planned to develop a Metrolink Rail Maintenance Facility on 21 acres just across Marine Way from our community. No mention of such a facility was made during the sale process nor in the disclosures made by Lennar when we purchased our home. We subsequently learned that OCTA bought the 21+ acre site in 2015, one year before Cal-Atlantic, now Lennar, submitted a CUP Application to build Travata. OCTA's rail yard project never even came up until OCTA wrote a letter to the Community Development Department during the public comment period reminding the City Planner of its possible development of a rail yard within 500 feet of the southwest corner of Travata. This resulted in the inclusion of a disclosure requirement in the CUP that was not enforced and was ignored by Lennar. This is a grave error on the part of the City of Irvine and Lennar and our community should not have to live with the negative consequences of that mistake. At this time, we find ourselves in the public comment period for the Mitigated Negative Declaration submitted by OCTA in a lame effort to show that the rail yard will not negatively impact Travata residents and surrounding Cypress Village residents and Great Park visitors. For the reasons laid out below, this is a further insult to our community and OCTA should be required to prepare a more rigorous EIR instead of the inaccurate and self-serving MND. COMMENTS TO THE MITIGATED NEGATIVE DECLARATION Zoning: The train yard site within Irvine's Great Park is not compatible with the existing institutional zoning designation. A train yard that involves the use of heavy machinery, hazardous chemicals and emits high levels of particulates into the surrounding residential and recreational areas violates the planning area's purpose. Per the MND, 'The Project type is closest to an industrial type' and therefore does not belong in an institutional zone. Why was this land ever sold to OCTA for a rail yard when it is clearly not compatible with the nearby residents and Great Park recreational users. This facility belongs in an industrial neighborhood not a residential and recreational one. Noise Impacts: Measurements of sound levels at the site were taken at a time when trains were only passing by Travata and yet they caused substantial spikes in noise near Travata. Once operational, the train noise from many more trains compounded by the longer noise impact of the slowing trains and possible use of the whistle to enter the yard would substantially increase the frequency and duration of the noise spikes. The noise impact alone may explain why Metrolink stations are not located anywhere near residential areas. This is not even taking the sounds from the equipment used in the train yard into consideration. Since the majority of the rail yard's operations would be during the overnight hours, Travata residents would be expected to sleep through all this noise. Air Quality: The MND notes that rail yards are one of the highest emitters of diesel particulates and are a major contributor of toxic air contaminants. Trains are also a major contributor of toxic air contaminants along with construction equipment. The report states that 'diesel particulate matter continues to account for about two-thirds of the cancer risk from air toxins' which is a major concern for those living nearby. The MND should have analyzed the dispersion of contaminants at its Los Angeles train yard. Instead it discounts the presence of contaminants such as ozone and particulates and incorrectly applies SCAQMD methodology to the rail yard's risk to nearby residents in Travata and visitors to the Great Park. The MND uses methodology throughout its air quality analysis that, according to the South Coast Air Quality Management District (SCAQMD), is not applicable to a site as large as the proposed Great Park.	Refer to Comment Response 1 regarding concern over disclosure of project. Comment on the deficiency of the MND and a request to prepare an EIR has been forwarded to OCTA for consideration. Refer to Comment Response 4 regarding impacts related to land use and zoning. Refer to Comment Response 1 regarding impacts related to noise and air quality, and Comment Response 9 regarding impacts related to diesel fuel and particulate matter. Refer to Comment Response 5 for impacts related to exposure of cancer risk toxins. Refer to Comment Response 20 regarding the methodology used in accordance with SCAQMD.

Comment No.	Date Received	Commentor Name(s)	Contact Info	Comment Received	Response to Comment
36-2	03/20/22	Karen Blakeley	karensblakeley@gmail.com 109 Palencia, Irvine CA	Traffic: Access to the rail yard is along the same single lane road (Marine Way) that is presently well beyond its capacity to handle all users. Travata residents, Great Park users, food bank, distribution center, recycling plant, nursery and soon water park users all are forced onto a single lane road. This road already clearly showed its inadequacy for use as an evacuation road when the Cypress Village community (that includes Travata) was under a voluntary evacuation during the October 2020 wildfire. Traffic was jammed and very slow moving and at a time when the Great Park sports fields were closed due to the pandemic. This inadequate roadway could see the same result as we all witnessed during the Paradise, California fire tragedy. Hazardous Materials: As proposed, the rail yard will have four 30,000 gallon tanks for refueling locomotives. These are to be located very near to the site's property line and thus within 500 or so feet of the Great Park. These tanks not only pose a risk from potential fire but the fumes related to their use is a great concern for residents and Great Park users given the North East wind flow. In addition, the need to refill the tanks will generate a great deal of tanker trips to and from the facility. The MND repeatedly uses the word 'normal' when discussing the storage of petroleum products and hazardous chemicals. There is nothing more concerning than having these types of substances within such a short distance of residences and Great Park visitors. On any given day, there might be thousands of people within 1,000 feet of the site. This is very concerning given that we hear constantly about leaks, fires, etc. occurring at industrial sites such as the rail yard. Aesthetics: The MND states that there will be no impact on the views of hills to the southwest. Yet the train yard will have a 5 story structure in the middle of the yard and 4 permanent cranes. Travata's view of the hills to the southwest (Quail Hill and Shady/Bommer Canyon) will certainly be negatively impacted. The report is deliberately misleading as neither of the photos provided show the hill formations which are quite attractive and very visible. In closing, the negative impacts described above cannot be mitigated to make the rail yard project feasible at its current location. At a minimum, we urge the City of Irvine to require that OCTA prepare a more rigorous Environmental Impact Study. We believe that this study will prove that this rail yard does not belong in the Great Park neighborhood and needs to be relocated away from residents and park visitors at an industrial site. Karen Blakeley 109 Palencia Irvine, CA 92618	Refer to Comment Response 1 regarding impacts related to traffic, and Comment Response 11-2 regarding impacts related to fire evacuation. Refer to Comment Response 16 regarding impacts related to hazardous materials. Refer to Comment Response 2 regarding impacts related to aesthetics and visual quality.
37	03/20/22	Jack and Maureen Khaw	maureenkhaw1@gmail.com 111 Burgess, Irvine CA	To Whom It May Concern: We (Jack and Maureen) would like OCTA and City of Irvine officials to hear us loud and clear that we do NOT want the OCTA rail yard in Irvine. The negative impacts to our health and well-being cannot be sufficiently mitigated. Here are the concerns: Zoning, Air Quality, Noise, Aesthetics, Lighting, Traffic, Hazardous materials, Great Park users. The project has environmental impacts that will cause substantial adverse effects on humans both directly and indirectly as a result of the negative impacts on air quality, noise, hazardous materials and traffic as discussed herein. These negative impacts cannot be mitigated to make the rail yard project feasible at its current location. At a minimum, we urge the City of Irvine to require that OCTA prepare a more rigorous Environmental Impact Study. We believe that this study will prove that this railyard does not belong in Irvine or the Great Park neighborhood and needs to be relocated away from residents and park visitors. Thank you very much, Jack and Maureen 111 Burgess	Opposition of the Project has been noted and will be considered by OCTA. Refer to Comment Response 1 regarding impacts related to air quality, noise, and traffic. Refer to Comment Response 2 regarding impacts related to lighting and aesthetics. Refer to Comment Response 4 regarding impacts related to land use and zoning. Refer to Comment Response 16 regarding impacts related to hazardous materials.
38	03/20/22	Richard Leong	leong.richann@gmail.com 131 Palencia, Irvine CA	March 20, 2022 Dear Mayor and Council Members: I live in travata and very strongly oppose locating the rail yard in such close proximity to my home for the following reasons: •TRAFFIC: Access to the rail yard is along the same single lane road (Marine Way) that is presently well beyond its capacity to handle all users. Travata residents, Great Park users, food bank, distribution center, recycling plant, nursery and soon water park users all are forced onto a single lane road. This road already clearly showed its inadequacy for use as an evacuation road when the Cypress Village community (that includes Travata) was under a voluntary evacuation during the October 2020 wildfire. Traffic was jammed and very slow moving and at a time when the Great Park sports fields were closed due to the pandemic. This inadequate roadway could see the same result as we all witnessed during the Paradise, California fire tragedy. •NOISE: Measurements of sound levels at the site were taken at a time when trains were only passing by Travata and yet they caused substantial spikes in noise near Travata. Once operational, the train noise from many more trains compounded by the longer noise impact of the slowing trains and possible use of the whistle to enter the yard would substantially increase the frequency and duration of the noise spikes. The noise impact alone may explain why Metrolink stations are not located anywhere near residential areas. This is not even taking the sounds from the equipment used in the train yard into consideration. •HAZARDOUS MATERIALS: The MND repeatedly uses the word 'normal' when discussing the storage of petroleum products and hazardous chemicals. There is nothing more concerning than having these types of substances within such a short distance of residences and Great Park visitors. On any given day, there might be thousands of people within 1,000 feet of the site. This is very concerning given that we hear constantly about leaks, fires, etc. occurring at industrial sites such as the rail yard. This is a dangerous facility to be located anywhere near to such a busy area and one that already suffers from congested roadways. •AIR QUALITY: The operational impacts from the rail yard will be primarily from diesel particulate matter. The MND notes that as of 2005, the Air Resources Board (Federal Agency) recommended a 1,000 foot buffer between residences and rail yards. (Travata's closest homes are within 500 feet of the train yard's nearest property line.) The next highest impact was determined to be between one-half to one mile from the site, which is where the original site for the rail yard was located along Sand Canyon. At the proposed site, the MND estimates an increased cancer risk for the community of Travata. At a minimum, this finding alone should indicate that a more rigorous study of the negative impacts on nearby residents and park users be undertaken. •ZONING: The train yard site within Irvine's Great Park is not compatible with the existing institutional zoning designation. A train yard that involves the use of heavy machinery, hazardous chemicals and emits high levels of particulates into the surrounding residential and recreational areas violates the planning area's purpose. Per the MND, 'The Project type is closest to an industrial type' and therefore does not belong in an institutional zone. Why was this land ever sold to OCTA for a rail yard when it is clearly not compatible with the nearby residents and Great Park visitors. •LIGHTING: Nighttime lighting would certainly impact residents' views over the site contrary to the report. As 80% of the train yard's operations will be during the overnight hours, all of the cranes and surrounding area will need to be well lit and quite visible from a large segment of Travata's residences along Marine Way and Ridge Valley. Any resident trying to sleep in the upstairs rooms will definitely look out onto the train yard and will be impacted by the lighting. The MND incorrectly states that field lighting at the Great Park obscures our views anyway which is not true. The sports fields at the Great Park are only lit until 10pm. CONCLUSION: The rail yard project has environmental impacts that will cause substantial adverse effects on humans both directly and indirectly as a result of the negative impacts on air quality, noise, hazardous materials and traffic as discussed herein. These negative impacts cannot be mitigated to make the rail yard project feasible at its' current location. At a minimum, we urge the City of Irvine to require that OCTA prepare a more rigorous Environmental Impact Study. We believe that this study will prove that this rail yard does not belong in the Great Park neighborhood and needs to be relocated away from residents and park visitors.	Refer to Comment Response 11-2 regarding impacts related to fire evacuation. Refer to Comment Response 1 regarding impacts related to air quality, noise, and traffic. Refer to Comment Response 9 regarding impacts related to diesel fuel and particulate matter. Refer to Comment Response 4 regarding impacts related to land use and zoning. Refer to Comment Response 2 regarding impacts related to lighting. Section 3.21 of the IS/MND states the Project with mitigation measures would not result in substantial adverse effects on human beings, either directly or indirectly.
39	03/20/22	Judy Feng	fengqing1204@hotmail.com	To Whom This May Concern, This is email is to express our concerns and opposition to theproposed 24/7 OCTA train/rail yard project in the close proximity to us residents in the Travata Community. Below is a list of our concerns: ZONING: The train yard site within Irvine's Great Park is not compatible with the existing institutional zoning designation. A train yard that involves the use of heavy machinery, hazardous chemicals and emits high levels of particulates into the surrounding residential and recreational areas violates the planning area's purpose. Per the MND, 'The Project type is closest to an industrial type' and therefore does not belong in an institutional zone. Why was this land ever sold to OCTA for a rail yard when it is clearly not compatible with the nearby residents and Great Park recreational users. TRAFFIC: Access to the rail yard is along the same single lane road (Marine Way) that is presently well beyond its capacity to handle all users. Travata residents, Great Park users, food bank, distribution center, recycling plant, nursery and soon water park users all are forced onto a single lane road. This road already clearly showed its inadequacy for use as an evacuation road when the Cypress Village community (that includes Travata) was under a voluntary evacuation during the October 2020 wildfire. Traffic was jammed and very slow moving and at a time when the Great Park sports fields were closed due to the pandemic. This inadequate roadway could see the same result as we all witnessed during the Paradise, California fire tragedy. HAZARDOUS MATERIALS: The MND repeatedly uses the word 'normal' when discussing the storage of petroleum products and hazardous chemicals. There is nothing more concerning than having these types of substances within such a short distance of residences and Great Park visitors. On any given day, there might be thousands of people within 1,000 feet of the site. This is very concerning given that we hear constantly about leaks, fires, etc. occurring at industrial sites such as the rail yard. This is a dangerous facility to be located anywhere near to such a busy area and one that already suffers from congested roadways. LIGHTING: Nighttime lighting would certainly impact residents' views over the site contrary to the report. As 80% of the train yard's operations will be during the overnight hours, all of the cranes and surrounding area will need to be well lit and quite visible from a large segment of Travata's residences along Marine Way and Ridge Valley. Any resident trying to sleep in the upstairs rooms will definitely look out onto the train yard and will be impacted by the lighting. The MND incorrectly states that field lighting at the Great Park obscures our views anyway which is not true. The sports fields at the Great Park are only lit until 10pm. In conclusion, the rail yard project has environmental impacts that will cause substantial adverse effects on humans both directly and indirectly as a result of the negative impacts on air quality, noise, hazardous materials and traffic as discussed herein. These negative impacts cannot be mitigated to make the rail yard project feasible at its' current location.At a minimum, we urge the City of Irvine to require that OCTA prepare a more rigorous Environmental Impact Study. We believe that this study will prove that this rail yard does not belong in the Great Park neighborhood and needs to be relocated away from residents and park visitors. We appreciate your time of reading this email. Thank you, Judy Feng, Travata Resident	Opposition of the Project has been noted and will be considered by OCTA. Refer to Comment Response 4 regarding impacts related to land use and zoning. Refer to Comment Response 11-2 regarding impacts related to fire evacuation. Refer to Comment Response 16 regarding impacts related to hazardous materials. Refer to Comment Response 2 regarding impacts related to lighting and aesthetics. Refer to Comment Response 1 regarding impacts related to noise and traffic. Comment on the deficiency of the MND and a request to prepare an EIR has been forwarded to OCTA for consideration.
40	03/20/22	Letitia Leung	letitiapharmd@yahoo.com	Hello, We just moved into the Great Park and is aware of its prior "superfunded" status. However, we were not aware or it wasn't disclosed that OCTA will be building a train maintenance facility directly across the street from residential neighborhoods. Noise, light, air/ground pollution from diesel exhaust, storage tanks, etc have the potential to drastically decrease the quality of lives of residents, values of properties, increase health risks, etc. Please vote "NO" on the OCTA rail yard and have it relocate elsewhere. Thank you. Kind Regards, New Homeowner at the Great Park Letitia Leung, PharmD	Refer to Comment Response 1 regarding concern over disclosure of project. Refer to Comment Response 1 regarding impacts related to noise and air quality, and Comment Response 9 regarding impacts related to diesel fuel and particulate matter. Refer to Comment Response 2 regarding impacts related to lighting. Refer to Comment Response 16 regarding impacts related to hazardous materials. CEQA does not require the analysis of economic impacts, including the analysis of property values. Refer to Comment Response 1 regarding relocation of the Project.

Comment No.	Date Received	Commentor Name(s)	Contact Info	Comment Received	Response to Comment
41-1	03/21/22	Scott Blakeley	seblaekeley11@gmail.com 109 Palencia, Irvine CA	We bought our home in the Travata (55+) community in November 2019. In late 2021, we learned that OCTA planned to build a Metrolink Rail Maintenance Facility across Marine Way from our community, a distance of less than 1,000 feet from our home. No mention of such a facility was ever made during the sale process nor in the disclosures made by Lennar. We learned recently that OCTA bought the 21+ acre site in 2015, a year prior to the submittal by Cal-Atlantic, now Lennar, of an application to build Travata. OCTA's rail yard project never was mentioned during the review process for Travata until OCTA wrote a letter to the City Planner during the public comment period reminding the City Planner of its possible development of a rail yard within 500 feet of the southwestern edge of Travata. This resulted in the inclusion of a disclosure requirement in the CUP that was ignored by Lennar. This is a significant blunder on the part of the City of Irvine and Lennar and Travata residents should not have to live with the negative consequences of that error. We are now in the public comment period for the Mitigated Negative Declaration submitted by OCTA in an attempt to show that the rail yard will not negatively impact Travata residents, surrounding Cypress Village residents and Great Park visitors. For the reasons laid out below, this is a further insult to our community and OCTA should be required to prepare a more rigorous EIR instead of the inaccurate and self-serving MND. Zoning: The train yard site within Irvine's Great Park is not compatible with the existing institutional zoning designation. A train yard that involves the use of heavy machinery, hazardous chemicals and emits high levels of particulates into the surrounding residential and recreational areas violates the planning area's purpose. Per the MND, 'The Project type is closest to an industrial type' and therefore does not belong in an institutional zone. Why was this land ever sold to OCTA for a rail yard when it is clearly not compatible with the nearby residents and Great Park recreational users. This facility belongs in an industrial neighborhood not a residential and recreational one. Noise Impacts: Measurements of sound levels at the site were taken at a time when trains were only passing by Travata and yet they caused substantial spikes in noise near Travata. Once operational, the train noise from many more trains compounded by the longer noise impact of the slowing trains and possible use of the whiste to enter the yard would substantially increase the frequency and duration of the noise spikes. The noise impact alone may explain why Metrolink stations are not located anywhere near residential areas. This is not even taking the sounds from the equipment used in the train yard into consideration. Since the majority of the rail yard's operations would be during the overnight hours, Travata residents would be expected to sleep through all this noise. Air Quality: The MND notes that rail yards are one of the highest emitters of diesel particulates and are a major contributor of toxic air contaminants. Trains are also a major contributor of toxic air contaminants along with construction equipment. The report states that 'diesel particulate matter continues to account for about two-thirds of the cancer risk from air toxins' which is a major concern for those living nearby. The MND should have analyzed the dispersion of contaminants at its Los Angeles train yard. Instead it discounts the presence of contaminants such as ozone and particulates and incorrectly applies SCAQMD methodology to the rail yard's risk to nearby residents in Travata and visitors to the Great Park. The MND uses methodology throughout its air quality analysis that, according to the South Coast Air Quality Management District (SCAQMD), is not applicable to a site as large as the proposed Great Park site. SCAQMD advises instead that an air dispersion analysis be prepared. It appears that, rather than presenting objective data to measure the project's impacts, the MND seems to have been prepared to justify the project. There needs to be a serious analysis of the exposure to sensitive receptors (i.e. residents of Travata) that this rail yard project poses. An EIR would provide a much more rigorous analysis of these risks and is an absolute requirement in this situation. Traffic: Access to the rail yard is along the same single lane road (Marine Way) that is presently well beyond its capacity to handle all users. Travata residents, Great Park users, food bank, distribution center, recycling plant, nursery and soon water park users all are forced onto a single lane road. This road already clearly showed its inadequacy for use as an evacuation road when the Cypress Village community (that includes Travata) was under a voluntary evacuation during the October 2020 wildfire. Traffic was jammed and very slow moving and at a time when the Great Park sports fields were closed due to the pandemic. This inadequate roadway could see the same result as we all witnessed during the Paradise, California fire tragedy.	Refer to Comment Response 1 regarding concern over disclosure of project. Comment on the deficiency of the MND and a request to prepare an EIR has been forwarded to OCTA for consideration. Refer to Comment Response 4 regarding impacts related to land use and zoning. Refer to Comment Response 1 regarding impacts related to noise, air quality, and traffic. Refer to Comment Response 9 regarding impacts related to diesel fuel and particulate matter, and Comment Response 20 regarding the methodology used in accordance with SCAQMD. Refer to Comment Response 11-2 regarding impacts related to fire evacuation.
41-2	03/21/22	Scott Blakeley	seblaekeley11@gmail.com 109 Palencia, Irvine CA	Hazardous Materials: the rail yard will have four 30,000 gallon tanks for refueling locomotives. These are to be located very near to the site's property line and thus within 500 or so feet of the Great Park. These tanks not only pose a risk from potential fire but the fumes related to their use is a great concern for residents and Great Park users given the North East wind flow. In addition, the need to refill the tanks will generate a great deal of tanker trips to and from the facility. The MND repeatedly uses the word 'normal' when discussing the storage of petroleum products and hazardous chemicals. There is nothing more concerning than having these types of substances within such a short distance of residences and Great Park visitors. On any given day, there might be thousands of people within 1,000 feet of the site. This is very concerning given that we hear constantly about leaks, fires, etc. occurring at industrial sites such as the rail yard. Aesthetics: The MND states that there will be no impact on the views of hills to the southwest. Yet the train yard will have a 5 story structure in the middle of the yard and 4 permanent cranes. Travata's view of the hills to the southwest (Quail Hill and Shady/Bommer Canyon) will certainly be negatively impacted. The report is deliberately misleading as neither of the photos provided show the hill formations which are quite attractive and very visible. The negative impacts described above cannot be mitigated to make the rail yard project feasible at its current location. It needs to be relocated to a site that is appropriately zoned for industrial use.	Refer to Comment Response 16 regarding impacts related to hazardous materials. Refer to Comment Response 2 regarding impacts related to aesthetics. Refer to Comment Response 4 regarding impacts related to land use and zoning.
42	03/21/22	Kenneth and Annie Lam	lamspl2@yahoo.com	To whom it may concern, This letter is to address our concern regarding the proposed Transportation Maintenance Facility between Ridge Valley and Marine Way in the City of Irvine. As residents of the Travata Community, we are expressing our deepest concern regarding this proposed project being so close to Great Park and residential community. We would like the Planning Department and City Manager to address the basis of approval on the following points. 1. Zoning: Why is the Train Yard, which uses heavy duty equipment, such as cranes and forklifts be allowed in the proposed site. 2. Air Quality: Why is toxic air contaminants from train and construction be allowed so close to Great Park and residences. 3. Noises: No actual measurement of noise level were provided. No consideration of noise impact on close-by residents. 4. Aesthetics: Report deliberately misleading there is no impact on the views of hills to the Southwest. No clear photo of views along Marine Way. 5. Lighting: No concern for nighttime lighting, 24/7 days a week, especially lighting on the 4 tall cranes affecting the residents. 6. Traffic: Disregard already congested traffic along single lane Marine Way. The proposed project will definitely create more traffic jam, and thereby more unavoidable accidents along Great Park neighborhood. 7. Mandatory Finding of Significance: The project has environmental impacts that will cause substantial adverse effects on humans both directly and indirectly as a result of the negative impact on air quality, noise, light, aesthetic and traffic as discussed herein. These negative impacts cannot be mitigated to make the Rail Yard Project feasible at it's current location. Sincerely, Kenneth and Annie Lam	Refer to Comment Response 4 regarding impacts related to land use and zoning. Refer to Comment Response 1 regarding impacts related to air quality, noise, and traffic. Refer to Comment Response 2 regarding impacts related to lighting and aesthetics. Section 3.21 of the IS/MND states the Project with mitigation measures would not result in substantial adverse effects on human beings, either directly or indirectly.
43	03/21/22	Insoo Chin	insoochin@gmail.com 124 Palencia, Irvine CA	I am proud of living in our beautiful city of Irvine and the unique Great Park nearby but I heard our city is going to consider to approve Railroad Yard which will cause all the problems like pollution, noise, traffic, lights and so on. I don't quite understand why we need this facility and how it is going to be beneficial to our community. It does not make sense. This is only going to deteriorate the quality of life in our wonderful community. I want to live in a peaceful and quiet place like it is now for the rest of my life. I hope you understand the concerns of our community. Best regards Insoo Chin 124 Palencia, Irvine, CA 92618	Refer to Comment Response 1 regarding impacts related to air quality, noise, and traffic. Refer to Comment Response 2 regarding impacts related to lighting.
44	03/21/22	Harry Yessain	hyessain@gmail.com	Dear Sir OCTA railcar maintenance center at Great Park is just a wrong location for Irvine residents. It will affect the Great Park surrounding communities in air quality, noise, lights, traffic jam on Marine Way and potential diesel tank explosion or leaking. For this being a "proposed" project, there sure is much prep work already being done. This was never disclosed to the residents that bought in this community. It needs to be placed elsewhere. Best regards Harry Yessian	Refer to Comment Response 1 regarding impacts related to air quality, noise, and traffic. Refer to Comment Response 2 regarding impacts related to lighting. Refer to Comment Response 9 regarding impacts related to diesel fuel and particulate matter, and Comment Response 16 regarding impacts related to hazardous materials. Refer to Comment Response 1 regarding concern over disclosure of project.
45	03/21/22	Kenneth Lam	lamspl@yahoo.com	This letter is to address our concern regarding the proposed Transportation Maintenance Facility between Ridge Valley and Marine Way in the City of Irvine. As residents of the Travata Community, we are expressing our deepest concern regarding this proposed project being so close to Great Park and residential community. We would like the Planning Department and City Manager to address the basis of approval on the following points. 1. Zoning: Why is the Train Yard, which uses heavy duty equipment, such as cranes and forklifts be allowed in the proposed site. 2. Air Quality: Why is toxic air contaminants from train and construction be allowed so close to Great Park and residences. 3. Noises: No actual measurement of noise level were provided. No consideration of noise impact on close-by residents. 4. Aesthetics: Report deliberately misleading there is no impact on the views of hills to the Southwest. No clear photo of views along Marine Way. 5. Lighting: No concern for nighttime lighting, 24/7 days a week, especially lighting on the 4 tall cranes affecting the residents. 6. Traffic: Disregard already congested traffic along single lane Marine Way. The proposed project will definitely create more traffic jam, and thereby more unavoidable accidents along Great Park neighborhood. 7. Mandatory Finding of Significance: The project has environmental impacts that will cause substantial adverse effects on humans both directly and indirectly as a result of the negative impact on air quality, noise, light, aesthetic and traffic as discussed herein. These negative impacts cannot be mitigated to make the Rail Yard Project feasible at it's current location. Sincerely, Kenneth and Annie Lam	Refer to Comment Response 4 regarding impacts related to land use and zoning. Refer to Comment Response 1 regarding impacts related to air quality, noise, and traffic. Refer to Comment Response 2 regarding impacts related to lighting and aesthetics. Section 3.21 of the IS/MND states the Project with mitigation measures would not result in substantial adverse effects on human beings, either directly or indirectly.

Comment No.	Date Received	Commentor Name(s)	Contact Info	Comment Received	Response to Comment
46	03/21/22	Anthony and Tali Halfpenny	thalfpenny34@gmail.com 144 Burgess, Irvine CA	To whom this may concern, As a resident of Travata Community, I wish to vigorously object to the location of a rail yard near the Great Park neighborhood. It is the opinion of my wife and I that the city of Irvine address the negative impacts arising from the proposed situation should be reviewed and a more logical positioning be considered. The proposed site for OCTA rail yard must be relocated so that it is not near residents and Great Park users. The negative impacts to our health and well-being can not be sufficiently mitigated. We urge the City of Irvine to require OCTA to prepare a more rigorous environmental impact study. Items to be considered as follows: 1. Zoning 2. Air Quality 3. Noise 4. Traffic 5. Hazardous Materials 6. Lighting Thank you for your consideration. Anthony and Tali Halfpenny 144 Burgess Irvine, CA 92618	Refer to Comment Response 1 regarding relocation of the Project. Refer to Comment Response 4 regarding impacts related to land use and zoning. Refer to Comment Response 1 regarding impacts related to air quality, noise, and traffic. Refer to Comment Response 16 regarding impacts related to hazardous materials. Refer to Comment Response 2 regarding impacts related to lighting.
47	03/22/22	Beth and Bain Patrick	bpatrick8@aol.com 197 Carlow, Irvine CA	Dear Irvine Mayor and Council members: We purchased our home In the Travata community across from the Great Park in May 2021. At that time, we gave careful consideration to our neighbors: the 133 and 5 Freeways, the railroad tracks and the Park. We believed that those were acceptable neighbors and would not infringe on our right to a peaceful coexistence. We recently learned that OCTA plans to build a 24/7 Metrolink maintenance facility across the street which is appalling. If any of you have traveled the 5 freeway at night over their facility in Oceanside, you will understand my community's alarm at this news. That facility is noisy and well-lit and most importantly, there are no residents anywhere near it, for good reason. The operation that OCTA is proposing will be even larger combining operations from LA and Riverside as well. We have learned through our research that the Community Development Dept. and the City Planners did not even know that OCTA was considering the site for such an operation until late 2016 when OCTA responded during the public comment period for Travata. At that time, this situation should have been discussed and an alternative site chosen. Needless to say, this proposed facility is not an acceptable use of land so near to a residential neighborhood especially when there are alternative sites closer to the Metrolink station on Ada and Barranca where there are only park and commercial neighbors. I encourage the City Planners to work with the Community Development Dept. and OCTA to relocate this facility to a more acceptable location. Please vote "NO" to this proposal. Thank you for your assistance. Brian and Beth Patrick 197 Carlow Irvine CA 92618	Refer to Comment Response 1 regarding concern over disclosure of project. Refer to Comment Response 4 regarding impact related to land use and zoning. Refer to Comment Response 1 regarding relocation of the Project.
48-1	03/21/22	Alfred Cheung	alfredcwc@yahoo.com	To: OCTA (ocmf@octa.net), Donald Wagner, 3rd District Supervisor, OCTA Board of Directors, City Of Irvine, Mayor Farrah Khan, Vice Mayor Anthony Kuo, Councilmember Tammy Kim, Councilmember Mike Carroll, Councilmember Larry Agran, Bill Rodrigues, Principle Planner, Victor Mendes, Asst. Planner To all above-named parties: My wife and I moved from the San Francisco Bay area to our new home in Irvine about 1 year ago. We settled in the Travata 55+ adult community for our retirement life due to its tranquil surroundings and close to many health facilities. However our peaceful retirement plan was abruptly interrupted after we learned only a month or 2 ago on the proposal for OCTA to build up the Metrolink Rail Depot at a location only about 500 feet where our Travata community is located. This news is very disturbing as it appears that there is lack of oversight in the proposal without proper scrutiny and sufficient time given to the public on the negative impacts to our daily life. My objections on the proposal on this Metrolink Rail Maintenance Yard are based on many common and specific personal factors. Since many residents in Travata have voiced numerous common concerns to you already and therefore I will focus primarily on my personal concerns in this email: 1.I just found out that I have cancer and thus having proper rest is very important for my proper recovery, in particular a good night sleep without woken up by the loud sound from the rail yard. The operation hours of the rail yard over the entire night, no doubt will not allow me to have a good night sleep with the sound pollution from the rail yard. 2.As I am in rather poorer health, the air pollution emitted from the train, plus additional possibility of other environmental pollutions, like chemical leaks from the storage tanks at the rail yard site. I feel my personal rights to a peaceful and rich retirement life is being taken away from me. I urge OCTA and City of Irvine to consider my personal plight with greater empathy. 3.With spring being here and summer approaching, there will be more frequent uses of the amphitheater at the Great Park which is only a few hundreds feet away from my neighborhood, I can only sleep without being disturbed from the loud sound from the concerts, often times after 10:30pm. This is already a considerable distress to my daily life and now with the proposed rail yard, the noises will carry on even after the concert, the entire night, into 7 days a week, 24 hours a day. This is not acceptable and is not something I look forward towards my retirement. Indeed, it is a nightmare that I would never dreamed of, after hearing of the rail yard proposal. 4.Knowing how important it is for proper rests for the older folks, I would never use my life time savings to buy my dream home in Travata if this proposal was properly disclosed to me a year ago when I purchased my home. Further, the value of this home is supposed to provide me with a quality retirement life, with the reputation of Irvine being one of the top, most livable cities in US. However, this proposal renders my dream broken with very negative financial consequences to my retirement. I again urge all of you to consider the negative implications to many Irvine citizens affected by this rail yard, located at the suggested site. 5.Other than the waste handling from the stored chemicals, fuel and air / sound pollutions, does anyone of you aware of the existing traffic jam on Ridge Valley and Marine Way during the usual busy morning hours and the additional traffic created by this proposal will no doubt causes more traffic bottlenecks. Yet, I have not heard anything from OCTA to rectify these 'guaranteed' problems with sound abatement and additional beautification measures, to 'hide' these unsightly OCTA rail yard buildings, which are higher than the surrounding buildings. Why is this allowed and permissions given to OCTA? 6.The additional sound, dust and traffic will also be created during the construction phase if indeed the proposal is allowed to go ahead. I urge the Irvine City Council to disapprove this OCTA proposal , as it is not complementary to the Great Park surroundings.	Refer to Comment Response 1 regarding concern over disclosure of project. Refer to Comment Response 1 regarding impacts related to noise, air quality, and traffic. Refer to Comment Response 9 regarding impacts related to diesel fuel and particulate matter, and Comment Response 16 regarding impacts related to hazardous materials.
48-2	03/21/22	Alfred Cheung	alfredcwc@yahoo.com	In summary, it appears to me that OCTA is rushing to have this proposal approved but without proper disclosures, independent environment impact studies and public review period, so that the voices of the citizens affected by this proposal can be heard. I am making my plea to the Irvine City Council to disapprove and not consider this OCTA proposal as this does NOT serve the public interests for Irvine, in particular to the residents of Travata. I want to live even when inflicted with my 'killing' cancer and possibly additional health risks to me with the erection of this rail yard and I want to keep Irvine beautiful. I do NOT want to see this OCTA proposal considered at all at the current proposed site. Thank you for listening to my plight.	The comment has been noted and will be considered by OCTA.
49	03/22/22	Raymond and Dianne Wong	rswong@verizon.net 626-590-6608 167 Burgess, Irvine CA	This email is to provide our feedback regarding the proposed OCTA Orange County Maintenance Facility within the Great Park. This property is not zoned for this type of facility. Planning Area 51 is zoned for 6.1 institutional and a conditional use permit SHOULD NOT BE granted or even considered. Area 51 is designated as Lifelong Learning District. Area 51 allow for a mix of residential, commercial, and educational uses that promotes and supports a synergistic live/learn/work/play environment. If the conditional use permit is approved, the project should be scaled back to minimize impact on the Great Park and surrounding community. There should also be a Noise Abatement Plan imposed to limit operations between the bedtime hours of 11pm to 7am - much like the General Aviation Noise Ordinance (GANO) at the John Wayne Airport. Even the 5-points amphitheater limits noise after 10pm. This will ensure the health and well-being of residents and visitors to the Great Park. Key Points for Concern This facility is completely inconsistent with the Great Park as a focal point for community activities, sport facilities, and an area of quiet tranquility for Irvine's adjacent communities. This is particularly true for our Travata 55 Plus Community which is located within about 500 feet and will suffer from the disruption of its construction, and the ongoing nuisances of greater traffic, noise, light, and environmental pollution, plus other negative consequences for Travata, neighboring communities, and Great Park users. The project should have been rejected before the major investment in planning and design work because it just doesn't fit in this area. In addition, we had an opportunity to meet with OCTA management to explain their project and found them unable to answer questions regarding the design, hazards, risks, and other issues. In the EPA document "Information on Levels of Environmental Noise Requisite to Protect Public Health and Welfare with an Adequate Margin of Safety (March 1974), the long-term health and welfare on an individual are related to cumulative noise exposure received. The Travata Community of sensitive seniors will be exposed to excessive noise 24/7. The noise at the OCMF will start after 9pm when trains are taken off-service entering the facility, sanding and maintenance of trains from 9-4am, and beginning at 4am trains leaving the station for going on service. The entire Travata Community is unified in opposition to this project being located in the Great Park and particularly within 500 feet of our community. Following are some more detailed and specific points developed amongst our community: ZONING: The train yard site within Irvine's Great Park is not compatible with the existing institutional zoning designation. A train yard that involves the use of heavy machinery, hazardous chemicals and emits high levels of particulates into the surrounding residential and recreational areas violates the planning area's purpose. Per the MND, 'The Project type is closest to an industrial type' and therefore does not belong in an institutional zone. Why was this land ever sold to OCTA for a rail yard when it is clearly not compatible with the nearby residents and Great Park recreational users. AIR QUALITY: The operational impacts from the rail yard will be primarily from diesel particulate matter. The MND notes that as of 2005, the Air Resources Board (Federal Agency) recommended a 1,000 foot buffer between residences and rail yards. (Travata's closest homes are within 500 feet of the train yard's nearest property line.) The next highest impact was determined to be between one-half to one mile from the site, which is where the original site for the rail yard was located along Sand Canyon. At the proposed site, the MND estimates an increased cancer risk for the community of Travata. At a minimum, this finding alone should indicate that a more rigorous study of the negative impacts on nearby residents.	Refer to Comment Response 4 regarding impacts related to land use and zoning. Refer to Comment Response 1 regarding impacts related noise, air quality, and traffic. Refer to Comment Response 2 regarding impacts related to lighting. Refer to Comment Response 9 regarding impacts related to diesel fuel and particulate matter, and Comment Response 5 regarding impacts related to the exposure of toxins and cancer risk. Opposition of the Project has been noted and will be considered by OCTA.

Comment No.	Date Received	Commentor Name(s)	Contact Info	Comment Received	Response to Comment
50	03/23/22	Joseph Toma	joetoma@me.com 135 Palencia, Irvine CA	To Whom it may concern, Please find attached our concerns about the OCTA Maintenance Facility Project. Regards, Joe Toma Orange County Transportation Authority Attn: Lora Cross, Project Manager ocmf@octa.net Re: Comment and Objection to Orange County Transportation Authority's Draft Initial Study/Mitigated Negative Declaration for the Metrolink Orange County Maintenance Facility Project To Whom It May Concern: We are opposed to the proposed Metrolink Orange County Maintenance Facility Project. OCTA is proposing to put this 24-hour heavy industrial maintenance facility use in an institutional zone a few feet away from our residential community. The defects of this ill-advised project are numerous. OCTA's Draft Initial Study/Mitigated Negative Declaration ignores the significant impacts to the existing residential community. It ignores specific impacts to the project site and the surrounding community. It improperly defers analysis. OCTA has not adequately analyzed the environmental issues and the impact to the residential homes just across the street. Further analysis and a full Environmental Impact Report should be prepared to consider: □ The noise impacts from the 24-hour operation of the proposed heavy industrial Metrolink maintenance facility. □ The traffic impacts from the 24-hour operation of the proposed heavy industrial Metrolink maintenance facility. □ The impacts caused by the use of and storage of hazardous materials at the proposed heavy industrial Metrolink maintenance facility. □ The air quality impacts from the 24-hour operation of the proposed heavy industrial Metrolink maintenance facility. □ The land use impacts of putting a proposed heavy industrial use in an institutional zone. The proposed use is not allowed in the existing City of Irvine zoning. □ The aesthetic impacts from the 24-hour operation of the proposed heavy industrial Metrolink maintenance facility including light pollution and related issues. The "mitigation measures" are not enough to mitigate the impacts from this heavy industrial Metrolink maintenance facility. The measures are not specific and instead put off actual analysis to a later date. We are very against this project. This proposed Metrolink maintenance facility should not be located at this OCTA property. Sincerely, Joseph and Sandy Toma 135 Palencia Irvine, CA 92618 cc: Lora Cross, Project Manager	Opposition of the Project has been noted and will be considered by OCTA. Comment on the deficiency of the MND and a request to prepare an EIR has been forwarded to OCTA for consideration. Refer to Comment Response 1 regarding impacts related to noise, traffic, and air quality. Refer to Comment Response 4 regarding impacts related to land use and zoning, and Comment Response 16 regarding impacts related to hazardous materials. Refer to Comment Response 2 regarding impacts related to lighting and aesthetics.
51	03/23/22	Howard Hewitt	howardh1971@yahoo.com 249 Carlow, Irvine CA	Howard Hewitt 249 Carlow Irvine Ca. 92618 I am writing this letter to oppose the proposed Metrolink Rail Maintenance Facility to be built at Marine Way and Ridge Valley. I purchased my home in the Travata Community in 2019. I purchased this home because I wanted to retire in a peaceful. quiet community. I have read the Mitigated Negative Declaration Document and the Contour Map of the 30 year Cancer Risk report on the Proposed Metrolink Facility and I have several objections to this project. I am very concerned about the added noise, light, traffic, and air pollution that the building and operation of this facility would bring to my community. I would have never purchased my new home had I know this was to be developed just 500 feet from my neighborhood. I would appreciate your support in choosing another site for this project. Thank you. Sincerely, Howard Hewitt	Opposition of the Project has been noted and will be considered by OCTA. Refer to Comment Response 9 regarding impacts related to diesel fuel and particulate matter, and Comment Response 5 regarding impacts related to the exposure of toxins and cancer risk. Refer to Comment Response 1 regarding impacts related to noise, traffic, and air quality. Refer to Comment Response 2 regarding impacts related to lighting. Refer to Comment Response 1 regarding relocation of the Project.
52	03/23/22	Harry Yessain	hyessain@gmail.com	Attn: Darrell E. Johnson; Jennifer Bergener; Lora Cross, My wife and I purchased our home In the Travata community across from the Great Park in 2019. At that time, we gave careful consideration to our neighbors: the 133 and 5 Freeways, the railroad tracks and the Park. We believed that those were acceptable neighbors and would not infringe on our right to a peaceful coexistence. We recently learned that OCTA plans to build a 24/7 Metrolink maintenance facility across the street which is appalling. If any of you have travelled the 5 freeway at night over their facility in Oceanside, you will understand my community's alarm at this news. That facility is noisy and well-lit and most importantly, there are no residents anywhere near it, for good reason. And the operation that OCTA is proposing will be even larger combining operations from LA and Riverside as well. We have learned through our research that the Community Development Dept. and the City Planners did not even know that OCTA was considering the site for such an operation until late 2016 when OCTA responded during the public comment period for Travata. At that time this situation should have been discussed and an alternative site chosen. An OCTA railcar maintenance center at Great Park is just a wrong location for Irvine residents. It will affect the Great Park surrounding communities in air quality, noise, lights, traffic jam on Marine Way and potential diesel tank explosion or leaking. For this being a "proposed" project, there sure is much prep work already being done. This was never disclosed to the residents that bought in this community. It needs to be placed elsewhere.It must be stopped and not approved by the city. Needless to say, this proposed facility is not an acceptable use of land so near to a residential neighborhood especially when there are alternative sites closer to the Metrolink station on Ada and Barranca where there are only park and commercial neighbors. I encourage the City Planners to work with the Community Development Dept. and OCTA to relocate this facility to a more acceptable location.	Refer to Comment Response 1 regarding impacts related to noise, traffic, and air quality. Refer to Comment Response 2 regarding impacts related to lighting. Refer to Comment Response 9 regarding impacts related to diesel fuel and particulate matter. Refer to Comment Response 4 regarding impacts related to land use and zoning. Refer to Comment Response 1 regarding concern over disclosure of project. Refer to Comment Response 1 regarding relocation of the Project.
53	03/23/22	Swaroop Mallegari	swaroopmallegari@gmail.com	Hi, Please VOTE NO the OCTA Train Maintenance Facility in Irvine. We do not want this in our community and do not need it. The repercussions are too high. -- Swaroop Benjamin Mallegari	Opposition of the Project has been noted and will be considered by OCTA.
54-1	03/23/22	Raymond and Kenny Wong	rdewong@gmail.com 626-590-6608 151 Carlow, Irvine CA	This email is to provide our feedback regarding the proposed OCTA Orange County Maintenance Facility within the Great Park. This property is not zoned for this type of facility. Planning Area 51 is zoned for 6.1 institutional and a conditional use permit SHOULD NOT BE granted or even considered. Area 51 is designated as Lifelong Learning District. Area 51 allows for a mix of residential, commercial, and educational uses that promotes and supports a synergistic live/learn/work/play environment. If the conditional use permit is approved, the project should be scaled back to minimize impact on the Great Park and surrounding community. There should also be a Noise Abatement Plan imposed to limit operations between the bedtime hours of 11pm to 7am - much like the General Aviation Noise Ordinance (GANO) at the John Wayne Airport. Even the 5-points amphitheater limits noise after 10pm. This will ensure the health and well-being of residents and visitors to the Great Park. Key Points for Concern This facility is completely inconsistent with the Great Park as a focal point for community activities, sport facilities, and an area of quiet tranquility for Irvine's adjacent communities. This is particularly true for our Travata 55 Plus Community which is located within about 500 feet and will suffer from the disruption of its construction, and the ongoing nuisances of greater traffic, noise, light, and environmental pollution, plus other negative consequences for Travata, neighboring communities, and Great Park users. The project should have been rejected before the major investment in planning and design work because it just doesn't fit in this area. In addition, we had an opportunity to meet with OCTA management to explain their project and found them unable to answer questions regarding the design, hazards, risks, and other issues. In the EPA document "Information on Levels of Environmental Noise Requisite to Protect Public Health and Welfare with an Adequate Margin of Safety (March 1974), the long-term health and welfare on an individual are related to cumulative noise exposure received. The Travata Community of sensitive seniors will be exposed to excessive noise 24/7. The noise at the OCMF will start after 9pm when trains are taken off-service entering the facility, sanding and maintenance of trains from 9-4am, and beginning at 4am trains leaving the station for going on service. The entire Travata Community is unified in opposition to this project being located in the Great Park and particularly within 500 feet of our community. Following are some more detailed and specific points developed amongst our community: ZONING: The train yard site within Irvine's Great Park is not compatible with the existing institutional zoning designation. A train yard that involves the use of heavy machinery, hazardous chemicals and emits high levels of particulates into the surrounding residential and recreational areas violates the planning area's purpose. Per the MND, 'The Project type is closest to an industrial type' and therefore does not belong in an institutional zone. Why was this land ever sold to OCTA for a rail yard when it is clearly not compatible with the nearby residents and Great Park recreational users. AIR QUALITY: The operational impacts from the rail yard will be primarily from diesel particulate matter. The MND notes that as of 2005, the Air Resources Board (Federal Agency) recommended a 1,000 foot buffer between residences and rail yards. (Travata's closest homes are within 500 feet of the train yard's nearest property line.) The next highest impact was determined to be between one-half to one mile from the site, which is where the original site for the rail yard was located along Sand Canyon. At the proposed site, the MND estimates an increased cancer risk for the community of Travata. At a minimum, this finding alone should indicate that a more rigorous study of the negative impacts on nearby residents.	Refer to Comment Response 4 regarding impacts related to land use and zoning. Refer to Comment Response 1 regarding impacts related to noise, air quality, and traffic. Refer to Comment Response 2 regarding impacts related to lighting. Refer to Comment Response 9 regarding impacts related to diesel fuel and particulate matter.
54-2	03/23/22	Raymond and Kenny Wong	rdewong@gmail.com 626-590-6608 151 Carlow, Irvine CA	NOISE: Measurements of sound levels at the site were taken at a time when trains were only passing by Travata and yet they caused substantial spikes in noise near Travata. Once operational, the train noise from many more trains compounded by the longer noise impact of the slowing trains and possible use of the whistle to enter the yard would substantially increase the frequency and duration of the noise spikes. The noise impact alone may explain why Metrolink stations are not located anywhere near residential areas. This is not even taking the sounds from the equipment used in the train yard into consideration. TRAFFIC: Access to the rail yard is along the same single lane road (Marine Way) that is presently well beyond its capacity to handle all users. Travata residents, Great Park users, food bank, distribution center, recycling plant, nursery and soon water park users all are forced onto a single lane road. This road already clearly showed its inadequacy for use as an evacuation road when the Cypress Village community (that includes Travata) was under a voluntary evacuation during the October 2020 wildfire. Traffic was jammed and very slow moving and at a time when the Great Park sports fields were closed due to the pandemic. This inadequate roadway could see the same result as we all witnessed during the Paradise, California fire tragedy. HAZARDOUS MATERIALS: The MND repeatedly uses the word 'normal' when discussing the storage of petroleum products and hazardous chemicals. There is nothing more concerning than having these types of substances within such a short distance of residences and Great Park visitors. On any given day, there might be thousands of people within 1,000 feet of the site. This is very concerning given that we hear constantly about leaks, fires, etc. occurring at industrial sites such as the rail yard. This is a dangerous facility to be located anywhere near to such a busy area and one that already suffers from congested roadways. LIGHTING: Nighttime lighting would certainly impact residents' views over the site contrary to the report. As 80% of the train yard's operations will be during the overnight hours, all of the cranes and surrounding area will need to be well lit and quite visible from a large segment of Travata's residences along Marine Way and Ridge Valley. Any resident trying to sleep in the upstairs rooms will definitely look out onto the train yard and will be impacted by the lighting. The MND incorrectly states that field lighting at the Great Park obscures our views anyway which is not true. The sports fields at the Great Park are only lit until 10pm. CONCLUSION: The rail yard project has environmental impacts that will cause substantial adverse effects on humans both directly and indirectly as a result of the negative impacts on air quality, noise, hazardous materials and traffic as discussed herein. These negative impacts cannot be mitigated to make the rail yard project feasible at its' current location. At a minimum, we urge the City of Irvine to require that OCTA prepare a more rigorous Environmental Impact Study. We believe that this study will prove that this rail yard does not belong in the Great Park neighborhood and needs to be relocated away from residents and park visitors. We would appreciate confirmation from each recipient of this communication and an indication of your position on this matter. Thank you, Raymond and Dianne Wong	Refer to Comment Response 1 regarding impacts related to noise and traffic, and Comment Response 11-2 regarding impacts related to fire evacuation. Refer to Comment Response 16 regarding impacts related to hazardous materials. Refer to Comment Response 2 regarding impacts related to lighting. Section 3.21 of the IS/MND states the Project with mitigation measures would not result in substantial adverse effects on human beings, either directly or indirectly.

Comment No.	Date Received	Commentor Name(s)	Contact Info	Comment Received	Response to Comment
55	03/23/22	Bijan and Zina Towfigh	bijan6@me.com 107 Carlow, Irvine CA	Dear OCTA, We are writing to you on a matter of great concern. It has come to our attention that the OCTA has plans to develop a rail yard within close proximity to the Travata housing development. It is our understanding that this rail yard is proposed to be developed within 500-1000 feet of most Travata residents. We have also learned that the Air Resources Board does not advise locating rail yards within 1000 feet of residential areas due to significant health concerns. Further, we fail to understand why such a development is under consideration to be built along side newly built residential homes as opposed to a more sensible industrial or commercial location. The development of a project posing significant health concerns within close proximity to a residential housing community is clearly unacceptable. First and foremost, there is the issue of air quality. A rail yard will emit toxic diesel particulates into the neighboring air. Further we are concerned about excessive noise levels, disruptive lighting and incremental traffic along a single lane road that has already proven to be inadequate in the case of an emergency. These are all serious health and safety problems that will be brought to the neighboring community. Needless to say, all of the above along with the damage this will cause to the aesthetics of our peaceful neighborhood, will destroy quality of life and negatively impact property values. Please keep in mind, Travata is a 55 and over community. You are proposing a development of a dangerous project next door to a community of our more vulnerable city residents. We fail to accept the OCTA's Mitigated Negative Declaration for all of the reasons stated above. To date we have not heard of any adequate mitigants to the health and safely issues you are proposing to bring to our community. Frankly, we cannot see how these obvious dangers can be mitigated without relocating this project to an appropriate location. We sincerely hope that you will take these matters into serious consideration and put peoples health and safety above an industrial project that can and should be moved to a location where damage and harm will not come to the residents of our city. Thank you. Respectfully, Bijan and Zina Towfigh 107 Carlow Irvine, CA 92618 bijan6@me.com	Refer to Comment Response 9 regarding impacts related to diesel fuel and particulate matter, and Comment Response 5 regarding impacts related to the exposure of toxins and cancer risk. Refer to Comment Response 1 regarding impacts related to noise, air quality, and traffic, and related to the exposure of toxins and cancer risk Refer to Comment Response 4 regarding impacts related to land use and zoning. Refer to Comment Response 2 regarding impacts related to lighting and aesthetics. Refer to Comment Response 1 regarding relocation of the Project.
56	03/24/22	Karen Blakeley	karensblakeley@gmail.com	Please find a petition signed by over 70% of the residents of the 55+ community of Travata that would be impacted negatively by the proposed rail facility across from their homes. None believe that the negative effects can be mitigated and respectfully ask that the City of Irvine and OCTA find a more suitable site for the facility. The Residents of Travata	Refer to Comment Response 1 regarding relocation or alternative site of the Project.
57	03/24/22	Rana Azimi	rana.azimi@gmail.com	Dear City leaders, I write this on behalf of the children who can not self advocate for their right to play sports and enjoy the Great Park. Moving forward on the OCTA railcar Maintenance center (which included all the benzene storage) is not the right move for Irvine. I have lived in several cities where the storage tanks have leaked or spilled, causing disastrous outcomes to the health of its residents and the reputation of the city. This would increase cancer risks in the area. Do we really want Irvine to have the reputation of high cancer clusters? Irvine is already dealing with All American Asphalt, it does not need another major polluter to add to its list of toxic emitters in the so-called "safest city". The diesel tanks are at risk of leaks and explosions as kids and grandkids, or any one of us are at the Great Park. Please deny the OCTA permit application and do not allow any loopholes or future permits to prevail. Please make Irvine safe to live, work, and play in....SHUT DOWN AAA and do not add the railcar maintenance center....PLEASE!!! This will be your legacy. Sincerely, Rana Azimi Irvine Resident (I do not even live near Great Park and am concerned enough to take time to send this out, you should be concerned too if you visit the area even once!)	Refer to Comment Response 16 regarding impacts related to hazardous materials. Refer to Comment Response 9 regarding impacts related to diesel fuel and particulate matter, and Comment Response 5 regarding impacts related to the exposure of toxins and cancer risk.
58	03/24/22	James and Hilma	jimandhilma@gmail.com 265 Carlow, Irvine CA	To the OCTA, In regards to the OCTA Metrolink Rail Yard, which is proposed to be located very close to the Travata Community where my wife and I reside, please consider a different location. There is no advantage to the City of Irvine and especially the Irvine citizens that live near the proposed location or to the thousands of families that visit The Great Park regularly from all over Orange County and beyond. There are many reasons to move the proposed location. Noise and emissions pollution and an overall degradation of the quality of life for us who live in the Travata Community, The Great Park communities and visitors to The Great Park. The usage of proposed site and facilities is clearly industrial with inherent dangers associated with industrial plants, which may include but not limited to serious accidents, fuel and chemical spills and explosions. The proposed location is a great and grave hazard to the citizens of Travata, Cypress Village and all of The Great Park communities, as well as The Great Park itself. The City of Irvine has a stellar history of planning and development that has yielded superior community advantages of education, health care, business, nature and lifestyle. Please continue to employ the same kind of wisdom that has made the City of Irvine great, and move the location of the OCTA Metrolink Yard. Sincerely, James Martin and Hilma Martin 265 Carlow Irvine, CA 92618	Refer to Comment Response 1 regarding relocation or alternative site of the Project. Refer to Comment Response 1 regarding impacts related to noise and air quality. Refer to Comment Response 4 regarding impacts related to land use and zoning, and Comment Response 16 regarding impacts related to hazardous materials.
59	03/25/22	Crystal Antognelli	cantognel@att.net	Hello, my name is Crystal, I live in the Travata Community in Irvine at the corner of Marine way and Ridge Valley where they want to build a Maintence Rail Train Yard. I moved to this community because I wanted to live in a Quiet, Environmentally Safe Healthy Community and Home. I am very much oppose to the construction of this Train Maintenance yard being built so close to my home and community. I have serious health issues and I am so worried this Train yard will impact the air quality that will make me even sicker. Not to mention the noise and extra traffic on Marine Way that is already become a traffic clutter jam at given times of the day. I'm asking that they find another spot for this Train yard site far way from the Travata Retirement Community. Thank you, Crystal Antognelli	Opposition of the Project has been noted and will be considered by OCTA. Refer to Comment Response 1 regarding impacts related to noise, air quality, and traffic. Refer to Comment Response 1 regarding relocation or alternative site of the Project.
60	03/25/22	Se Oh	sehyuckoh@hotmail.com 256 Carlow, Irvine CA	Dear Irvine Mayor and Council Members: My wife and I purchased our home in the Travata Community across from the Orange County Great Park in September 2019 to enjoy our retirement life in sunny California. At the time of purchase, there were no disclosure documents informing about the plan to build a rail yard maintenance facility in such proximity to our house. We recently learned, with a BIG surprise, about the OCTA's plan to build a 24/7 Metrolink rail yard maintenance facility across Marine Way and Ridge Valley. Such a facility located so close to our senior residential community clearly poses substantial adverse effects on human health, environments, noise, and traffic in the surrounding communities, and the impacts will be most direct and severe on the Travata community. Thus, we feel that this proposed rail yard maintenance facility is not an acceptable use of land so close to a residential (like Travata) and recreational (like Great Park) neighborhood, and strongly urge the City Planners to work with the OCTA and Community Development Department to find an alternative site that is more consistent with the land use assumptions in Irvine's General Plan. Thank you for your assistance. Se H. Oh 256 Carlow, Irvine CA 92618	Refer to Comment Response 1 regarding concern over disclosure of project. Refer to Comment Response 1 regarding impacts related to noise and traffic. Refer to Comment Response 4 regarding impacts related to land use and zoning. Refer to Comment Response 1 regarding relocation or alternative site of the Project.
61	03/25/22	Ben Thatcher	btrules8@gmail.com	Will the construction of this railroad facility impact nearby Technology Drive? Will the facility have full security? Will the outskirts be patrolled? I don't want the area to become a hotspot for graffiti on the railroad tracks or train cars. You also have homeless to worry about that could get access to the tracks. How gated off will the facility be? This relates to my question above and new concerns where it could become a downside to the community. I know the maintenance facility that's closer to Carlsbad for trains is no where near any housing, offices, and just sits close to the freeway. A facility needs to be closed off to the public unless otherwise.	No construction impacts would occur along Technology Drive. Section 2.3.2 of the IS/MND states the only site access comes from the new Ridge Valley Extension. At the entrance a security booth, gate arms, and fencing are provided to limit unauthorized access to the site. Additionally, Section 3.1.3.4 states the Project would include installation of new standard exterior and interior security lighting around and within the OCMF, including buildings, which would operate continuously. A solid 6-foot concrete wall along Marine Way would be installed as part of the Project.
62	03/26/22	Ji Oh and Jeon Sook Song	songjioh@gmail.com 143 Palencia, Irvine CA	Dear Irvine Mayor and Council Members: My wife and I purchased our house in the Travata Community across from the Orange County Great Park in October 2019 as our retirement home in California. At the time of purchase, there were no disclosure documents informing us about the plan to build a rail yard maintenance facility in such proximity to our house. We recently learned, with a BIG surprise, about the OCTA's plan to build a 24/7 Metrolink rail yard maintenance facility across Marine Way and Ridge Valley, which must be a heavy industrial facility. Such a facility located so close to our senior residential community clearly poses substantial adverse effects on human health, environments, noise, and traffic in the surrounding communities, and the impacts will be most direct and severe not only on the Travata community but also on the Orange County Great Park. If you don't mind, we would like to convey our points using very simple terms. Assuming the maintenance facility is built here and in operation as you planned in the near future. 1) Would you recommend your parents or grandparents to choose this senior community as their desirable retirement place? 2) Would you have your children or grandchildren to play and do exercise in the Great Park as usual? If your answer to the above two questions is negative (even slightly negative), it would be a good idea to stop this project as it is, for this community, Great Park, and Irvine City as well. We don't want to see the reputation of Irvine City being slowly deteriorated and 'Great Park' becoming 'Terrible Park' in the foreseeable future. Thus, we feel that this proposed rail yard maintenance facility is not an acceptable use of land so close to a residential (like Travata) and recreational (like Great Park) neighborhood, and strongly urge the City Planners to work with the OCTA and Community Development Department to find an alternative site that is more consistent with the land use assumptions in Irvine's General Plan. We are looking forward to seeing the mutually agreeable solutions soon. Thank you in advance for your assistance. Best Regards, Ji Oh Song and Jeong Sook Song 143 Palencia Irvine, CA 92618	Refer to Comment Response 1 regarding concern over disclosure of project. Refer to Comment Response 1 regarding impacts related to noise and traffic. Refer to Comment Response 4 regarding impacts related to land use and zoning. Refer to Comment Response 1 regarding relocation or alternative site of the Project.

Comment No.	Date Received	Commentor Name(s)	Contact Info	Comment Received	Response to Comment
63	03/27/22	Amy Doyle	guppy35@yahoo.com	Dear OCTA, I am writing to oppose the OCTA Proposed Rail Yard in Irvine. This industrial yard with heavy equipment is much too close to housing and athletic fields in the Irvine Great Park. The increased diesel particles in the air will be detrimental to vulnerable older adults in the community of Travata, which is directly adjacent to the proposed train yard. The Great Park attracts many sporting tournaments and activities. The reduction in the area's air quality will discourage recreational and sporting use of the park. The Marine Way roadway is already hopelessly clogged at various points during the day. Adding this facility would compound the problem. The noise and light pollution from this project are also of great concern. Please relocate this project to a more industrial area or completely enclose the project to mitigate its effects on its immediate radius. Sincerely, Amy Doyle MBA, CMA Travata Resident	Opposition of the Project has been noted and will be considered by OCTA. Refer to Comment Response 9 regarding impacts related to diesel fuel and particulate matter. Refer to Comment Response 1 regarding impacts related to noise, air quality, and traffic. Refer to Comment Response 2 regarding impacts related to lighting. Refer to Comment Response 1 regarding relocation or alternative site of the Project.
64-1	03/27/22	Rutnam and Yaso Bavan	rsbavan@gmail.com 949-378-9598	March 27, 2022 COMMENTS REGARDING OCTA'S PROPOSED RAIL MAINTENANCE FACILITY (OCRMF) AND ITS MITIGATED NEGATIVE DECLARATION The proposed site of the OCTA rail yard is wholly and fully incompatible and inappropriate to be located in such close proximity to Irvine's Great Park and the over 55+ Senior Community Travata for the reasons set out below. But especially because the negative impacts to the health and well-being of Irvine Great Park users and the Travata Senior Community residents cannot be adequately mitigated for the following reasons: ZONING The train yard is classed as an 'institutional' land use, the same categorization as for a school or church. The proposed uses of 'heavy duty equipment such as cranes and forklifts' along with the anticipated high levels of diesel emissions and the use of industrial chemicals and round the clock operation 24/7 for 365 days a year it qualifies as heavy industry usage. With the MND admission that 'The Project type is closest to an industrial type' it is clear that the City of Irvine should have no hesitation or misgivings in disallowingsuch a use adjacent Irvine's Great Park and a Senior Community and deny the issuance of the use permit OCTA is seeking purely based on that fact. AIR QUALITY The MND notes that rail yards are because of the use of equipment's and vehicles such as trains, locomotives, trucks, cranes, etc are high emitters of diesel and other toxic particulates and are a major contributor of air contaminants. The report states that 'diesel particulate matter continues to account for about two-thirds of the cancer risk from air toxins' which is a major concern for those living nearby. The MND attempts to discount the presence of contaminants such as lead, ozone and other particulates and incorrectly applies SCAQMD methodology to the rail yard's risk to nearby residents in Travata and visitors to the Great Park where the air quality can be made unsafe for young children and seniors. NOISE Noise emanating from trains and locomotives entering and leaving, train horns, boxcars banging up against each other and other associated noises such as wheel sanding, brake repairs etc., will have severe negative effects on the health and well-being of Travata's senior residents and also on Great Park users. With no actual measurements of noise levels being provided at existing Metrolink train yards, and no adequately satisfactory discussion of train noises and whistles from more than the 20+ trains that are to enter and exit the yard daily during its 24/7 operation it is difficult to agree with MND's conclusion that the noise increase expected is not significant when measurements of sound at the proposed rail yard site showed that the significant spikes in sound levels were due to passing trains and they were not even using their whistles. An illogical and unrealistic expectation between 8 pm and 6 am when nearby residents, most of them seniors are expecting to get a reasonable night of sleep. HOURS OF OPERATION Round the clock 24/7 operation 365 days of the year will disrupt the ability of nearby residential areas to function let alone inevitably bound to suffer unacceptable health issues. AESTHETICS & INDUSTRIAL BLIGHT The MND states that there will be no impact on the views of hills to the southwest. Yet the train yard will have a 5 story structure in the middle of the yard and 4 permanent cranes. Travata's view of the hills to the southwest (Quail Hill and Shady/Bommer Canyon) will be negatively impacted. The screening of activities within the yard is unachievable and be a blight wrecking the view enjoyed by nearby residences and adjacent Irvine Great park users.	Refer to Comment Response 4 regarding impacts related to land use and zoning. Refer to Comment Response 9 regarding impacts related to diesel fuel and particulate matter. Refer to Comment Response 1 regarding impacts related to noise and air quality. Refer to Comment Response 2 regarding impacts related to lighting, aesthetics and visual quality.
64-2	03/27/22	Rutnam and Yaso Bavan	rsbavan@gmail.com 949-378-9598	LIGHTING Contrary to what the MND states, lighting at night would impact Travata residents' views across the site. With train yard maintenance operations continuing during the night, and the need for cranes and other equipment to be safely used, the surrounding area will be well lit. This will be visible to Travata residences and is bound to cause disruptions to sleep patterns of many seniors and adversely impact their health and well being. TRAFFIC Access to the rail yard is along Marine Way, a single lane road that is presently way beyond capacity to handle existing traffic safely. Travata residents, Great Park users, food bank, distribution center, recycling plant, nursery and soon water park users all are forced onto this one single lane road. Evacuation during emergencies for fire etc., are bound to be disastrous and catastrophic. HAZARDOUS MATERIALS As proposed, the rail yard will have four 30,000 gallon tanks for refueling locomotives. These are to be located near the site's property line and within 500 feet of the Great Park. These tanks not only pose a risk from potential fire but the toxic fumes related to their use is a great concern for Travata residents and Great Park users, many of them young children. The activities proposed - restroom maintenance, fueling, train washing etc., there is a great likelihood that other toxic substances used for refueling, cleaning and waste treatment, etc., can cause major health hazards to seniors and children in adjacent residential communities and users of adjacent Irvine Great Park. PUBLIC SAFETY AND SECURITY Even with gates at entrances and parking lots being secured properly the potential introduction of criminal elements using the trains to gain entry OCRMF cannot be ruled out. Unacceptable consequences could ensue as a result for the safety of the surrounding neighborhoods. MANDATORY FINDINGS OF SIGNIFICANCE The proposed OCTA's Rail Maintenance Facility environmental impacts cause substantial adverse effects both directly and indirectly as a result of the negative impacts on air quality, noise, hazardous materials and traffic as discussed herein. These negative impacts cannot be mitigated adequately to make the rail yard project feasible as currently proposed at its current location. Rutnam Bavan And Yaso Bavan	Refer to Comment Response 2 regarding impacts related to lighting. Refer to Comment Response 1 regarding impacts related to noise and traffic, and Comment Response 11-2 regarding impacts related to fire evacuation. Refer to Comment Response 16 regarding impacts related to hazardous materials. Refer to Comment Response 22 regardig impacts related to safety. Section 3.21 of the IS/MND states the Project with mitigation measures would not result in substantial adverse effects on human beings, either directly or indirectly.
65	03/27/22	Nikolai Korsun	nkorsun@gmail.com 661-312-8981 112 Burgess, Irvine CA	Dear Lora Cross, I want to demand you to STOP this project, which will impact all of the neighborhoods including the Travata community where I and my family live. This new industrial facility will create unacceptable noise and harmful pollution to our homes and our health. Please STOP this project. Thank you, Nikolai Korsun 112 Burgess, Irvine CA 92618 Tel.(661)-312-8981	Opposition of the Project has been noted and will be considered by OCTA. Refer to Comment Response 4 regarding impacts related to land use and zoning. Refer to Comment Response 9 regarding impacts related to diesel fuel and particulate matter. Refer to Comment Response 1 regarding impacts related to noise and air quality.
66-1	03/27/22	John Roese	roesej@cox.net 138 Burgess, Irvine CA	As a homeowner and permanent resident of Irvine's Cypress Village Travata 55+ residential community, I am sending this email to STRONGLY PROTEST the proposed location for the new Orange County Transit Authority Maintenance Facility (OCMF). In 2018, my wife and I decided to relocate to Irvine. After careful evaluation of alternative locations, a significant factor in our decision to purchase property and permanently live in the City of Irvine was that Irvine is nationally recognized as a well-managed master-planned community with governing body decisions based on maintaining a high quality of life for its citizens. Unfortunately, as proposed, the site of the new OCMF rail yard is adjacent to pre-existing Cypress Village (Travata in particular), other nearby Great Park neighborhood residential areas and Great Park family recreation facilities. This is the antithesis of what we expected to experience in the City of Irvine. The following summarizes several important quality of life, health hazard, financial and zoning issues identified by Travata community residents which would be negatively impacted by the proposed OCMF site location: (1) routine OCMF operations would inherently generate emissions of diesel particulate matter which will negatively affect local residential and Great Park air quality. The Mitigated Negative Declaration (MND) prepared by the Orange County Transit Authority for the City of Irvine MND notes that as of 2005, the Federal Air Resources Board recommends a 1,000 foot buffer between residences and rail yards. Note that In the OCMF proposal, multiple Travata residences would be less than 500ft from the OCMF. The MND estimates an increased cancer risk for local (e.g. Travata) residents; (2) daily positioning, cleaning and maintenance of METROLINK cars and diesel locomotives will create noise over and above what is currently attributable to existing local rail use. Once operational, the OCMF train noise from large numbers of trains being serviced and, for example, the possible use of locomotive whistles for rail yard entry and exit, would substantially increase the frequency and duration of railroad related noise. Railroad noise is already distinctly heard within the Travata community multiple times during the day and night under current rail line usage. Additional noise resulting from OCMF servicing of multiple trains, especially during early morning, nighttime or weekends, would be highly objectable to Travata as well as other nearby residents; (3) primary surface street access to the proposed OCMF rail yard from San Canyon Blvd (the closest main surface thoroughfare) would be via Marine Way. Traffic on Marine Way is already frequently congested and at full capacity due in part to a single lane bottleneck between the San Canyon intersection and the proposed OCMF site. This section of Marine Way provides primary automobile, truck and bicycle access for Cypress Park (especially Travata) and other Great Park neighborhood residents, Great Park visitors, as well as food bank, distribution center, recycling plant, nursery and soon water park users. It should be noted that the inadequacy of Marine Way for use as an evacuation route was evident when Cypress Village residents were placed under a voluntary evacuation status during the October 2020 wildfire event. Locating an OCMF entrance on Marine Way would only exacerbate currently existing Cypress Village and Great Park neighborhood traffic issues; (4) OCMF operations will require the use and long-term storage of petroleum-based and other environmentally hazardous chemicals. Normal operational needs will require on-site storage of these materials. Accidental spillages, container leaks and fires will inevitably occur. This poses an unacceptable and preventable 7/24 threat to all Cypress Village neighborhood inhabitants as well as to Great Park visitors;	Opposition of the Project has been noted and will be considered by OCTA. Refer to Comment Response 4 regarding impacts related to land use and zoning. Refer to Comment Response 1 regarding impacts related to noise, air quality, and traffic. Refer to Comment Response 5 regarding impacts related to the exposure of toxins and cancer risk. Refer to Comment Response 11-2 regarding impacts related to fire evacuation. Refer to Comment Response 16 regarding impacts related to hazardous materials.
66-2	03/27/22	John Roese	roesej@cox.net 138 Burgess, Irvine CA	(5) full disclosure of the cumulative effects of these and other negative quality of life issues attributable to the OCMF will, in all likelihood, suppress and even reduce local residential (e.g. Travata 55+ community) property values. Since our homes are generally our largest financial assets, this could have severe financial impacts for Travata 55+ community residents. An additional issue is that the OCMF proposal is inconsistent with the existing "institutional" zoning designation for the proposed site. According to the MND, the proposed OCMF train yard is "closest to an industrial type". This characterization of "industrial" relates to the OCMF's inherent dependence on heavy machinery (e.g., large cranes), use of hazardous chemicals and particulate emissions. Therefore, the OCMF should be prohibited from using the proposed site since this is an "institutional" zoned area. I feel that attempts to "mediate" some or all of the above mentioned negative impacts would, in all likelihood, prove to be marginally effective and difficult to monitor, enforce and maintain on a permanent basis. Mediation would also be very expensive with the associated costs ultimately being borne by the paying customers the OCTA serves or by government agencies. As demonstrated by the Central Maintenance Facility (CMF) rail yard located in Cypress Park in Los Angeles, mediation to the point of being a "good neighbor" to the nearby community is both operationally restrictive to rail yard maintenance operations and expensive. By way of comparison, San Diego's North County Transit District placed its maintenance facility rail yard at Stuart Mesa (visible along Hwy 5, just north of the city of Oceanside) and, due to its location, essentially negated the negative OCMF impacts identified above. In summary, the proposed OCMF proposal represents a highly inappropriate use of land adjacent to already established Irvine residential and family recreational areas and environmentally friendly industrial complexes. I strongly urge that we instruct the Orange County Transit Authority to study alternative OCMF site locations and not undermine our city's hard won status as a nationally recognized example of a master-planned community that puts quality of life issues first. The big picture is that Irvine's master-planned community is a pristine, environmentally friendly, unique national treasure. Although there are financial justifications for location of a new OCMF, these justifications alone should not be used to justify the location of the new maintenance facility. Respectfully submitted, John A. Roese, Ph.D. 138 Burgess, Irvine, CA 92618	Impacts on residential property values is not required under CEQA. Refer to Comment Response 4 regarding impacts related to land use and zoning.

Comment No.	Date Received	Commentor Name(s)	Contact Info	Comment Received	Response to Comment
67	03/28/22	Effie Woo	sosunnee@gmail.com 103 Carlow, Irvine CA	To Whom It May Concern, Our senior community of Travata will be impacted negatively by the proposed Metrolink Rail Facility as we are less than 1,000 feet away. We are opposed to the railyard because of the high volume of diesel exhaust that will blow over our homes and also because of the nighttime noise from the heavy machinery and train whistles. The MND is bought and paid for by OCTA and is not a reliable trusted source of analysis of the negative impacts from the construction and operation of the railyard. This is NOT the right use for land that is so near to residences and the visitors to the Great Park. We ask that you locate this in an area that will NOT be harmed by this facility. Sincerely, Effie Woo 103 Carlow Irvine, CA 82618	Refer to Comment Response 9 regarding impacts related to diesel fuel and particulate matter. Refer to Comment Response 4 regarding impacts related to land use and zoning. Refer to Comment Response 1 regarding relocation or alternative site of the Project.
68	03/28/22	Richard and Phyllis Keegan	rich.keegan@cox.net 172 Palencia, Irvine CA	My wife and I are residents of Travata 55+ community. We are writing to express our objections to the proposed OCTA rail yard project. Objection 1. Compatibility. The proposed project is not compatible with a residential neighborhood nor is it compatible with a sports park that is used by many children playing soccer, lacrosse, baseball. There are specific areas in great park designed for very small children as well professional level baseball, softball and soccer stadiums. Irvine is very proud of this sports park and has many plans on improvements. The proposed project would devalue both the residential neighborhood, Travata, as well as the sports park, Irvine Great Park. Objection 2. Pollution. This proposed project would create Noise Pollution, Air Pollution, and Visual Pollution. It would also significantly increase traffic on adjacent streets. The principal time of operation is overnight when the residents of Travata are trying to sleep. The Air and Visual pollution would be a great distraction to the users of Great Park and the adjacent water park, as would the significant increase in street traffic. A complete Environment Impact study would have identified all of these issues but it was not carried out. How is that the case? Sincerely, Richard and Phyllis Keegan 172 Palencia Irvine, CA 92618	Opposition of the Project has been noted and will be considered by OCTA. Refer to Comment Response 4 regarding impacts related to land use and zoning. Refer to Comment Response 1 regarding impacts related to noise, air quality, and traffic. Refer to Comment Response 4 regarding impacts related to lighting and visual quality.
69	03/28/22	Sonal, Dilip and Ashwin Patel	patelsdp@hotmail.com 157 Palencia, Irvine CA	As residents of Travata (55plus community on the corner of Ridge Valley and Marine Way), we would like to voice our opposition to the construction and operation of the proposed OCTA Metrolink Railyard. We believe that this facility falls under "heavy industry " zoning and not "institutional" as OCTA is currently claiming it would be. Particularly concerning to us is the adverse air quality, noise, traffic, and lighting. Living in this community, we do hear train's whistles and hear them passing by early in the morning. Using this land for train maintenance would mean many more trains stopping there overnight and being released in the morning. The sound impact of this will be significant. Also concerning are the possible smells from cleaning the trains, emptying train toilets, and so on. Diesel particulates being released on site are also a major concern. The 4.5 year construction time frame is not temporary. That is long term as far as residents of Travata are concerned. And even after the construction period, the additional noise from operation of the facility, smells, overnight lighting which will be an eyesore, cranes, additional traffic, and air contamination is not at all acceptable to us. I attended the online informational meeting run by OCTA back in October last year. After more information about this project came out this year, I believe that OCTA deliberately mislead and omitted vital negative consequences of this facility. They made it seem that there was negligible noise, traffic, aesthetic and air quality consequences. I feel as though they almost successfully pulled the wool over our eyes! They gave the impression that this would look like and feel like an office building. Please do not allow them to continue with this proposed project that will harm not only residents, but also children playing at the Great Park. Please do not reward their deception at the expense of Travata residents. Thank you so much, Sonal Patel, Dilip Patel, Ashwin Patel 157 Palencia Irvine CA 92618	Opposition of the Project has been noted and will be considered by OCTA. Refer to Comment Response 4 regarding impacts related to land use and zoning. Refer to Comment Response 1 regarding impacts related to noise, air quality, and traffic. Refer to Comment Response 4 regarding impacts related to lighting and visual quality. Refer to Comment Response 9 regarding impacts related to diesel fuel and particulate matter.
70-1	03/28/22	Joanne Yu Chan	abacus205@yahoo.com 626-710-2099 200 Carlow, Irvine CA	Dear Sir/Madam: I am a resident of Travata Senior Community and this email is to address the Draft Initial Study/Mitigated Negative Declaration for Metrolink Orange County Maintenance Facility. I thank you in advance for your attention in this matter! Introduction 1. Page 1, fourth paragraph (Section 1.1 Background): The Project is intended to relieve capacity at the Central Maintenance Facility (CMF) at Los Angeles that currently provide service to Orange County. Please provide demand projections to support statement stating, "…Orange County line has the highest ridership within the Metrolink system…" Cite reference/documentation to support these ridership projections throughout the Metrolink system. Also, state how many of the train cars will be transferred from CMF to the proposed Orange County Maintenance Facility (OCMF) for service on a daily basis. Simply stating "a portion of the current fleet" will be transferred from CMF to OCMF does not provide any quantitative measure for assessing the project's impact. 2. Page 3, first paragraph: Please explain what is described as "heavy overhaul capabilities at OCMF" that may be part of any future operation of the Project. Any future use of the facility that has not been previously approved and may have an adverse impact upon the environment and surrounding community will need to be publicly reviewed and approved by the City of Irvine (City) prior to any future change in operation. 3. Page 4, fourth paragraph: Any City approval of the CUP application shall contain community outreach and participation provisions to inform and address ongoing construction and post-construction activities on the Project site. Any proposed changes to the Project will also be subject to review under a new CUP application. 4. Figure 1.3-1.3.1 (Project Location): For clarity, please show proposed track alignment on exhibit and identify project components to be completed as part of phases 1 and 2. Project Description 5. Page 7, fourth paragraph, line 4: The project description states that a total of 11 tracks and 6 storage tracks will be constructed for the Project. The planned facilities at OCMF represents a significant expansion over the current operations at CMF where there exists 4 tracks with shorter track lengths at 800 foot storage each as opposed to proposed 1,200 to 1,600 foot track storage along 6 tracks at OCMF. Please provide a table matrix showing current capacity at CMF and future planned capacity at OCMF under phase 1 and 2 conditions. Will CMF also expand its current operations to meet future capacity demand? If not, will OCMF receive their overcapacity demand as part of its future operation? 6. Page 7, fourth paragraph, line 7: Please further describe what is a conversion of the West Lead Track into a drill track. Explain its purpose and operation. 7. Figure 2.3-1 (Project Layout and Elements): Identify/label all track functions (storage, lead, run-around, set-out, etc.). Include a map scale. Also identify parking spaces near Water Treatment Room, Maintenance Shop and S&I areas that are currently not shown on exhibit but are described in Section 2.3.2. 8. Page 13, fifth paragraph, line 3: What are "…layouts 2 and 3…" in reference to? Please explain and how it applies to requiring a second run-around. 9. Page 14, second paragraph: At total project build out, 21 trains can be accommodated on site with 12 trains on storage tracks. With a design train length of 750 feet per Section 2.3.5, OCMF will occupy approximately 15,750 feet of total track and approximately 9,000 feet of storage track. The planned OCMF would represent a 300% increase from CMF with a current capacity of 3,000 feet of estimated storage track. Will projected ridership in Orange County warrant 3X capacity of CMF within 3-4 year completion of phase 1 and 6 years for completion of phase 2? Please provide supporting documentation for ridership projections.	Figure 2.3-1 (Project Layout and Elements) shows the proposed track alignment, and Section 2.3.7 describes Project components that would be completed during Phase 1 and Phase 2. Section 2.3.5 of the IS/MND states the Project would not increase operational services or expand ridership through the increase in vehicle numbers or capacity. OCMF capacity is not part of the analysis of this project and that information would be determined by Metrolink at a later date. Removed reference to Layouts 2 and 3 since Layout 3 is the preferred alternative.
70-2	03/28/22	Joanne Yu Chan	abacus205@yahoo.com 626-710-2099 200 Carlow, Irvine CA	10. Page 18, third paragraph (Section 2.4.1): Please indicate a completion date for Phase 1 construction. Provide truck and vehicle trips required during construction such as routing, number of deliveries and daily number of employees requiring access to site for both construction phases. 11. Page 19, first paragraph (Section 2.5.1): Please list/identify all light repair and maintenance activities to be performed at OCMF. Also provide a description of activities considered to be heavy repair that will continued to be performed at CMF. There is no discussion regarding anticipated vehicle trips during project operation. Please identify number of expected truck deliveries to Project, including type of delivery (fuel, sand), type of truck (single- or double-tanker), and delivery time of day. Provide other vehicle trips such as shift hours and number of employees working on each shift. Appendix B – Air Quality and Greenhouse Gases Technical Memorandum 12. Page 38, second paragraph (Section 8.1.4): Please provide the source of the data used to assess the project's locomotive operations (including in-transit and idling). As stated in the HRA, the methodology used for the emissions modeling identified 11 track segments for Phase 1 and 5 segments for Phase 2 for a total of 16 segments. Does the "segments" reference intend to suggest a train segment? If yes, the project description has indicated that project build out can accommodate up to a total of 21 trains and 16 trains for storage. Explain the discrepancy between the numbers used in the Project Description and the one used in the AQ and GHG Technical Memorandum. 13. Page 52, first paragraph, line 1: The nearest sensitive receptor, a senior housing community, is located approximately 800-900 feet from the project's closest emission source which within 1,000 feet of the rail yard and would suffer the greatest adverse impact from the Project. Regardless, the Project will introduce additional source of pollutants to an existing vulnerable community surrounded by a junction of two major freeways, Interstate 5 and Highway 133 and Marine Way, a heavily travelled arterial street adjacent to the community. Since the majority (80%) of the project activities would occur during evening hours (6pm to 9am), the residents of the senior community will be subject to all kinds of disturbances, odors and noxious emissions during a time requiring rest and sleep. Initial Study – Air Quality 14. Page 53, second paragraph: See Comment No. 12. Need to determine if the modeling analyses coincides with the project parameters as described in the Project Description. There appears to be a discrepancy in the identified project elements from the Air Quality Study that may underestimate the emissions impact of the Project, resulting in a less than significant impact. Please explain why the descriptions differ and any resulting impact regarding assessment of the project. Nevertheless, the Project needs to provide best available practices that would reduce or eliminate on- and off-site emissions as much as possible such as minimizing idling of locomotives by using plug-in power, switching to non-fossil fuel tanker trucks, or converting fleet to renewable diesel or upgrading to zero-emission technology when available. Many of these best practices have been implemented at CMF and noted in an annual action plan update to the surrounding communities of Cypress Park and Elysian Valley which are predominantly low-density residential neighborhoods.	

Comment No.	Date Received	Commentor Name(s)	Contact Info	Comment Received	Response to Comment
70-3	03/28/22	Joanne Yu Chan	abacus205@Yahoo.com 626-710-2099 200 Carlow, Irvine CA	General Comments 15. Pending City review and approval of the Project's CUP application, I have provided several provisions to be included as conditions of approval to ensure community concerns are addressed and best practices are followed during the different stages of construction and operation of the Project. They include: a. Any expansion of use/operation of facility deemed separate from prior approvals will require a formal review under a new CUP application and subject to environmental review and compliance as well. b. OCTA to provide quarterly or biannual project updates and outreach to the community during project construction and operation. These outreach efforts including Great Park users will help provide accountability while minimizing potential conflicts that may rise during project implementation. c. Limit the daily number of truck deliveries to the Project site and within certain hours of the day to minimize excessive traffic on Marine Way during evening hours from 6 pm to 9 am. d. Require noise and air quality monitoring during Project's construction and post-construction activities. If project is deemed to exceed City ordinances or other critical thresholds impacting public health and safety, appropriate mitigation measures will be implemented as needed. 16. There appears to be a lack of consistency regarding the project description among the technical analyses performed for the project. Such discrepancy needs to be clarified and any subsequent analyses checked for accuracy. 17. This document has not been well prepared, filled with too many errors and inconsistent information that I am not quite sure that a comprehensive analysis has been competently performed. Throughout the environmental document, impacts are discussed in broad general terms where operations will be shifted from CMF to the proposed location which will create efficiencies and provide cost cutting benefits while real and detrimental impacts to the surrounding community are seemingly glossed over. Many of these impacts will have severe consequences to residents in the senior community when this project will mostly be operational during the night with associated activities considered to be a heavy industrial use. The MND further states that only "portion" of the maintenance facility will be shifted away from CMF with light servicing and repair to meet future ridership demand within Orange County. However, comparing the size and facilities between the proposed Project site and the CMF site, the proposed Project will triple the track storage at CMF. Clearly, a finding that the Project will have minimal impacts does not match the outsize operation and facilities that is currently proposed for the site. I would appreciate confirmation of this email from each of the recipient and your respond to the issues mentioned. Thank you! Joanne Yu Chan 200 Carlow Irvine, CA 92618 626-710-2099	
71	03/28/22	Jeannie Chiu	jeannie.chiu@gmail.com 626-403-7216	I object to the proposed Metrolink railyard maintence facilities project. I am a senior citizen resident of Travata 55+ Community, we moved to this lovely community for all the serene environment in our neighborhood. The proposed Metrolink project will be detrimental to our air quality, noise, and the hazardous waste material will negatively impact our golden years, stripping of all we worked for to have a healthy retirement living. I opposed the planned railyard maintenance facilities to be developed so close to the Tavata Community. Please look for alternative locations further away from any residential community. The following are some of my concerns. ZONING: The train yard site within Irvine's Great Park is not compatible with the existing institutional zoning designation. A train yard that involves the use of heavy machinery, hazardous chemicals and emits high levels of particulates into the surrounding residential and recreational areas violates the planning area's purpose. Per the MND, 'The Project type is closest to an industrial type' and therefore does not belong in an institutional zone. Why was this land ever sold to OCTA for a rail yard when it is clearly not compatible with the nearby residents and Great Park recreational users. AIR QUALITY: The operational impacts from the rail yard will be primarily from diesel particulate matter. The MND notes that as of 2005, the Air Resources Board (Federal Agency) recommended a 1,000 foot buffer between residences and rail yards. (Travata's closest homes are within 500 feet of the train yard's nearest property line.) The next highest impact was determined to be between one-half to one mile from the site, which is where the original site for the rail yard was located along Sand Canyon. At the proposed site, the MND estimates an increased cancer risk for the community of Travata. At a minimum, this finding alone should indicate that a more rigorous study of the negative impacts on nearby residents and park users be undertaken. NOISE: Measurements of sound levels at the site were taken at a time when trains were only passing by Travata and yet they caused substantial spikes in noise near Travata. Once operational, the train noise from many more trains compounded by the longer noise impact of the slowing trains and possible use of the whistle to enter the yard would substantially increase the frequency and duration of the noise spikes. The noise impact alone may explain why Metrolink stations are not located anywhere near residential areas. This is not even taking the sounds from the equipment used in the train yard into consideration. TRAFFIC: Access to the rail yard is along the same single lane road (Marine Way) that is presently well beyond its capacity to handle all users. Travata residents, Great Park users, food bank, distribution center, recycling plant, nursery and soon water park users all are forced onto a single lane road. This road already clearly showed its inadequacy for use as an evacuation road when the Cypress Village community (that includes Travata) was under a voluntary evacuation during the October 2020 wildfire. Traffic was jammed and very slow moving and at a time when the Great Park sports fields were closed due to the pandemic. This inadequate roadway could see the same result as we all witnessed during the Paradise, California fire tragedy. HAZARDOUS MATERIALS: The MND repeatedly uses the word 'normal' when discussing the storage of petroleum products and hazardous chemicals. There is nothing more concerning than having these types of substances within such a short distance of residences and Great Park visitors. On any given day, there might be thousands of people within 1,000 feet of the site. This is very concerning given that we hear constantly about leaks, fires, etc. occurring at industrial sites such as the rail yard. This is a dangerous facility to be located anywhere near to such a busy area and one that already suffers from congested roadways. LIGHTING: Nighttime lighting would certainly impact residents' views over the site contrary to the report. As 80% of the train yard's operations will be during the overnight hours, all of the cranes and surrounding area will need to be well lit and quite visible from a large segment of Travata's residences along Marine Way and Ridge Valley. Any resident trying to sleep in the upstairs rooms will definitely look out onto the train yard and will be impacted by the lighting. The MND incorrectly states that field lighting at the Great Park obscures our views anyway which is not true. The sports fields at the Great Park are only lit until 10pm.	Opposition of the Project has been noted and will be considered by OCTA. Refer to Comment Response 4 regarding impacts related to land use and zoning. Refer to Comment Response 1 regarding impacts related to noise, air quality, and traffic, and Comment Response 11-2 regarding impacts related to fire evacuation. Refer to Comment Response 16 regarding impacts related to hazardous materials. Refer to Comment Response 2 regarding impacts related to lighting.
72-1	03/28/22	Christine Lee	christinekain1018@gmail.com 142 Burgess, Irvine CA	To whom it may concern I have been living in Irvine since 2014. I have been so happy that I chose Irvine as my final retirement place, but now I am so concerned about the news that OCTA will make Metro train yard in Irvine. I am strongly opposing that plan because of the following reasons. The train yard site within Irvine's Great Park is not compatible with the existing institutional zoning designation. A train yard that involves the use of heavy machinery, hazardous chemicals and emits high levels of particulates into the surrounding residential and recreational areas violates the planning area's purpose. Per the MND, 'The Project type is closest to an industrial type' and therefore does not belong in an institutional zone. Why was this land ever sold to OCTA for a rail yard when it is clearly not compatible with the nearby residents and Great Park visitors. The operational impacts from the rail yard will be primarily from diesel particulate matter. The MND notes that as of 2005, the Air Resources Board (Federal Agency) recommended a 1,000 foot buffer between residences and rail yards. (Travata's closest homes are within 500 feet of the train yard's nearest property line.) The next highest impact was determined to be between one-half to one mile from the site, which is where the original site for the rail yard was located along Sand Canyon. At the proposed site, the MND estimates an increased cancer risk for the community of Travata. At a minimum, this finding alone should indicate that a more rigorous study of the negative impacts on nearby residents and park users be undertaken. Measurements of sound levels at the site were taken at a time when trains were only passing by Travata and yet they caused substantial spikes in noise near Travata. Once operational, the train noise from many more trains compounded by the longer noise impact of the slowing trains and possible use of the whistle to enter the yard would substantially increase the frequency and duration of the noise spikes. The noise impact alone may explain why Metrolink stations are not located anywhere near residential areas. This is not even taking the sounds from the equipment used in the train yard into consideration. Access to the rail yard is along the same single lane road (Marine Way) that is presently well beyond its capacity to handle all users. Travata residents, Great Park users, food bank, distribution center, recycling plant, nursery and soon water park users all are forced onto a single lane road. This road already clearly showed its inadequacy for use as an evacuation road when the Cypress Village community (that includes Travata) was under a voluntary evacuation during the October 2020 wildfire. Traffic was jammed and very slow moving and at a time when the Great Park sports fields were closed due to the pandemic. This inadequate roadway could see the same result as we all witnessed during the Paradise, California fire tragedy. The MND repeatedly uses the word 'normal' when discussing the storage of petroleum products and hazardous chemicals. There is nothing more concerning than having these types of substances within such a short distance of residences and Great Park visitors. On any given day, there might be thousands of people within 1,000 feet of the site. This is very concerning given that we hear constantly about leaks, fires, etc. occurring at industrial sites such as the rail yard. This is a dangerous facility to be located anywhere near to such a busy area and one that already suffers from congested roadways. Nighttime lighting would certainly impact residents' views over the site contrary to the report. As 80% of the train yard's operations will be during the overnight hours, all of the cranes and surrounding area will need to be well lit and quite visible from a large segment of Travata's residences along Marine Way and Ridge Valley. Any resident trying to sleep in the upstairs rooms will definitely look out onto the train yard and will be impacted by the lighting. The MND incorrectly states that field lighting at the Great Park obscures our views anyway which is not true. The sports fields at the Great Park are only lit until 10pm.	Opposition of the Project has been noted and will be considered by OCTA. Refer to Comment Response 4 regarding impacts related to land use and zoning. Refer to Comment Response 1 regarding impacts related to noise, air quality, and traffic, and Comment Response 11-2 regarding impacts related to fire evacuation. Refer to Comment Response 16 regarding impacts related to hazardous materials. Refer to Comment Response 2 regarding impacts related to lighting and visual quality.
72-2	03/28/22	Christine Lee	christinekain1018@gmail.com 142 Burgess, Irvine CA	The rail yard project has environmental impacts that will cause substantial adverse effects on humans both directly and indirectly as a result of the negative impacts on air quality, noise, hazardous materials and traffic as discussed herein. These negative impacts cannot be mitigated to make the rail yard project feasible at its' current location. At a minimum, we urge the City of Irvine to require that OCTA prepare a more rigorous Environmental Impact Study. We believe that this study will prove that this rail yard does not belong in the Great Park neighborhood and needs to be relocated away from residents and park visitors.	Section 3.21 of the IS/MND states the Project with mitigation measures would not result in substantial adverse effects on human beings, either directly or indirectly.
73	03/28/22	Keumju Oh	keumjuoh@hotmail.com 256 Carlow, Irvine CA	Dear Irvine Mayor and Council Members: My husband and I purchased our home in the Travata Community across from the Orange County Great Park in September 2019 to enjoy our retirement life in sunny California. At the time of purchase, there were no disclosure documents informing about the plan to build a rail yard maintenance facility in such proximity to our house. We recently learned, with a BIG surprise, about the OCTA's plan to build a 24/7 Metrolink rail yard maintenance facility across Marine Way and Ridge Valley. Such a facility located so close to our senior residential community clearly poses substantial adverse effects on human health, environments, noise, and traffic in the surrounding communities, and the impacts will be most direct and severe on the Travata community. Thus, we feel that this proposed rail yard maintenance facility is not an acceptable use of land so close to a residential (like Travata) and recreational (like Great Park) neighborhood, and strongly urge the City Planners to work with the OCTA and Community Development Department to find an alternative site that is more consistent with the land use assumptions in Irvine's General Plan. Thank you for your assistance. Keumju Oh 256 Carlow, Irvine CA 92618	Refer to Comment Response 1 regarding concern over disclosure of project. Refer to Comment Response 1 regarding impacts related to noise, air quality, and traffic. Refer to Comment Response 1 regarding relocation or alternative site of the Project.

Comment No.	Date Received	Commentor Name(s)	Contact Info	Comment Received	Response to Comment
74-1	03/28/22	Kevin Lee	keunwoong@gmail.com 142 Burgess, Irvine CA	To whom It may concern, I am a retired physician and have been living in Irvines since 2014. I have been so happy that I chose Irvine as my final retirement place, but now I am so much concerned about the news that OCTA plans to make a train/rail yard next to the great park where many children including my grand children love to visit. We are living in a senior community not far from the planed train yard area and many of us are suffering from heart and lung diseases which will obviously get worse from the OCTA plan. I am strongly opposing that plan because of the following reasons. The train yard site within Irvine's Great Park is not compatible with the existing institutional zoning designation. A train yard that involves the use of heavy machinery, hazardous chemicals and emits high levels of particulates into the surrounding residential and recreational areas violates the planning area's purpose. Per the MND, 'The Project type is closest to an industrial type' and therefore does not belong in an institutional zone. Why was this land ever sold to OCTA for a rail yard when it is clearly not compatible with the nearby residents and Great Park visitors. The operational impacts from the rail yard will be primarily from diesel particulate matter. The MND notes that as of 2005, the Air Resources Board (Federal Agency) recommended a 1,000 foot buffer between residences and rail yards. (Travata's closest homes are within 500 feet of the train yard's nearest property line.) The next highest impact was determined to be between one-half to one mile from the site, which is where the original site for the rail yard was located along Sand Canyon. At the proposed site, the MND estimates an increased cancer risk for the community of Travata. At a minimum, this finding alone should indicate that a more rigorous study of the negative impacts on nearby residents and park users be undertaken. Measurements of sound levels at the site were taken at a time when trains were only passing by Travata and yet they caused substantial spikes in noise near Travata. Once operational, the train noise from many more trains compounded by the longer noise impact of the slowing trains and possible use of the whistle to enter the yard would substantially increase the frequency and duration of the noise spikes. The noise impact alone may explain why Metrolink stations are not located anywhere near residential areas. This is not even taking the sounds from the equipment used in the train yard into consideration. Access to the rail yard is along the same single lane road (Marine Way) that is presently well beyond its capacity to handle all users. Travata residents, Great Park users, food bank, distribution center, recycling plant, nursery and soon water park users all are forced onto a single lane road. This road already clearly showed its inadequacy for use as an evacuation road when the Cypress Village community (that includes Travata) was under a voluntary evacuation during the October 2020 wildfire. Traffic was jammed and very slow moving and at a time when the Great Park sports fields were closed due to the pandemic. This inadequate roadway could see the same result as we all witnessed during the Paradise, California fire tragedy. The MND repeatedly uses the word 'normal' when discussing the storage of petroleum products and hazardous chemicals. There is nothing more concerning than having these types of substances within such a short distance of residences and Great Park visitors. On any given day, there might be thousands of people within 1,000 feet of the site. This is very concerning given that we hear constantly about leaks, fires, etc. occurring at industrial sites such as the rail yard. This is a dangerous facility to be located anywhere near to such a busy area and one that already suffers from congested roadways.	Opposition of the Project has been noted and will be considered by OCTA. Refer to Comment Response 4 regarding impacts related to land use and zoning. Refer to Comment Response 1 regarding impacts related to noise, air quality, and traffic, and Comment Response 11-2 regarding impacts related to fire evacuation. Refer to Comment Response 9 regarding impacts related to diesel fuel and particulate matter. Refer to Comment Response 16 regarding impacts related to hazardous materials.
74-2	03/28/22	Kevin Lee	keunwoong@gmail.com 142 Burgess, Irvine CA	Nighttime lighting would certainly impact residents' views over the site contrary to the report. As 80% of the train yard's operations will be during the overnight hours, all of the cranes and surrounding area will need to be well lit and quite visible from a large segment of Travata's residences along Marine Way and Ridge Valley. Any resident trying to sleep in the upstairs rooms will definitely look out onto the train yard and will be impacted by the lighting. The MND incorrectly states that field lighting at the Great Park obscures our views anyway which is not true. The sports fields at the Great Park are only lit until 10pm. The rail yard project has environmental impacts that will cause substantial adverse effects on humans both directly and indirectly as a result of the negative impacts on air quality, noise, hazardous materials and traffic as discussed herein. These negative impacts cannot be mitigated to make the rail yard project feasible at its' current location. At a minimum, we urge the City of Irvine to require that OCTA prepare a more rigorous Environmental Impact Study. We believe that this study will prove that this rail yard does not belong in the Great Park neighborhood and needs to be relocated away from residents and park visitors. Sincerely, Kevin Lee, M.D. 142 Burgess, Irvine CA 92618	Refer to Comment Response 2 regarding impacts related to lighting and visual quality. Section 3.21 of the IS/MND states the Project with mitigation measures would not result in substantial adverse effects on human beings, either directly or indirectly.
75	03/28/22	Archana Darekar	darekar.archana@gmail.com 109 Augustine, Irvine CA	Dear City leaders: OCTA railcar maintenance center at Great Park is just the wrong location for Irvine residents. It will affect the Great Park surrounding communities in air quality, noise, lights, traffic jam on Marine Way and potential diesel tank explosion or leaking. Please deny OCTA permit application with dense population around it and children sports amenities. Best regards Archana Darekar 109 Augustine Irvine CA 92618	Opposition of the Project has been noted and will be considered by OCTA. Refer to Comment Response 1 regarding impacts related to noise, air quality, and traffic. Refer to Comment Response 9 regarding impacts related to diesel fuel and particulate matter. Refer to Comment Response 2 regarding impacts related to lighting and visual quality.
76	03/28/22	Revital Gallen	revital.gallen@gmail.com 118 Full Sun, Irvine CA	Hello, We were concerned to hear about the request to permit OCTA to open a railcar maintenance center at Great Park. That location for a maintenance center should be denied as it will raise health and environmental issues to the surrounding Irvine residents. A different location should be searched. If approved at the location currently requested, it will affect the Great Park surrounding communities in air quality, noise, lights, traffic jam on Marine Way and potential diesel tank explosion or leaking. The Great Park surrounding communities already deal with increased traffic due to the activities taking place across the street, however, a maintenance center will put an unduly burden on us and will impact our wellbeing. We urge you to protect our interests and wellbeing and seek to request OCTA permit application elsewhere. We requested the city to reject the application for the same reasons. Kind regards, Revital Gallen 118 Full Sun Irvine, CA	Opposition of the Project has been noted and will be considered by OCTA. Refer to Comment Response 1 regarding relocation or alternative site of the Project. Refer to Comment Response 1 regarding impacts related to noise, air quality, and traffic. Refer to Comment Response 9 regarding impacts related to diesel fuel and particulate matter. Refer to Comment Response 2 regarding impacts related to lighting and visual quality.
77	03/28/22	Frank and Aileen Smith	smithfrankb@msn.com 864-640-5869 141 Palencia, Irvine CA	Following is an email which I shared with various OCTA and Irvine Officials regarding the proposed Metrolink Railyard facility in the Great Park. Comments below pertain to The Mitigated Negative Declaration and its deficient environmental report (MND). As detailed below, we and all of our neighbors in the nearby Travata Community, strongly oppose this project and take exception with the way it has been developed. There are many deficiencies which we have discovered as outlined below. There is a very strong consensus that this project should never have been proposed for this location and should never be built here. It is inexplicable how so much time and effort has been devoted to this project without seeking input from the nearby communities and users of the Great Park. We strongly urge that this location should be abandoned and that no more time and money should be wasted trying to justify the project. We hope that you will give due consideration to all of the issues outlined below. Thank you, Frank and Aileen Smith Travata Community 141 Palencia, Irvine, Ca 92616 Phone 864-640-5869	Opposition of the Project has been noted and will be considered by OCTA Refer to Comment Response 1 regarding relocation or alternative site of the Project. Section 2.7 of the IS/MND describes public outreach activities completed for this Project.
78	03/29/22	Ed Olivares	eolivares7603@gmail.com 127 Burgess, Irvine CA	OCTA Maintenance Facility Project Planners: Hello, my name is Edgar Olivares, I live at 127 Burgess, Irvine CA, 92618. I am a full-time resident of the community located at the corner of Ridge Valley and Marine Way. I am writing this to ask that the Conditional Use Permit Application for the development of the OCTA Railroad Maintenance Facility be withdrawn on the basis that the Initial Study/Mitigated Negative Declaration prepared by OCTA does not adequately address many issues that are critical to the environmental space, and the health and welfare of the residents in my community. Location of the facility as currently proposed does not allow for mitigation of these issues. A more appropriate siting is near the existing railway station near the end of Marine Way at Barranca. Three examples of issues follow: 1- The Project Site boundary; integral in the project is the development of a Ridge Valley Road extension designated as a private road (presumably) exclusive to OCTA use. The entrance at Marine Way is approximately 150' from homes in my community. Supplies of materials and wastes from the operation will be regularly transported and and potentially staged in too-close proximity to existing family homes. 2- The IS/MND is not independently detailed to determine the level of negative impact to the existing environmental space, and the health and welfare of members of my community - in part as pertains to air quality, noise, lighting, and visual esthetics. 3- Years prior to the purchase of my home in 2018, the OCTA formally communicated the intended development and use of the current site to the City of Irvine. This information was omitted from required hazard disclosures during my purchase process. I appreciate the opportunity to provide input and look forward to your modified efforts moving forward. Sincerely, Ed Olivares	Refer to Comment Response 16 regarding impacts related to hazardous materials. Refer to Comment Response 1 regarding impacts related to air quality and noise, and Comment Response 2 regarding impacts related to lighting, visual quality, and aesthetics. Refer to Comment Response 1 regarding concern over disclosure of project.
79	03/29/22	Siliang Zhang	siliang1973@gmail.com	Good morning, I saw the news last week that the metro link train maintenance facility will be proposed near the Great Park. I live in cypress village, very close to the great park. I am opposed to this plan. You really should pick somewhere else with less people living there. Your plan will affect a lot of people who live near Great Park. It will take 6 years to be finished, and for all those years the residents will have to live with noise, air pollution and traffic. So why not stop it now. In addition, if you build the facility, the Great Park neighborhood will have a much worse environment and the residents will be very angry and disappointed. I think the Metrolink train maintenance facility does not fit the environment of Great Park at all. Irvine was voted the best city to live in for the fourth consecutive year. And I believe the proposed project will damage the city's image. I hope the great park is getting better and better. Please don't construct a metro link train maintenance facility near great park. I will be very grateful if you could take my opinion seriously Thank you. Best regards, Siliang Zhang	Opposition of the Project has been noted and will be considered by OCTA. Refer to Comment Response 1 regarding impacts related to air quality, noise, and traffic. Refer to Comment Response 4 regarding impacts related to land use and zoning.

Comment No.	Date Received	Commentor Name(s)	Contact Info	Comment Received	Response to Comment
80	03/29/22	Bonnie and David Gabai	bgabai@me.com	To Whom This May Concern: > I am writing to you to please vote against placing the OCTA train maintenance facility that is planned at the corner of great park across from my community Travata at Marine Way and Ridge Valley. My husband and I bought this home to enjoy our final years. Many months after moving here, we learned that OCTA was going to be placing a facility to maintenance trains during the hours of 10 PM to 6 AM - all through the middle of the night. Lennar never informed us of this development as we made the purchase of our home. This facility is planned to be near the current train tracks that bring tremendous noise to where we live already. Bringing a maintenance facility to this area would only disturb any quiet that still exists near us. Between the freeway, the 5 point amphitheater, loud sporting games at the park, as well as the nearby trains - it's loud enough. Most importantly, I'm asking that you consider the health of our community as you make this decision and place this facility in another location. The effects of this will be great and includes diseases, crime, and more. Please imagine you, a family member, parent, child, sister, brother or any other relative finding out that there was going to be a maintenance facility that imposes direct danger to their community within walking distance from their front door. Our 55+ community is filled with good people that care about the Irvine community and have family members, children, grandchildren, nieces, nephews, and friends that lives nearby. We have spent our hard earned money to make Irvine Great Park our home. I know that planning commissioners are happy to place these sort of facilities near by senior residences because they believe that they're not able to hear, smell, or see in their older years. We are here, fighting this battle, using our voice and asking for your help and consideration. I would like you to reconsider this heinous idea to place this facility next to us. The environmental hazards alone would make this a toxic environment for all of us. Many of the people in our community and our family have serious health problems -this can only make it worse. Many of you may have family members that play at great Park- this will affect them as well. Perhaps a child with asthma will get the downwind as we will from these dirty trains and the Harsh toxic chemicals that they clean the trains with. The proposal includes 100,000 gallon gas tanks that can, if ignited, cause a severe fire through the entire community and park within seconds. I have seen firsthand the dangerous effects of fires and toxic chemicals can do. I just moved from a community where my home was damaged from the Woolsey fire. Gasoline from Rocketdyne penetrated the ground soil for years and the fire ruined many friends homes, and our home incurred much damage. One reckless cigarette - and what you hold dearest is gone. I grew up in Newport Beach and am familiar with the history of the El Toro marine base, going back to World War II, and the toxins in the ground that Super fund just cleaned up to make Great Park the new and thriving community it is. Why dirty land that just got cleaned up? Please vote to relocate this facility far away from us. Please don't let bureaucratic dollars influence your decision to build this facility. We elect you to protect all of our families and your families too. If the roles were reversed, we would be making sure that all families in Irvine are protected from the horror this facility will cause. Please do your job and do what is right by not building this disastrous OCTA train maintenance facility. If you have a conscience, make sure not to destroy all our neighborhood. > Sincerely, > Bonnie and David Gabai	Opposition of the Project has been noted and will be considered by OCTA. Refer to Comment Response 1 regarding concern over disclosure of project. Refer to Comment Response 1 regarding impacts related to air quality, noise, and traffic. Section 3.15.1 of the IS/MND states three police stations are located near the Project Site. They are the Irvine Valley College Police Department, the Cal State Fullerton Police Department, and the Irvine Police Department – Spectrum Substation. The Spectrum Substation will be the principal service provider to the Project Site. The two school police departments do not usually answer requests outside of their respective campuses; however, additional staff could be dispatched for emergencies. In addition, the Irvine Police Department headquarters located 4.4 miles northwest of the Project Site could also serve as a backup in situations where the other three closer police departments are short in staff. With a low crime rate, the capacity of police service is sufficient for the Project Site through coordination of the three police departments. Refer to Comment Response 16 regarding impacts related to hazardous materials.
81	03/29/22	Carolyn Peter	carolyn.peter@gmail.com 116 Burgess, Irvine CA	To the Mitigated Negative Declaration regarding OCTA and its proposed Metrolink Rail Yard: I am a resident of the Travata Community across from the proposed Rail Yard Maintenance Facility. This project highly concerns many residents. 1) Noise: Logically noise will be an unending factor if the rail yard is built. It is not only an issue during construction but will continue as trains are brought in for maintenance, repair (sanding of wheels), washing of rail cars, refueling, trucks bringing supplies, equipment, moving of rail cars here and there, workers coming and going. Only estimates can be made as to the noise levels. It cannot actually be measured. Maintenance will be done all hours of the night and during the day. Noise carries farther than people realize. 2) Zoning: The train yard is being classed as "institutional" land use, such as a school or church. This is indeed "heavy industry" land use. This includes heavy equipment, forklifts, cranes plus industrial chemicals. 3) Aesthetics: MND claims there will be no impact on the views of the hills southwest of our community and the Great Park. But with a 5 story building being planned and 4 permanent cranes (what is their height?) being installed there is no way our views will not be negatively impacted. An eyesore to say the least. Irvine is known for its commitment to maintaining a safe and beautiful city. 4) Air Quality: Noise and air quality are two very important negative factors. a) MND admits rail yard activities produce high levels of particulates. Trains are major contributors of toxic air contaminants including construction equipment. Diesel particulate matter accounts for two thirds of the cancer risk from air toxins. b) Air Resources Board of 2005 (a Federal Agency) recommends a 1000 ft buffer between rail yards and residences. Some of the Travata homes would be within 500 ft of the proposed rail yard. c) MND says EPA is trying to reduce diesel fuel emissions by as much as 90% but we as residents have no idea where Metrolink's fleet is regarding this attempt. d) Rail yards and residential areas are not compatible. Not one Metrolink station is as close to a residential area as this rail yard will be to our residential area. And don't think the Great Park will not be affected as well. e) Lastly four .....30,000 gallon fuel tanks will be built on site. Not only a hazard but a potential risk to the entire community. A fire? 5) Lighting: Night time lighting would certainly be a negative impact on our community. Will the 4 cranes be lit up at night? Of course they will since maintenance will be happening all night. MND mentions that we already deal with the light from the Great Park. Really? The lighting is a completely different form of atmosphere and much farther away. 6) Traffic: The road Marine Way is ill equipped to handle the traffic as is. Then when the Water Park is completed that will add even more traffic. It is a one lane road. Great Park uses, distribution, events recycling plant, nursery, people cutting over from Sand Canyon. It is a thoroughfare. Now add the construction trucks, fuel trucks etc. Lastly when there was a potential to need to evacuate because of an ensuing wildfire, it was a real concern. Can we get out? 7) This proposed project of a rail yard has serious adverse effects on this community directly and indirectly because of the negative impact on air quality, risk, noise, light, aesthetics and traffic. These cannot be mitigated. Find another site away from residential and park areas. Would any of you be willing to live within 500 feet of a Rail Yard Maintenance Facility? Carolyn Peter 116 Burgess Irvine, CA 92618	Refer to Comment Response 4 regarding impacts related to land use and zoning. Refer to Comment Response 1 regarding impacts related to noise and traffic, and Comment Response 11-2 regarding impacts related to fire evacuation. Refer to Comment Response 2 regarding impacts related to lighting, visual quality, and aesthetics. Refer to Comment Response 9 regarding impacts related to diesel fuel and particulate matter. Refer to Comment Response 16 regarding impacts related to hazardous materials.
82-1	03/29/22	John Chapman	chapman8544@gmail.com 949-422-6704 237 Carlow, Irvine, CA	To Whom It May Concern: My name is John Chapman a homeower in the Irvine neighborhood of Travata and I am opposed to the OCTA Metrolink Rail Yard. I am shocked, as a long time resident of Irvine that the City would even consider allowing this kind of an addition to our beautiful City. I do understand they have to take this application & go though the steps of reviewing this application. The city needs to unanimously vote NO on this application; as soon as, the process allows them to do so. They are certainly well aware that the entire community of Travata is united in fierce opposition to locating the rail yard in such close proximity to our homes. It is really important that OCTA and City of Irvine officials hear loudly and clearly that the proposed site for the OCTA rail yard must be relocated so that it is not near residents and Great Park users. The negative impacts to our health and well-being cannot be sufficiently mitigated. RESPONSE TO OCTA'S ENVIRONMENTAL REPORT ZONING: The train yard site within Irvine's Great Park is not compatible with the existing institutional zoning designation. A train yard that involves the use of heavy machinery, hazardous chemicals and emits high levels of particulates into the surrounding residential and recreational areas violates the planning area's purpose. Per the MND, 'The Project type is closest to an industrial type' and therefore does not belong in an institutional zone. Why was this land ever sold to OCTA for a rail yard when it is clearly not compatible with the nearby residents and Great Park visitors. AIR QUALITY: The operational impacts from the rail yard will be primarily from diesel particulate matter. The MND notes that as of 2005, the Air Resources Board (Federal Agency) recommended a 1,000 foot buffer between residences and rail yards. (Travata's closest homes are within 500 feet of the train yard's nearest property line.) The next highest impact was determined to be between one-half to one mile from the site, which is where the original site for the rail yard was located along Sand Canyon. At the proposed site, the MND estimates an increased cancer risk for the community of Travata. At a minimum, this finding alone should indicate that a more rigorous study of the negative impacts on nearby residents and park users be undertaken. NOISE: Measurements of sound levels at the site were taken at a time when trains were only passing by Travata and yet they caused substantial spikes in noise near Travata. Once operational, the train noise from many more trains compounded by the longer noise impact of the slowing trains and possible use of the whistle to enter the yard would substantially increase the frequency and duration of the noise spikes. The noise impact alone may explain why Metrolink stations are not located anywhere near residential areas. This is not even taking the sounds from the equipment used in the train yard into consideration. TRAFFIC: Access to the rail yard is along the same single lane road (Marine Way) that is presently well beyond its capacity to handle all users. Travata residents, Great Park users, food bank, distribution center, recycling plant, nursery and soon water park users all are forced onto a single lane road. This road already clearly showed its inadequacy for use as an evacuation road when the Cypress Village community (that includes Travata) was under a voluntary evacuation during the October 2020 wildfire. Traffic was jammed and very slow moving and at a time when the Great Park sports fields were closed due to the pandemic. This inadequate roadway could see the same result as we all witnessed during the Paradise, California fire tragedy. HAZARDOUS MATERIALS: The MND repeatedly uses the word 'normal' when discussing the storage of petroleum products and hazardous chemicals. There is nothing more concerning than having these types of substances within such a short distance of residences and Great Park visitors. On any given day, there might be thousands of people within 1,000 feet of the site. This is very concerning given that we hear constantly about leaks, fires, etc. occurring at industrial sites such as the rail yard. This is a dangerous facility to be located anywhere near to such a busy area and one that already suffers from congested roadways.	Opposition of the Project has been noted and will be considered by OCTA. Refer to Comment Response 4 regarding impacts related to land use and zoning. Refer to Comment Response 9 regarding impacts related to diesel fuel and particulate matter. Refer to Comment Response 1 regarding impacts related to noise and traffic, and Comment Response 11-2 regarding impacts related to fire evacuation. Refer to Comment Response 16 regarding impacts related to hazardous materials.
82-2	03/29/22	John Chapman	chapman8544@gmail.com 949-422-6704 237 Carlow, Irvine, CA	LIGHTING: Nighttime lighting would certainly impact residents' views over the site contrary to the report. As 80% of the train yard's operations will be during the overnight hours, all of the cranes and surrounding area will need to be well lit and quite visible from a large segment of Travata's residences along Marine Way and Ridge Valley. Any resident trying to sleep in the upstairs rooms will definitely look out onto the train yard and will be impacted by the lighting. The MND incorrectly states that field lighting at the Great Park obscures our views anyway which is not true. The sports fields at the Great Park are only lit until 10pm. CONCLUSION: The rail yard project has environmental impacts that will cause substantial adverse effects on humans both directly and indirectly as a result of the negative impacts on air quality, noise, hazardous materials and traffic as discussed herein. These negative impacts cannot be mitigated to make the rail yard project feasible at its' current location. We believe that this rail yard does not belong in the Great Park neighborhood and needs to be relocated away from residents and park visitors. Thank you in advance for your consideration of stopping this proposed rail yard. John Chapman 237 Carlow Irvine CA 92618	Refer to Comment Response 2 regarding impacts related to lighting and visual quality. Section 3.21 of the IS/MND states the Project with mitigation measures would not result in substantial adverse effects on human beings, either directly or indirectly.
83	03/29/22	Christine Chiang	erhpei@yahoo.com	To whom it may concern, The railcar maintenance center at Great park is just a wrong location for Irvine residents. It will affect the Great Park surrounding communities in air quality, noise, lights traffic jam. We have children and family that love to enjoy the outdoors and this facility can adversely affect our health and well being. We do have concerns for this project and hope our voice can be heard. Thank you. Christine Chiang	Refer to Comment Response 1 regarding impacts related to noise, air quality, and traffic. Refer to Comment Response 2 regarding impacts related to lighting.

Comment No.	Date Received	Commentor Name(s)	Contact Info	Comment Received	Response to Comment
84	03/29/22	Patty Olvera	averybusymom2@gmail.com 169 Carlow, Irvine, CA	Hello, I lived in Santa Ana for 35 years before moving to Irvine in 2019. I just love this city. I am a Registered Nurse and retired recently. I am blessed to live in the beautiful neighborhood of Travata. The OCTA rail maintenance facility looks like it will be very efficient, as well as aesthetically pleasing. What you cannot see in the drawings is the amount of noise that it will create. In a recent report that I read, it said that the decibels will be at acceptable levels. I do not believe that this will be the case, especially because the facility will operate mainly throughout the night. This is just my opinion and a suggestion, but I think that most of the opposition will go away if you move this facility to the Southern section of this empty lot as opposed to the Northern section. This would place the rail facility in an industrial area and much further away from homes. While no one wants this facility "in their backyard," it doesn't have to be in anyone's backyard, if you move to the Southern section of this same empty lot. While OCTA only purchased the Northern section of this lot from Orange County, they failed to notice or didn't care about the homes that were 1000 feet away. Maybe Orange County will exchange the Southern sections of this lot with OCTAs Northern section. I know it is not that simple, but it will make a huge difference to the quality of our lives. Sincerely, Patty Olvera, 169 Carlow Irvine, CA 92618	Refer to Comment Response 1 regarding impacts related to noise. Refer to Comment Response 4 regarding impacts related to land use and zoning.
85	03/29/22	Richard and Bonnie Kettering	dbkettering@cox.net 166 Palencia Irvine CA	Bonnie Kettering 166 Palencia Irvine, CA 92618 March 29, 2022 Dear Mayor and council members: Our recently constructed Travata community (55 years and over) has been given a major blow by finding out about the plans to build an OCTA train maintenance facility directly across the street from our community. This project was never disclosed to us in the required disclosure documents, prior to purchasing our properties, and we would have never bought our homes in the Travata development if we had known what was being planned. A 24 hour a day train maintenance facility within 500 feet of our community is totally unacceptable. Noise, light, air/ ground pollution and its visual presence have the potential to drastically alter the quality of our lives and values of our properties. Our community is made up of senior citizens and this is the wrong project for the proposed location. It is our understanding that the OCTA is asking for an additional $273,974 for additional engineering services related to the Metrolink Rail Facility. This will increase that maximum available on the contract to the firm that prepared the Mitigated Negative Declaration to $4.04 million. Our community has submitted numerous comments during the public comment period objecting to the MND and the project as a whole. Additional spending for further work by a firm, Gannett Fleming, Inc., that already produced an unacceptable report is a waste of county funds. At a minimum, OCTA should wait until the end of the public comment period to determine what action to take as far as additional environmental analysis of the Rail Facility. We need to have a meeting with city council and city planner representatives as soon as possible to discuss this matter and to voice our concerns. A meeting at our Travata Community Center with city representatives is requested as soon as possible. This is a very serious matter and we do not want to end up with another "North Irvine - All American Asphalt Plant" nightmare in our backyard. Any help you can give to Travata with these issues is appreciated. Sincerely, Bonnie Kettering	Refer to Comment Response 1 regarding concern over disclosure of project. Refer to Comment Response 1 regarding impacts related to noise, air quality, and traffic. Refer to Comment Response 2 regarding impacts related to lighting. Refer to Comment Response 2 regarding All-American Asphalt.

Appendix K
Mitigation Monitoring and Reporting Program

Metrolink Orange County Maintenance Facility

Prepared for:

Orange County Transportation Authority

550 S. Main St.
Orange, CA 92868
and

Gannett Fleming
20 Pacifica, Suite 430
Irvine, CA 92618

Prepared by:

AECOM
300 S. Grand Ave.
Los Angeles, CA 90071

June 2022

REVISION	DESCRIPTION	DATE
0	Draft Mitigation Monitoring and Reporting Program	4/1/2022
1	Update of Mitigation Measures per coordination with Kizh Nation	5/2/2022

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1. PURPOSE OF THIS MITIGATION MONITORING AND REPORTING PROGRAM

This Mitigation Monitoring and Reporting Program (MMRP) has been prepared pursuant to the California Environmental Quality Act (CEQA) and the State CEQA Guidelines to provide for monitoring of the mitigation measures required by adoption of the Initial Study/Mitigated Negative Declaration (IS/MND) of the Southern California Regional Railroad Authority (SCRRA) Metrolink Commuter Rail System (Metrolink) Orange County Maintenance Facility (hereafter referred to as "OCMF" or "the Project"). Section 21081.6 of the Public Resources Code and Section 15091(d) of the CEQA Guidelines require public agencies to "adopt a reporting or monitoring program for changes to the project which it has adopted or made a condition of project approval in order to mitigate or avoid significant effects on the environment." As the lead agency under CEQA, the Orange County Transportation Authority (OCTA) must define specific reporting and/or monitoring requirements to be enforced during project implementation prior to the Project's final approval.

The MMRP stipulates how all required mitigation measures are to be implemented and completed during the appropriate project phase. It also facilitates documentation necessary to verify that mitigation measures were in fact properly implemented.

2. MITIGATIONS MONITORING AND REPORTING PROGRAM PROCEDURES

2.1 PURPOSE OF THE MMRP

This MMRP gives OCTA the primary responsibility for taking all actions necessary to implement the mitigation measures according to the specifications provided for each measure and for demonstrating that the action has been successfully completed. The OCTA's designated environmental monitor will track and document compliance with mitigation measures, note any problems that may result, and take appropriate action to remedy problems. OCTA, at its discretion, may delegate responsibility for measure implementation and monitoring, or portions thereof, to other responsible individuals and agencies, such as a licensed contractor.

Specific responsibilities for the OCTA include:

- Coordination of all mitigation monitoring activities
- Management of the preparation, approval, and filing of monitoring or permit compliance reports
- Maintenance of records concerning the status of all approved mitigation measures
- Quality control assurance of field monitoring personnel
- Coordination with other agencies regarding compliance with mitigation or permit requirements
- Reviewing and recommending acceptance and certification of implementation documentation
- Acting as a contact for interested parties or surrounding property owners who wish to register concerns regarding environmental issues; verifying any such circumstances; and developing any necessary corrective actions.

2.2 RESOLUTION OF NONCOMPLIANCE COMPLAINTS

Any person or agency may file a complaint regarding noncompliance with the mitigation measures addressed in the MMRP. The complaint shall be directed to OCTA at the mailing address listed below in written form providing detailed information on the purported violation.

Orange County Transit Authority
600 S Main St
Orange, CA 92868

OCTA will investigate any complaints filed to determine the validity of the complaint. If noncompliance with a mitigation measure is verified, OCTA will take the necessary action(s) to remedy the violation. The complainant will receive written confirmation indicating the results of the investigation, including any corrective actions.

2.3 MITIGATION MONITORING AND REPORTING PROGRAM MATRIX

The MMRP is organized in a matrix format.

- The first column identifies the mitigation measure.
- The second column, entitled "Time Frame for Implementation," refers to when monitoring will occur. The timing for implementing mitigation measures and the definition of the approval process has been provided to assist OCTA staff to plan for monitoring activities.
- The third column, entitled "Responsible Party," refers to the agency or other party responsible for ensuring that the mitigation measure is implemented.
- The fourth column, entitled "Monitoring Party," refers to the party that will conduct the monitoring to ensure compliance with the mitigation measure.
- The fifth column, entitled "Monitoring Period", indicates when monitoring will occur during implementation of the Project.

The mitigation measures are presented by environmental issue area.

MITIGATION MEASURE		IMPLEMENTATION TIMEFRAME	RESPONSIBLE PARTY	MONITORING PARTY	MONITORING MILESTONE/ PERIOD
AIR QUALITY					
MM-AQ-1: *Utilize low VOC paint for architectural coating activities during Phase 2 construction.*	To reduce volatile organic compound (VOC) emissions during construction, the Project contractor shall utilize water-based or low VOC interior and exterior paints. The VOC content of the architectural coatings shall comply with the VOC content limits in South Coast Air Quality Management District (SCAQMD) Rule 1113 or not exceed 100 grams per liter, whichever is lower. To ensure that low VOC paint will be used during Project construction, this requirement will be included in applicable bid documents, purchase orders, and contracts. Successful contractor(s) must demonstrate the ability to supply the compliant architectural coatings for use prior to any coating activities. A copy of each proposed architectural coating Material Safety Data Sheet and VOC content shall be available upon request. Alternatively, the contractor may utilize tilt-up concrete buildings that do not require the use of architectural coatings.	Pre-Construction and Construction	Construction Contractors	OCTA	Incorporation of this mitigation measure in the final design specifications provided to the contractor Equipment log provided at intervals during construction
BIOLOGICAL RESOURCES					
MM-BIO-1: *Designate Project Biological Monitor(s).*	Ground-disturbing activities during construction shall occur outside of the nesting bird season (generally February 15 through September 1). If avoiding the nesting season is not practicable, the following additional measures shall be employed: • A pre-construction nesting survey shall be conducted by a qualified biologist within 3 days prior to the start of construction activities to determine whether active nests are present within or directly adjacent to the construction zone. All nests found shall be recorded. • If construction activities must occur within 300 feet of an active nest of any passerine bird or within 500 feet of an active nest of any raptor, with the exception of an emergency, a qualified biologist shall monitor the nest on a weekly basis, and the activity shall be postponed until the biologist determines that the nest is no longer active. • If the recommended nest avoidance zone is not feasible, the qualified biologist shall determine whether an exception is possible and obtain concurrence from the resource agencies before construction work can resume within the avoidance buffer zone. All work shall cease within the avoidance buffer zone until either agency concurrence is obtained or the biologist determines that the adults and young are no longer reliant on the nest site.	Final Design and Construction	Final Design and Construction Contractors	OCTA	Final Plan Check and Ongoing during Construction
MM-BIO-2: *Compliance with USACE SAMP Mitigation Procedures.*	Pursuant to Special Area Management Plan (SAMP) requirements, if a permanent loss of regulated waters or streambed occurs because of the Project, compensatory mitigation (purchase of credit at an in-lieu fee or mitigation bank approved by the resource agencies, or applicant proposed enhancement or establishment of waters or streambed) shall be provided at a minimum ratio of 1:1. Temporary impacts shall be restored to pre-Project conditions to the extent practicable.	Final Design and Construction	Final Design and Construction Contractors	OCTA and USACE	Final Plan Check and Ongoing during Construction
CULTURAL RESOURCES					
MM-CUL-1: *Cultural Resources Awareness Training.*	Prior to construction, OCTA shall retain a qualified archaeologist who meets the Secretary of the Interior's Guidelines for Archaeology (36 CFR Part 61). The qualified archaeologist shall prepare a Cultural and Tribal Cultural Resources Awareness Training as part of the Project Worker Environmental Awareness Program (WEAP). The training will instruct workers as to the laws protecting cultural and tribal cultural resources and also give examples of the kinds of resources that can be reasonably expected to be found in the Area of Potential Effect (APE). An environmental compliance contact responsible for enforcing mitigation measures and who is to be notified in the event of a find will be identified in the training. Training will be delivered to all staff involved in ground-disturbing activities prior to their working on the project.	Final Design and Construction	Final Design and Construction Contractors	OCTA	Final Plan Check and Ongoing during Construction

MITIGATION MEASURE		IMPLEMENTATION TIMEFRAME	RESPONSIBLE PARTY	MONITORING PARTY	MONITORING MILESTONE/ PERIOD
MM-CUL-2: *Preparation of a Cultural Resources Monitoring and Discovery Plan.*	Prior to construction, a project-specific cultural resources monitoring and discovery plan (CRMDP) will be developed by a qualified archaeologist who meets the Secretary of the Interior's Guidelines for Archaeology (36 CFR Part 61). The monitoring plan should identify what construction activities that occur in native soils would require archaeological and tribal monitoring, describe monitoring procedures, and outline the protocol to be followed in the event of a find. Criteria will be defined and triggers identified as to when further consultation is required for the treatment of finds. Plans of treatment of typical finds will be detailed, as will a plan of treatment for any human remains that are inadvertently encountered. If a potentially significant discovery is made and cannot feasibly be avoided, then additional work, potentially including data recovery excavations, may be required. Key staff will be identified, and the process of notification and consultation will be specified within the CRMDP. A curation plan will also be outlined within the CRMDP. All work should be conducted under the direction of a qualified archaeological Principal Investigator who meets the Secretary of the Interior's standards for archaeology. Consulting tribes under AB52 for the Project shall have the opportunity to review and comment on the draft CRMDP.	Final Design and Construction	Final Design and Construction Contractors	OCTA	Final Plan Check and Ongoing during Construction
PALEONTOLOGICAL RESOURCES					
MM-GEO-1: *Worker Environmental Awareness Program.*	Prior to construction, OCTA shall retain a qualified paleontologist who meets the requirements to be included in Orange County's list of qualified paleontologists. The qualified paleontologist shall prepare a WEAP. The WEAP will describe the types of resources that may be encountered during construction, the laws protecting those resources, and the procedures to follow when finds are encountered. The WEAP will be presented either in person or in video form to all construction employees involved in ground-disturbing activities before they begin work at the Project Site.	Final Design and Construction	Final Design and Construction Contractors	OCTA	Final Plan Check and Ongoing during Construction
MM-GEO-2: *Response to Unanticipated Paleontological Finds.*	If buried paleontological resources are uncovered during construction, all work shall be halted in the vicinity of the discovery until a qualified paleontologist can visit the site of discovery and assess the significance of the resource and, if necessary, recommend treatment.	Construction	Construction Contractors	OCTA	Ongoing during Construction
HAZARDS AND HAZARDOUS MATERIALS					
MM-HAZ-1: *Notifications to Federal, State and Local Agencies.*	The Project applicant shall notify the appropriate agencies (e.g., Orange County Health Care Agency [OCHCA], Department of Toxic Substances Control [DTSC], United States Environmental Protection Agency [EPA], or the Regional Water Quality Board) regarding soil, soil gas and/or groundwater contamination in connection with the ongoing military clean-up site associated with the former El Toro Marine Corps Air Station (MCAS) Superfund site.	Final Design and Construction	OCTA	OCHCA, DTSC, EPA, Santa Ana Regional Quality Board	Final Plan Check
MM-HAZ-2: *Groundwater Monitoring Requirements.*	Where the Project Site construction and operational activities coincide with the current groundwater monitoring systems (e.g., wells, water transfer conveyance lines), the requirements of the Institutional Control (IC) in connection with IRP Site 24 for the ongoing military clean-up site associated with the former El Toro MCAS Superfund site shall be adhered to in order to protect human health and the environment from potential hazardous materials exposures.	Final Design and Construction	Construction Contractors	OCTA	Final Plan Check and Ongoing during Construction
MM-HAZ-3: *Soil Assessment for Hazardous Materials.*	Prior to construction activities at the Project Site, if required by the state or local regulatory oversight agencies, then further assessment including soil, soil vapor and/or groundwater investigations shall be conducted to reveal the presence, if any, of potential hazardous materials at the Project Site that were identified as a result of the Phase I ESA, and would assist in determining further mitigations required to address human health and/or the environmental impacts due to potential hazardous materials exposures.	Final Design and Construction	OCTA and Construction Contractors	EPA	Final Plan Check and Ongoing during Construction

MITIGATION MEASURE		IMPLEMENTATION TIMEFRAME	RESPONSIBLE PARTY	MONITORING PARTY	MONITORING MILESTONE/ PERIOD
NOISE					
MM-NOI-1: *Relocate Pile Driving Activities*.	If feasible, relocate Project elements requiring pile driving to locations greater than 250 feet from occupied buildings.	Final Design and Construction	Final Design and Construction Contractors	OCTA	Final Plan Check and Ongoing during Construction
MM-NOI-2: *Alternative Pile Insertion*.	If MM-NOI-1 is not feasible, use a less intrusive form of pile insertion, such as pre-augured piling.	Final Design and Construction	Final Design and Construction Contractors	OCTA	Final Plan Check and Ongoing during Construction
MM-NOI-3: *Schedule Pile Driving Activities.*	Arrange to conduct pile driving activities during a period when the affected building(s) are not in use (such as Saturdays).	Final Design and Construction	Final Design and Construction Contractors	OCTA	Final Plan Check and Ongoing during Construction

MITIGATION MEASURE		IMPLEMENTATION TIMEFRAME	RESPONSIBLE PARTY	MONITORING PARTY	MONITORING MILESTONE/ PERIOD
TRIBAL CULTURAL RESOURCES					
MM-TCR-1: *Native American Monitoring.*	Retain a Native American Monitor Prior to Commencement of Ground-Disturbing Activities. A. The project applicant/lead agency shall retain a Native American Monitor from or approved by the Gabrieleño Band of Mission Indians – Kizh Nation. The monitor shall be retained prior to the commencement of any "ground-disturbing activity" for the subject project at all project locations (i.e., both on-site and any off-site locations that are included in the project description/definition and/or required in connection with the project, such as public improvement work). "Ground-disturbing activity" shall include, but is not limited to, demolition, pavement removal, potholing, auguring, grubbing, tree removal, boring, grading, excavation, drilling, and trenching. B. A copy of the executed monitoring agreement shall be submitted to the lead agency prior to the earlier of the commencement of any ground-disturbing activity, or the issuance of any permit necessary to commence a ground-disturbing activity. C. The monitor will complete daily monitoring logs that will provide descriptions of the relevant ground-disturbing activities, the type of construction activities performed, locations of ground-disturbing activities, soil types, cultural-related materials, and any other facts, conditions, materials, or discoveries of significance to the Tribe. Monitor logs will identify and describe any discovered TCRs, including but not limited to, Native American cultural and historical artifacts, remains, places of significance, etc., (collectively, tribal cultural resources, or "TCR"), as well as any discovered Native American (ancestral) human remains and burial goods. Copies of monitor logs will be provided to the project applicant/lead agency upon written request to the Tribe. D. On-site tribal monitoring shall conclude upon the latter of the following (1) written confirmation to the Kizh from a designated point of contact for the project applicant/lead agency that all ground-disturbing activities and phases that may involve ground-disturbing activities on the project site or in connection with the project are complete; or (2) a determination and written notification by the Kizh to the project applicant/lead agency that no future, planned construction activity and/or development/construction phase at the project site possesses the potential to impact Kizh TCRs. E. Upon discovery of any TCRs, all construction activities in the immediate vicinity of the discovery shall cease (i.e., not less than the surrounding 50 feet) and shall not resume until the discovered TCR has been fully assessed by the Kizh monitor and/or Kizh archaeologist. The Kizh will recover and retain all discovered TCRs in the form and/or manner the Tribe deems appropriate, in the Tribe's sole discretion, and for any purpose the Tribe deems appropriate, including for educational, cultural and/or historic purposes.	Final Design and Construction	Final Design and Construction Contractors	OCTA and Kizh Nation	Final Plan Check and Ongoing during Construction

MITIGATION MEASURE		IMPLEMENTATION TIMEFRAME	RESPONSIBLE PARTY	MONITORING PARTY	MONITORING MILESTONE/ PERIOD
MM-TCR-2: *Unanticipated Discovery of Human Remains and Associated Funerary Objects*	Unanticipated Discovery of Human Remains and Associated Funerary Objects. A. Native American human remains are defined in PRC 5097.98 (d)(1) as an inhumation or cremation, and in any state of decomposition or skeletal completeness. Funerary objects, called associated grave goods in Public Resources Code Section 5097.98, are also to be treated according to this statute. B. If Native American human remains and/or grave goods discovered or recognized on the project site, then all construction activities shall immediately cease. Health and Safety Code Section 7050.5 dictates that any discoveries of human skeletal material shall be immediately reported to the County Coroner and all ground-disturbing activities shall immediately halt and shall remain halted until the coroner has determined the nature of the remains. If the coroner recognizes the human remains to be those of a Native American or has reason to believe they are Native American, he or she shall contact, by telephone within 24 hours, the Native American Heritage Commission, and Public Resources Code Section 5097.98 shall be followed. C. Human remains and grave/burial goods shall be treated alike per California Public Resources Code section 5097.98(d)(1) and (2). D. Construction activities may resume in other parts of the project site at a minimum of 200 feet away from discovered human remains and/or burial goods, if the Kizh determines in its sole discretion that resuming construction activities at that distance is acceptable and provides the project manager express consent of that determination (along with any other mitigation measures the Kizh monitor and/or archaeologist deems necessary). (CEQA Guidelines Section 15064.5(f).) E. Preservation in place (i.e., avoidance) is the preferred manner of treatment for discovered human remains and/or burial goods. Any historic archaeological material that is not Native American in origin (non-TCR) shall be curated at a public, non-profit institution with a research interest in the materials, such as the Natural History Museum of Los Angeles County or the Fowler Museum, if such an institution agrees to accept the material. If no institution accepts the archaeological material, it shall be offered to a local school or historical society in the area for educational purposes. F. Any discovery of human remains/burial goods shall be kept confidential to prevent further disturbance.	Final Design and Construction	Final Design and Construction Contractors	OCTA and Kizh Nation	Final Plan Check and Ongoing during Construction

MITIGATION MEASURE		IMPLEMENTATION TIMEFRAME	RESPONSIBLE PARTY	MONITORING PARTY	MONITORING MILESTONE/ PERIOD
MM-TCR-3: *Procedures for Burials and Funerary Remains.*	Procedures for Burials and Funerary Remains. A. As the Most Likely Descendant ("MLD"), the Koo-nas-gna Burial Policy shall be implemented. To the Tribe, the term "human remains" encompasses more than human bones. In ancient as well as historic times, Tribal Traditions included, but were not limited to, the preparation of the soil for burial, the burial of funerary objects with the deceased, and the ceremonial burning of human remains. B. If the discovery of human remains includes four or more burials, the discovery location shall be treated as a cemetery and a separate treatment plan shall be created. C. The prepared soil and cremation soils are to be treated in the same manner as bone fragments that remain intact. Associated funerary objects are objects that, as part of the death rite or ceremony of a culture, are reasonably believed to have been placed with individual human remains either at the time of death or later; other items made exclusively for burial purposes or to contain human remains can also be considered as associated funerary objects. Cremations will either be removed in bulk or by means as necessary to ensure complete recovery of all sacred materials. D. In the case where discovered human remains cannot be fully documented and recovered on the same day, the remains will be covered with muslin cloth and a steel plate that can be moved by heavy equipment placed over the excavation opening to protect the remains. If this type of steel plate is not available, a 24-hour guard should be posted outside of working hours. The Tribe will make every effort to recommend diverting the project and keeping the remains in situ and protected. If the project cannot be diverted, it may be determined that burials will be removed. E. In the event preservation in place is not possible despite good faith efforts by the project applicant/developer and/or landowner, before ground-disturbing activities may resume on the project site, the landowner shall arrange a designated site location within the footprint of the project for the respectful reburial of the human remains and/or ceremonial objects. F. Each occurrence of human remains and associated funerary objects will be stored using opaque cloth bags. All human remains, funerary objects, sacred objects and objects of cultural patrimony will be removed to a secure container on site if possible. These items should be retained and reburied within six months of recovery. The site of reburial/repatriation shall be on the project site but at a location agreed upon between the Tribe and the landowner at a site to be protected in perpetuity. There shall be no publicity regarding any cultural materials recovered. G. The Tribe will work closely with the project's qualified archaeologist to ensure that the excavation is treated carefully, ethically and respectfully. If data recovery is approved by the Tribe, documentation shall be prepared and shall include (at a minimum) detailed descriptive notes and sketches. All data recovery data recovery-related forms of documentation shall be approved in advance by the Tribe. If any data recovery is performed, once complete, a final report shall be submitted to the Tribe and the NAHC. The Tribe does NOT authorize any scientific study or the utilization of any invasive and/or destructive diagnostics on human remains.	Final Design and Construction	Final Design and Construction Contractors	OCTA and Kizh Nation	Final Plan Check and Ongoing during Construction

ATTACHMENT C

RESOLUTION NO. 2022-025

A RESOLUTION OF THE BOARD OF DIRECTORS OF THE ORANGE COUNTY TRANSPORTATION AUTHORITY ADOPTING A MITIGATED NEGATIVE DECLARATION FOR THE METROLINK ORANGE COUNTY MAINTENANCE FACILITY

WHEREAS, the Orange County Transportation Authority (OCTA), acting as the Lead Agency as defined in the California Environmental Quality Act (CEQA), Public Resources Code §§21000 et seq., prepared an Initial Study for a new Metrolink maintenance facility located on a 21.3-acre parcel of land owned by OCTA in the City of Irvine (Project); and

WHEREAS, the purpose of the Initial Study was to determine whether the Project may have potential significant effects on the environment; and

WHEREAS, based upon the findings in the Initial Study, OCTA prepared a Mitigated Negative Declaration for the Project and published a Notice of Intent to adopt same in accordance with CEQA and the CEQA guidelines (14 California Code of Regulations §§15000 et seq.)

NOW, THEREFORE, BE IT RESOLVED that the OCTA Board of Directors finds as follows:

1. The Board of Directors has considered the Initial Study, the Mitigated Negative Declaration, the comments received during the public review process, the staff report and all other documents, oral testimony and other evidence presented at the meeting on this Resolution and finds that there is not substantial evidence in light of the whole record that the Project will have any significant impacts on the environment.
2. The Mitigated Negative Declaration reflects OCTA's independent judgment and analysis.
3. The record of proceedings on which the Board of Director's decision is based is on file with the Clerk of the Board at OCTA, 550 South Main Street, Orange, California.

NOW, THEREFORE, BE IT FURTHER RESOLVED that the Board of Directors adopt the Mitigated Negative Declaration.

PASSED, ADOPTED and APPROVED on this _____ day of _____, 2022.

_____
MARK A. MURPHY, CHAIRMAN
ORANGE COUNTY TRANSPORATION AUTHORITY

APPROVED AS TO FORM:

_____
JAMES M. DONICH
GENERAL COUNSEL

ATTEST:

I, Andrea West, Clerk of the Board of Directors of the Orange County Transportation Authority, do hereby certify that the foregoing Resolution No. 2022-025, by the following votes:

AYES:

NOES:

ABSENT:

_____
Andrea West
CLERK OF THE BOARD

Approval to Adopt the Mitigated Negative Declaration Finding for the Orange County Maintenance Facility Project

Project Background

The Orange County Transportation Authority (OCTA) and the City of Irvine (City) have a long partnership in the planning and acquisition of the Orange County Maintenance Facility (OCMF) property.

2010

OCTA provides the City with property for the Sand Canyon Grade Separation

In return, the City reserves the OCMF property for OCTA with an option to acquire the property

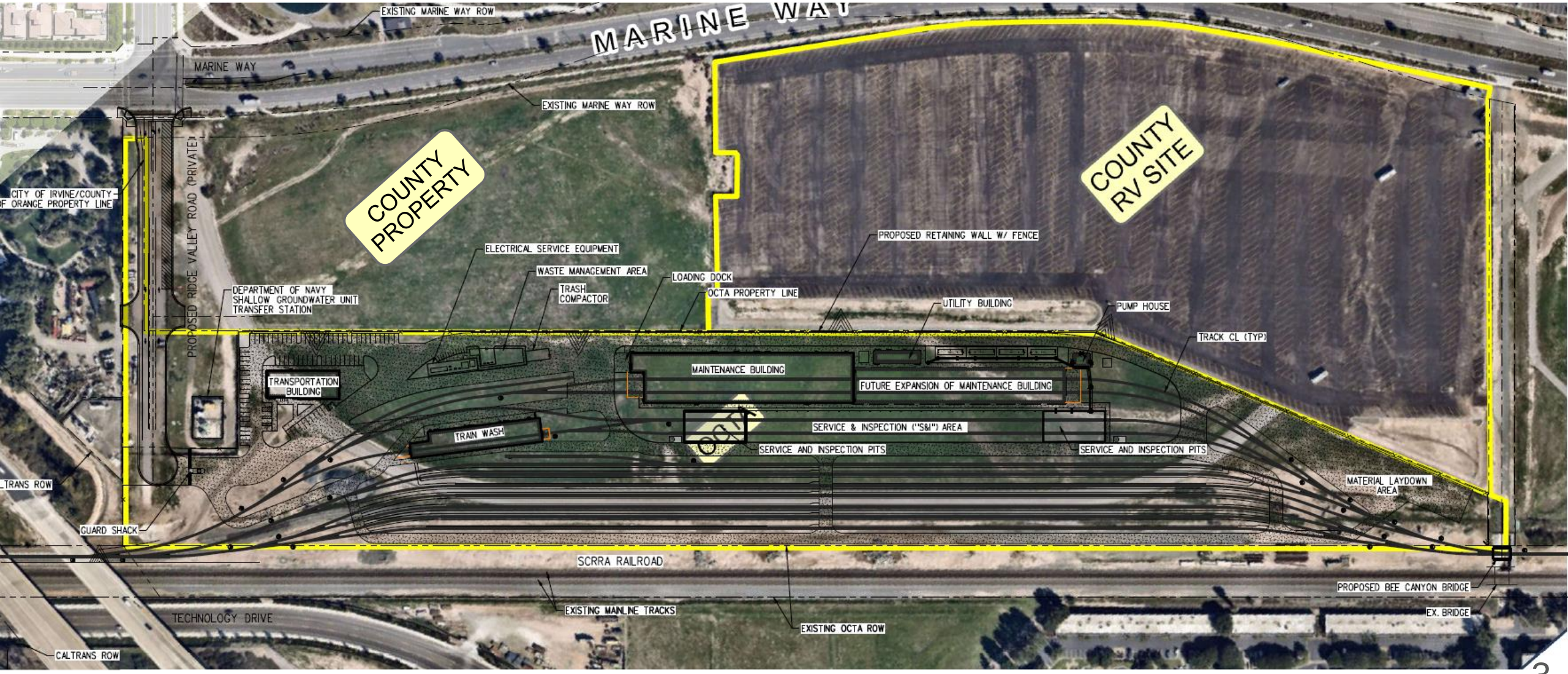
2015

OCTA chooses to acquire OCMF property

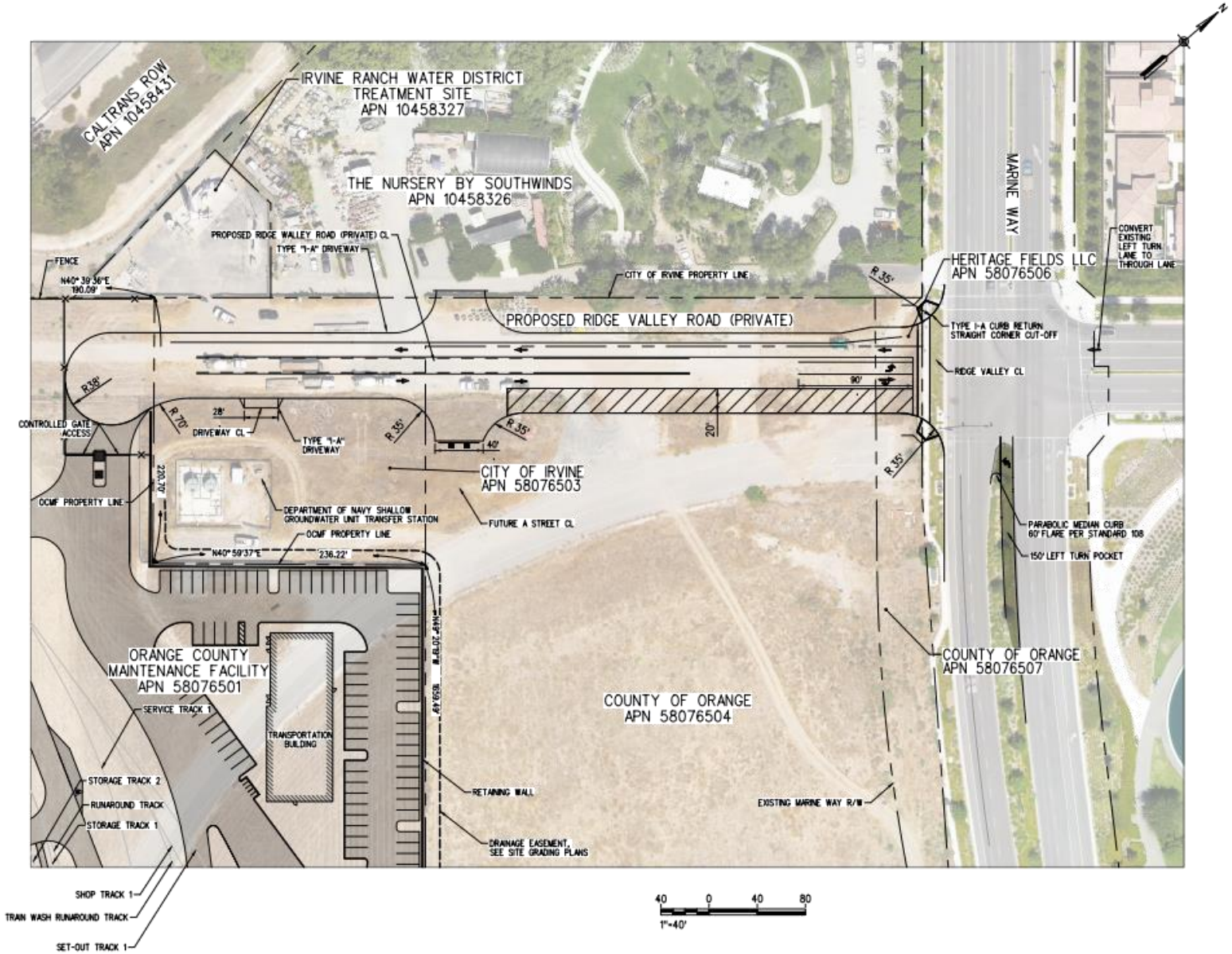
The agreement between OCTA and the City states that the property will be used as a commuter rail maintenance facility

Sand Canyon Grade Separation

Project Overview



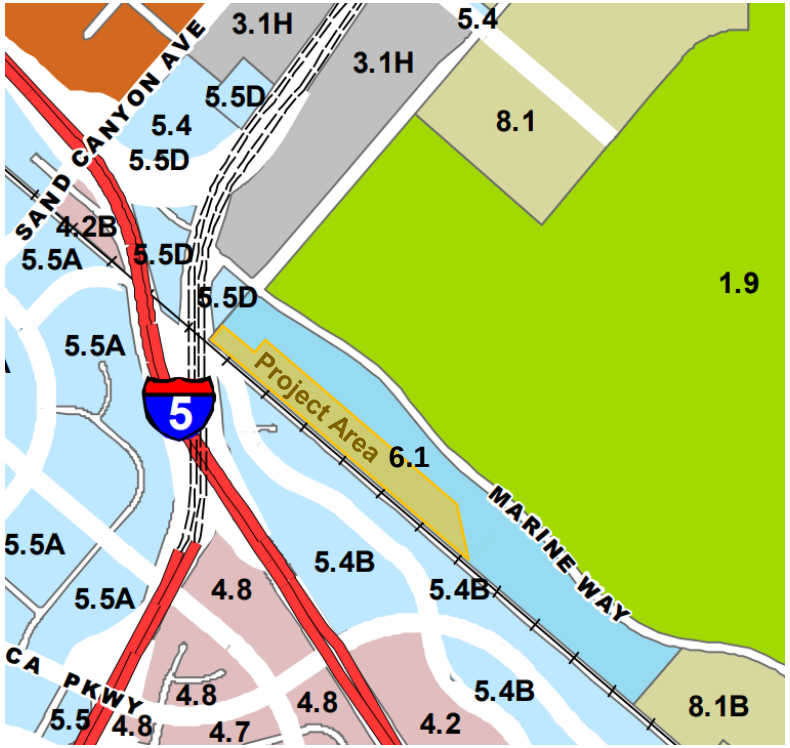
Ridge Valley Extension



City Zoning

OCMF:

- Located in City Planning Area 51
- Conditionally allowable under use zoning code **6.1 Institutional**
- Requires a Conditional Use Permit, which is currently under review by the City



6.1 Institutional	5.2 Industrial
Intended for public and quasi-public facilities, including government facilities, which the OCMF will be.	Typically used for private land use where raw materials can be manufactured into goods. The OCMF will not be manufacturing anything and will be a public use.

Project Need

Efficiency

- Eliminates need to move empty trains to facilities in other counties at the end of the day
- Allows better use of Metrolink's existing fleet

Public Transit

- Serves long-term public transportation needs by accommodating a future expansion of Metrolink's fleet

Maintenance

- Provides needed additional service capacity
- Serves long-term maintenance of public rail facilities

Project Benefits

Environment

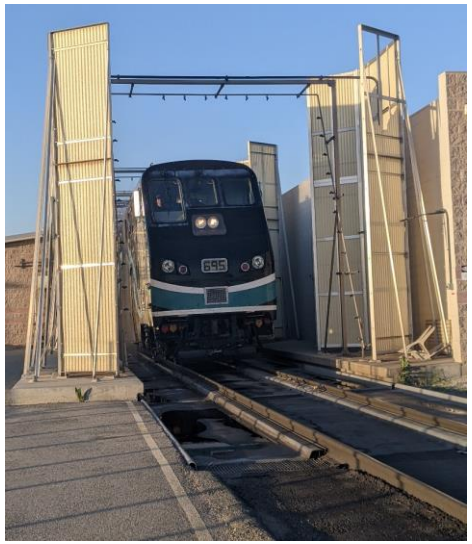
- Reduces greenhouse gas emissions by getting vehicles off the road
- Reduces emissions by eliminating need to move empty trains to other facilities

Public Transit

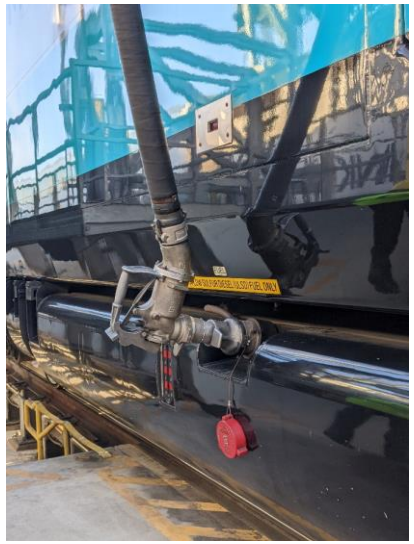
- Accommodates future expansion of the Metrolink system
- Allows for more frequent service
- Improves on-time train performance

Site Activities

- Interior cleaning
- Inspections of brakes and other parts
- Fueling
- Light repairs
- Train storage
- Train washing
- Sand replenishment
- Restroom cleaning



Automated Train Wash



Fueling

Service & Inspection Station

Dump Station

***** Heavy repairs trains will travel to other facilities *****

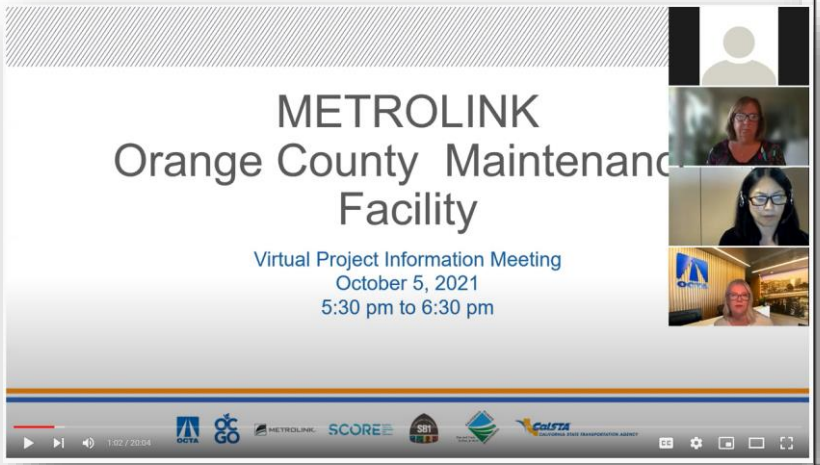
Outreach

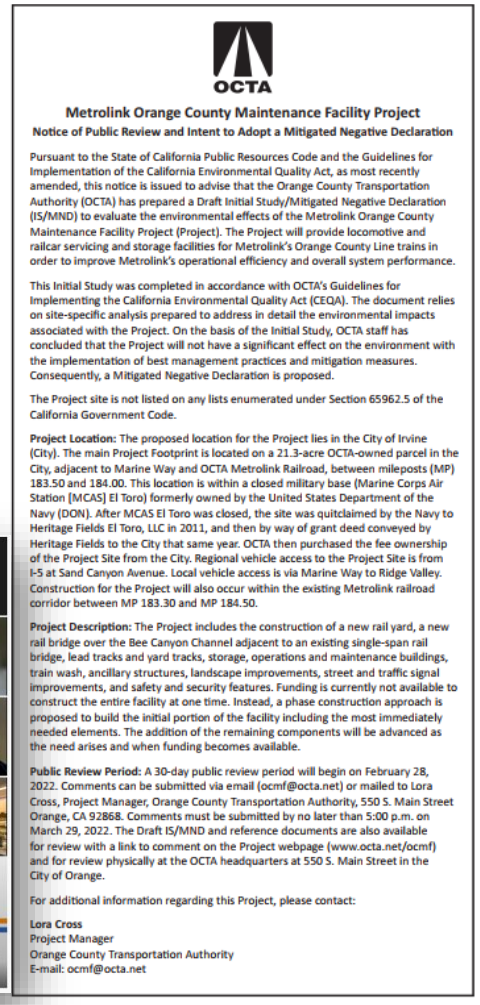
Meetings:

- Oct. 5 - Virtual Meeting
- Nov. 4 - OCTA Representative at Travata Community
- Jan. 12 - Travata Community Meeting
- March 14 - Travata Community Meeting

Notices/Collateral:

- Travata Community Email System
- Physical Notices
- Notice of Intent
- Social Media
- Newspaper Ads
- Project Collateral and Website





OCTA

Metrolink Orange County Maintenance Facility Project

Notice of Public Review and Intent to Adopt a Mitigated Negative Declaration

Pursuant to the State of California Public Resources Code and the Guidelines for Implementation of the California Environmental Quality Act, as most recently amended, this notice is issued to advise that the Orange County Transportation Authority (OCTA) has prepared a Draft Initial Study/Mitigated Negative Declaration (IS/MND) to evaluate the environmental effects of the Metrolink Orange County Maintenance Facility Project (Project). The Project will provide locomotive and railcar servicing and storage facilities for Metrolink's Orange County Line trains in order to improve Metrolink's operational efficiency and overall system performance.

This Initial Study was completed in accordance with OCTA's Guidelines for Implementing the California Environmental Quality Act (CEQA). The document relies on site-specific analysis prepared to address in detail the environmental impacts associated with the Project. On the basis of the Initial Study, OCTA staff has concluded that the Project will not have a significant effect on the environment with the implementation of best management practices and mitigation measures. Consequently, a Mitigated Negative Declaration is proposed.

The Project site is not listed on any lists enumerated under Section 65962.5 of the California Government Code.

Project Location: The proposed location for the Project lies in the City of Irvine (City). The main Project Footprint is located on a 21.3-acre OCTA-owned parcel in the City, adjacent to Marine Way and OCTA Metrolink Railroad, between mileposts (MP) 183.50 and 184.00. This location is within a closed military base (Marine Corps Air Station [MCAS] El Toro) formerly owned by the United States Department of the Navy (DON). After MCAS El Toro was closed, the site was quitclaimed by the Navy to Heritage Fields El Toro, LLC in 2011, and then by way of grant deed conveyed by Heritage Fields to the City that same year. OCTA then purchased the fee ownership of the Project Site from the City. Regional vehicle access to the Project Site is from I-5 at Sand Canyon Avenue. Local vehicle access is via Marine Way to Ridge Valley. Construction for the Project will also occur within the existing Metrolink railroad corridor between MP 183.30 and MP 184.50.

Project Description: The Project includes the construction of a new rail yard, a new rail bridge over the Bee Canyon Channel adjacent to an existing single-span rail bridge, lead tracks and yard tracks, storage, operations and maintenance buildings, train wash, ancillary structures, landscape improvements, street and traffic signal improvements, and safety and security features. Funding is currently not available to construct the entire facility at one time. Instead, a phase construction approach is proposed to build the initial portion of the facility including the most immediately needed elements. The addition of the remaining components will be advanced as the need arises and when funding becomes available.

Public Review Period: A 30-day public review period will begin on February 28, 2022. Comments can be submitted via email (ocmf@octa.net) or mailed to Lora Cross, Project Manager, Orange County Transportation Authority, 550 S. Main Street Orange, CA 92868. Comments must be submitted by no later than 5:00 p.m. on March 29, 2022. The Draft IS/MND and reference documents are also available for review with a link to comment on the Project webpage (www.octa.net/ocmf) and for review physically at the OCTA headquarters at 550 S. Main Street in the City of Orange.

For additional information regarding this Project, please contact:

Lora Cross
Project Manager
Orange County Transportation Authority
E-mail: ocmf@octa.net

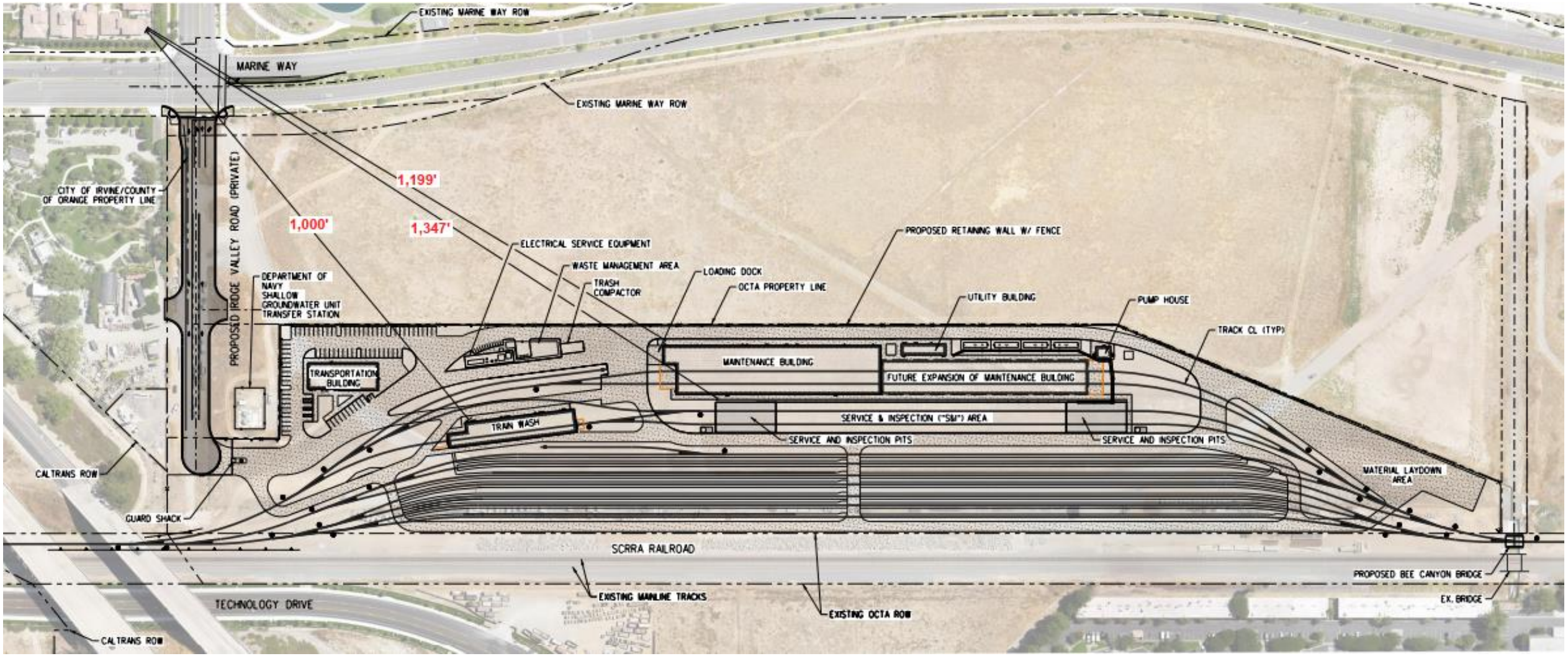
Common Concerns

- Visual
- Noise
- Air Quality
- Traffic

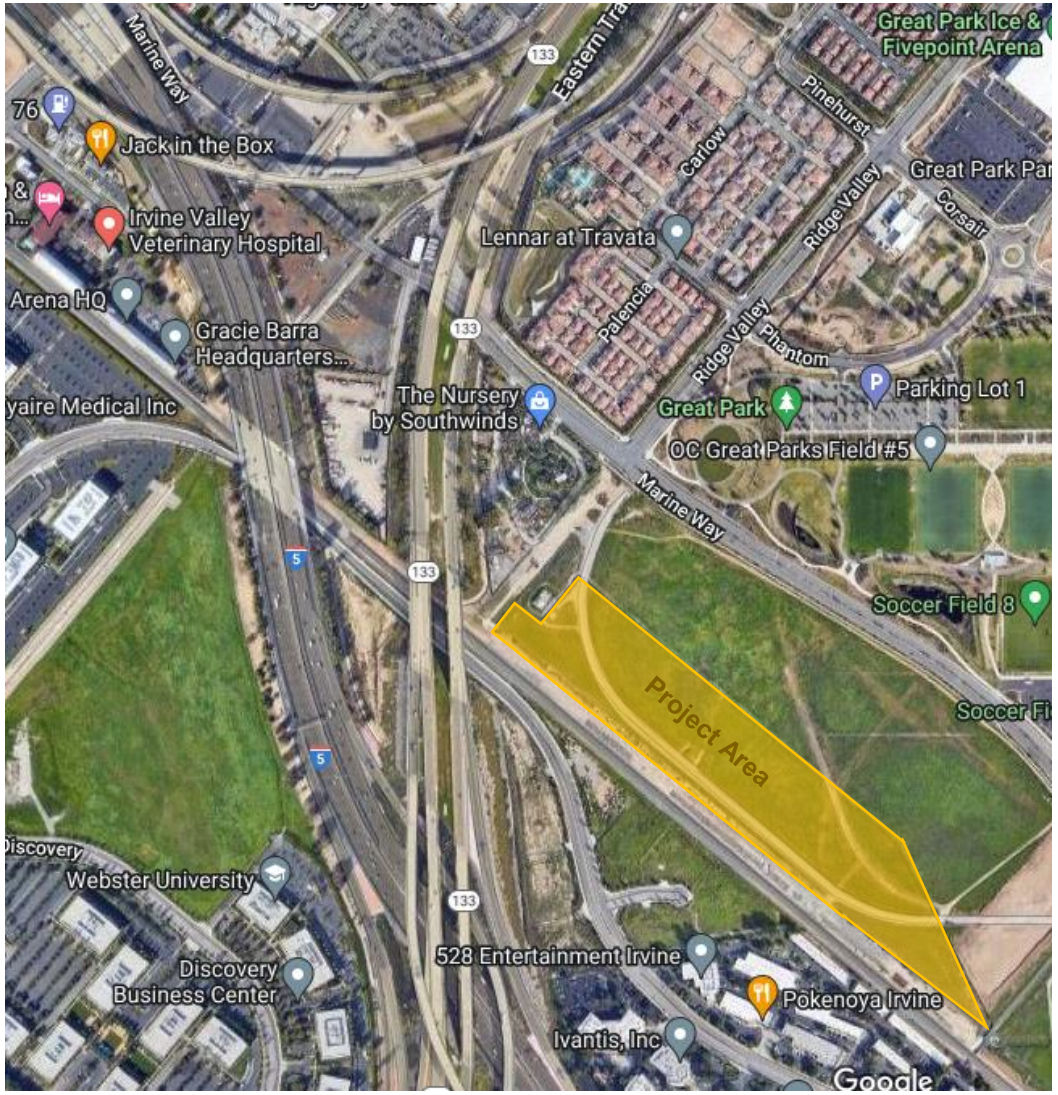
Visual

Study shows no significant impacts to aesthetics or glare from the maintenance facility.

Site Plan


EXISTING MARINE WAY ROW
MARINE WAY
EXISTING MARINE WAY ROW
CITY OF IRVINE/COUNTY OF ORANGE PROPERTY LINE
PROPOSED RIDGE VALLEY ROAD (PRIVATE)
1,199'
1,000'
1,347'
ELECTRICAL SERVICE EQUIPMENT
WASTE MANAGEMENT AREA
TRASH COMPACTOR
LOADING DOCK
OCTA PROPERTY LINE
PROPOSED RETAINING WALL W/ FENCE
UTILITY BUILDING
PUMP HOUSE
TRACK CL (TYP)
DEPARTMENT OF NAVY SHALLOW GROUNDWATER UNIT TRANSFER STATION
TRANSPORTATION BUILDING
MAINTENANCE BUILDING
FUTURE EXPANSION OF MAINTENANCE BUILDING
TRAIN WASH
SERVICE & INSPECTION ("S&I") AREA
SERVICE AND INSPECTION PITS
SERVICE AND INSPECTION PITS
CALTRANS ROW
GUARD SHACK
MATERIAL LAYDOWN AREA
SCRRA RAILROAD
PROPOSED BEE CANYON BRIDGE
EX. BRIDGE
TECHNOLOGY DRIVE
EXISTING MAINLINE TRACKS
EXISTING OCTA ROW
CALTRANS ROW

Noise



Study shows no significant impacts to noise from construction or operations of the facility.

Current ambient noise at Travata Community	63-68 decibels
Noise at Travata Community during construction	68 decibels or below
Noise at Travata Community during operations of facility	68 decibels or below

Silent Library
30 decibels

Rainfall
50 decibels

Busy Traffic
70 decibels

Vacuum Cleaner
80 decibels

Lawn Mower
100 decibels

Rock Band
110 decibels

Jackhammer
130 decibels

Air Quality Advancements

Location of facility will reduce emissions by eliminating need to move empty trains to other counties at the end of the day and decreasing train idling due to more efficient logistics.

- Metrolink is the first passenger rail agency in the nation to be **completely powered by renewable fuel**
- Nearly 75 percent of Metrolink's locomotives use Tier 4 clean technology, which **reduce emissions by up to 85 percent** compared to older models

Air Quality

Study shows no significant impacts to air quality

SCAQMD threshold for maximum cancer risk in an age restricted community	10 in 1 million
Maximum modeled cancer risk of Project	1 in 1 million

- SCAQMD threshold for the maximum excess cancer risk for an individual in an age restricted community is 10 in 1 million. This project is well below the established threshold with 1 in 1 million.
- VOC emissions during construction can be mitigated by using water based or low VOC interior and exterior paints

SCAQMD – South Coast Air Quality Management District
VOC – volatile organic compounds

Traffic

Study shows no significant impacts to traffic

80 employees would access the facility daily

10 fleet vehicles will work out of the facility

20 other vehicles including deliveries and visitors

---

220 total daily trips in and out of the facility each day

Schedule and Funding

- **2022** — Complete Environmental Review
- **2023** — Design Phase Begins
- **2024**
- **2025** — Complete Design Phase
- **2026** — Construction Begins
- **2027**
- **2028** — Project Completion (does not include the maintenance building)

Total project cost is $150 - $165 million:

- $54 million state grant is funding environmental, design, and a portion of construction

Questions?

More information about the project: **octa.net/OCMF**

More information about Metrolink: **MetrolinkTrains.com**