

# **Orange County Transportation Authority**

# Board Agenda Monday, April 14, 2025 at 9:30 a.m.

550 South Main Street, Orange, California

#### **Board Members**

Doug Chaffee, Chair Jamey M. Federico, Vice Chair Valerie Amezcua Mike Carroll Katrina Foley Patrick Harper Michael Hennessey Fred Jung Stephanie Klopfenstein Carlos A. Leon Janet Nguyen Tam T. Nguyen Vicente Sarmiento John Stephens Kathy Tavoularis Mark Tettemer Donald P. Wagner Lan Zhou, Ex-Officio

#### **Teleconference Location:**

926 J Street Sacramento, CA

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 Board 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 or access live streaming of the Board meetings by clicking this link: https://octa.legistar.com/Calendar.aspx

#### **In-Person Comment**

Members of the public may attend in-person and address the Board regarding any item within the subject matter jurisdiction of OCTA. Please complete a speaker's card and submit it to the Clerk of the Board and notify the Clerk regarding the agenda item number on which you wish to speak. Speakers will be recognized by the Chair at the time of the agenda item is to be considered by the Board. Comments will be limited to three minutes. The Brown Act prohibits the Board from either discussing or taking action on any non-agendized items.

# **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

# Roll Call

# Invocation

**Director Stephens** 

# Pledge of Allegiance

**Director Leon** 

# **Closed Session**

There are no Closed Sessions scheduled.

# **Special Calendar**

# **Orange County Transportation Authority Special Calendar Matters**

1. Administration of the Oath of Office to New and Returning Orange County Transportation Authority Board of Directors

#### Overview

Oath of Office will be administered to new Board Member Kathy Tavoularis and returning Board Member Tam T. Nguyen.

Jason Lee/James G. Beil

#### Overview

The four reinforcement areas identified in the Coastal Rail Resiliency Study adjacent to the Orange County Transportation Authority-owned railroad right-of-way, in the vicinity of Mile Post 203.83 to 204.40 and 206.10 to 206.70 on the Orange Subdivision, have continued to experience coastal erosion and the hillside continues to move incrementally, posing an imminent threat to the railroad corridor and public safety if immediate necessary actions are not taken to mitigate the threat. Measures must be taken immediately to stabilize the track and maintain passenger and freight rail service.

# Recommendation(s)

- A. Adopt Resolution No. 2025-025 and authorize the Chief Executive Officer to take all necessary actions to address the emergency need for railroad track stabilization in the vicinity of Mile Post 203.83 to 204.40 and 206.10 to 206.70 on the Orange Subdivision, and to return to the Board of Directors, as required, to report on the status thereof.
- B. Authorize the Chief Executive Officer to take any and all necessary actions in regard to agreements with partner public agencies to address the emergency need for railroad track stabilization in the vicinity of Mile Post 203.83 to 204.40 and 206.10 to 206.70 on the Orange Subdivision.
- C. Amend the Orange County Transportation Authority's Fiscal Year 2024-25 Budget by \$135,000,000, to accommodate the additional budget needed for the Coastal Rail Stabilization Priority Project.

#### Attachments:

**Staff Report** 

Attachment A

**Attachment B** 

Presentation

# **Consent Calendar (Items 3 through 19)**

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**

# 3. Approval of Minutes

Clerk of the Board

# Recommendation(s)

Approve the minutes of the March 24, 2025 Orange County Transportation Authority and affiliated agencies' regular meeting.

### Attachments:

# **Minutes**

4. Approval of the Revised 2025 Orange County Transportation Authority Board of Directors Committee and External Agencies' Assignments

Andrea West/Jennifer L. Bergener

### Overview

The 2025 Board Member assignments for the Orange County Transportation Authority Board of Directors' committees and external agencies have been revised and are presented for Board of Directors' consideration and approval.

# Recommendation(s)

- A. Approve the revised Chair's assignments the 2025 Orange County for Transportation Authority of Directors' committees comprised Board Executive, Finance and Administration, Legislative and Communications, Regional Transportation Planning, State Route 91 Advisory, Transit, and Environmental Oversight committees.
- B. Receive the revised Chair's assignments for the 2025 external agencies comprised of the California Association of Councils of Governments, Los Angeles San Diego San Luis Obispo Rail Corridor Agency, Mobile Source Air Pollution Reduction Review Committee, Southern California Association of Governments' Regional Council, Orange County Council of Governments, and the Southern California Regional Rail Authority.

# Attachments:

Staff Report
Attachment A

# 5. Investments: Compliance, Controls, and Reporting, July 1 through December 31, 2024, Internal Audit Report No. 25-511

Gabriel Tang/Janet Sutter

# Overview

The Internal Audit Department has completed an audit of investments for the period July 1 through December 31, 2024. Based on the audit, the Orange County Transportation Authority complied with its debt, investment, and reporting policies and procedures; however, the Internal Audit Department made a recommendation to enhance the review of the monthly Investment and Debt Programs Reports.

# Recommendation(s)

Direct staff to implement a recommendation provided in Investments: Compliance, Controls, and Reporting, July 1 through December 31, 2024, Internal Audit Report No. 25-511.

# Attachments:

**Transmittal** 

**Staff Report** 

Attachment A

# 6. Amendment to Cooperative Agreement with the County of Orange, Orange County Sheriff's Department

Matt Ankley/Jennifer L. Bergener

## 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. In anticipation of the commencement of both pre-revenue, testing environment operations, and full revenue operations, and consistent with prior direction from the Board of Directors, additional dedicated staff are necessary to provide expanded Transit Police Services. Board of Directors' approval is requested to amend the agreement to include necessary funding for the remainder of fiscal year 2024-25.

## Recommendation(s)

Authorize the Chief Executive Officer to negotiate and execute Amendment No. 6 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 \$209,876, for the initial request of OC Streetcar Transit Police Services, effective May 2, 2025 through June 30, 2025. This will increase the maximum obligation of the agreement to a total contract value of \$12,869,312.

#### Attachments:

# **BOARD MEETING AGENDA**

Transmittal

Staff Report

**Attachment A** 

**Attachment B** 

**Presentation** 

# 7. Fiscal Year 2024-25 Second Quarter Budget Status Report

Victor Velasquez/Andrew Oftelie

#### Overview

Orange County Transportation Authority staff has implemented the fiscal year 2024-25 budget. This report summarizes the material variances between the budget and actual revenues and expenses through the second quarter of fiscal year 2024-25.

# Recommendation(s)

Receive and file as an information item.

## Attachments:

Transmittal

Staff Report

Attachment A

# 8. Sole Source Agreement for Health Insurance Brokerage Services

Bea Maselli/Maggie McJilton

# Overview

The Orange County Transportation Authority contracts with the Public Risk Innovation, Solutions, and Management to participate in a purchasing insurance pool for employee health and welfare insurance benefits. Pool members are required to have Alliant Insurance Services, Inc. as their primary broker of record. To continue participation in the pool, a new broker agreement is necessary. A proposal was solicited and received from Alliant Insurance Services, Inc. as a sole source procurement for health insurance brokerage services. Board of Directors' approval is required for the firm to provide the services.

### Recommendation(s)

Authorize the Chief Executive Officer to negotiate and execute sole source Agreement No. C-5-3980 between the Orange County Transportation Authority and Alliant Insurance Services, Inc., in the amount of \$640,000, for a five-year term, effective June 1, 2025 through May 31, 2030, to provide health insurance brokerage services.

# Attachments:

Transmittal

Staff Report

# 9. Capital Programming Update

Ben Ku/Rose Casey

# Overview

The Orange County Transportation Authority uses a combination of federal, state, and local funding sources to plan and deliver Board of Directors-approved capital improvement and transit projects, including those promised in the voter-approved sales tax program, Measure M2. As projects advance through the various stages of development, funding sources and amounts are updated and adjusted to reflect the most current cost estimates and to maximize the benefit of local sales tax dollars. Board of Directors' authorization is requested to commit funding for current and planned projects as further described herein.

# Recommendation(s)

- A. Authorize the use of up to \$180.584 million to fund the construction phase and adjust costs associated with prior phases for the State Route 55 Improvement Project from Interstate 5 to State Route 91 (Project F) using Measure M2 funding.
- B. Authorize the use of up to \$334.367 million to fund the construction phase and adjust costs associated with prior phases for the State Route 91 Improvement Project from La Palma Avenue to State Route 55 (Segment 2) (Project I), using the following funding sources:
  - 91 Express Lanes Excess Revenue (\$323.726 million)
  - Local Partnership Program Formulaic (\$6.641 million)
  - Community Project Funding / Congressionally Directed Spending (\$4.000 million)
- C. Authorize the use of up to an additional \$132.149 million to supplement the construction funding and prior phase funding for the Interstate 5 Improvement Project from Interstate 405 to Yale Avenue (Segment 1) (Project B) using Measure M2 funding.
- D. Authorize the use of up to an additional \$80.172 million to supplement the construction funding and prior phase funding for the State Route 91 (Segments 1 and 3) (Project I) using 91 Express Lanes Excess Revenue.
- E. Authorize the use of up to an additional \$14.699 million to supplement the construction funding and prior phase funding for the Interstate 605/Katella Avenue Interchange Project (Project M) using Measure M2 funding.
- F. Authorize the inclusion of \$39.251 million in committed State Highway Operations and Protection Program funds and an additional \$22.769 million in uncommitted future state funds to integrate the California Department of Transportation Multi-Asset Project into the Capital Funding Program report for:
  - Interstate 5 Improvement Project between Interstate 405 and Yale Avenue (Segment 1) (Project B) (\$36.400 million in committed State Highway Operations and Protection Program funds and \$13.744 million in

- uncommitted future state funds)
- State Route 91 Improvement Project from Acacia Street to La Palma Avenue (Segment 3) (Project I) (\$2.851 million in committed State Highway Operations and Protection Program funds and \$9.025 million in uncommitted future state funds)
- G. Authorize the use of up to \$8.000 million for the Inland Slope Rehabilitation Phase II Project from the following fund sources:
  - Measure M2 (\$5.600 million)
  - Local Partnership Program Formulaic (\$2.400 million)
- H. Authorize the use of up to \$12.830 million in Congestion Mitigation and Air Quality Improvement funds for the Future Zero-Emission Bus Project.
- I. 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

# Attachments:

<u>Transmittal</u>

**Staff Report** 

Attachment A

Attachment B

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Presentation

# 10. Active Transportation Program Biannual Update

Peter Sotherland/Rose Casey

# Overview

The Orange County Transportation Authority coordinates regional active transportation efforts with local jurisdictions, key stakeholders, and the public. An update on recent and upcoming activities is provided.

# Recommendation(s)

Receive and file as an information item.

#### Attachments:

Transmittal

Staff Report

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# 11. Amendments to the Master Plan of Arterial Highways

Ivy Hang/Rose Casey

# Overview

The Orange County Transportation Authority administers the Master Plan of Arterial Highways, including the review and approval of amendments requested by local agencies. The cities of Anaheim, Costa Mesa, Irvine, and Stanton have requested amendments to the Master Plan of Arterial Highways that are recommended for approval. In addition, removal of the Garfield-Gisler Santa Ana River crossing is recommended for approval, and support letters have been received from the cities of Costa Mesa, Fountain Valley, and Huntington Beach. A status update is also provided on Master Plan of Arterial Highways coordination activities, including ongoing collaboration with the cities of Costa Mesa and Newport Beach.

# Recommendation(s)

- A. Approve amending the Master Plan of Arterial Highways to fully remove the Garfield-Gisler Santa Ana River crossing.
- B. Direct staff to close out the Memorandum of Understanding C-6-0834 among the cities of Costa Mesa, Fountain Valley, and Huntington Beach, and the Orange County Transportation Authority regarding agency responsibilities for implementing the consensus recommendation for the Garfield-Gisler Bridge Crossing over the Santa Ana River.
- C. Approve amending the Master Plan of Arterial Highways to accommodate the following requests:
  - 1. City of Anaheim: Remove Weir Canyon Road between Blue Sky Road and State Route 241 (not constructed).
  - City of Costa Mesa: Reclassify Merrimac Way from a primary (four-lane, divided) arterial to a divided collector (two-lane, divided) arterial between Harbor Boulevard and Fairview Road.
  - City of Irvine: Reclassify Yale Avenue from a secondary (four-lane, undivided) arterial to a collector (two-lane undivided) arterial between Michelson Drive and University Drive.
  - City of Stanton: Reclassify Orangewood Avenue from a secondary (four-lane, undivided) arterial to a divided collector (two-lane divided) arterial between Santa Rosalia Street and the eastern city boundary.

The Master Plan of Arterial Highways will be amended to reflect each approved request contingent upon receipt of documentation confirming that all affected general plans are consistent with the proposed amendment and are compliant with the California Environmental Quality Act. Amendment requests will expire if the Orange County Transportation Authority does not receive such documentation within three years of granting approval.

# **BOARD MEETING AGENDA**

Should the proposed Master Plan of Arterial Highways amendment be modified for any reason after receiving approval, the modified Master Plan of Arterial Highways amendment must be returned to the Orange County Transportation Authority Board of Directors for reconsideration and action.

- D. Direct the Executive Director of Planning, or her designee, to file a Notice of Exemption from the California Environmental Quality Act in support of the Master Plan of Arterial Highways amendment.
- E. Receive and file a status report of ongoing Master Plan of Arterial Highways coordination activities.

#### Attachments:

Transmittal

**Staff Report** 

Attachment A

Attachment B

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Attachment D

Attachment E

Attachment F

Attachment G

Attachment H

Attachment I

Attachment J

Attachment K

Attachment L

Attachment M

Attachment N

Attachment O

# 12. Low Carbon Transit Operations Program Recommendations for OC Bus Transit Projects

Jason Huang/Rose Casey

#### Overview

The Low Carbon Transit Operations Program provides funding to transit agencies on a formula basis to support transit operations and capital projects that promote transit ridership and reduce greenhouse gas emissions. Funding recommendations for the Orange County Transportation Authority fiscal year 2024-25 are presented for Board of Directors' consideration.

# Recommendation(s)

A. Approve Resolution No. 2025-015 to authorize the use of \$10,144,185 in fiscal year

2024-25 Low Carbon Transit Operations Program funds for the Youth Ride Free Program.

- B. Authorize staff to request the California Department of Transportation to approve a Letter of No Prejudice for use of local funds until the Low Carbon Transit Operations Program funds are awarded, currently expected to be December 1, 2025.
- C. Authorize staff to make all necessary amendments to the Federal Transportation Improvement Program as well as negotiate and execute any necessary agreements and/or amendments to agreements with regional, state, or federal agencies to facilitate the recommendations above.

#### Attachments:

**Transmittal** 

**Staff Report** 

Attachment A

Attachment B

# **Orange County Transit District Consent Calendar Matters**

13. Transit Field Supervision, Internal Audit Report No. 25-508

Jonathan Thompson/Janet Sutter

# Overview

The Internal Audit Department of the Orange County Transportation Authority has completed an audit of transit field supervision. Based on the audit, field supervision activities are effectively performed and recorded, and in accordance with guidelines and standards set by management.

# Recommendation(s)

Receive and file Transit Field Supervision, Internal Audit Report No. 25-508, as an information item.

# Attachments:

**Transmittal** 

**Staff Report** 

Attachment A

# Orange County Local Transportation Authority Consent Calendar Matters

14. Approval to Release Request for Proposals for Construction Management Support Services for the Interstate 5 Improvement Project Between Interstate 405 and Yale Avenue

Josue Vaglienty/James G. Beil

#### Overview

The Orange County Transportation Authority has developed a request for proposals to initiate a competitive procurement process to retain a consultant to provide construction management support services for the Interstate 5 Improvement Project between Interstate 405 and Yale Avenue.

# Recommendation(s)

- A. Approve the proposed evaluation criteria and weightings for Request for Proposals 5-3961 for the selection of a consultant to provide construction management support services for the Interstate 5 Improvement Project between Interstate 405 and Yale Avenue.
- B. Approve the release of Request for Proposals 5-3961 to provide construction management support services for the Interstate 5 Improvement Project between Interstate 405 and Yale Avenue.

#### Attachments:

Staff Report

Attachment A

15. Cooperative Agreement with the California Department of Transportation for the State Route 91 Improvement Project Between La Palma Avenue and State Route 55

Jeannie Lee/James G. Beil

# Overview

The Orange County Transportation Authority proposes to enter into a cooperative agreement with the California Department of Transportation for construction capital and construction management support services for the State Route 91 Improvement Project between La Palma Avenue and State Route 55.

# Recommendation(s)

Authorize the Chief Executive Officer to negotiate and execute Cooperative Agreement No. C-5-3985 between the Orange County Transportation Authority and the California Department of Transportation, in the amount of \$269,504,000, comprised of a construction capital share of \$230,314,000 and a construction management services share of \$39,190,000 for the State Route 91 Improvement Project between La Palma Avenue and State Route 55.

# Attachments:

Transmittal

Staff Report

16. Amendment to Cooperative Agreement with the California Department of Transportation for the State Route 55 Improvement Project Between Interstate 5 and State Route 91

Jeannie Lee/James G. Beil

#### Overview

On July 10, 2023, the Orange County Transportation Authority Board of Directors approved a cooperative agreement with the California Department of Transportation to provide right-of-way support services, right-of-way engineering, right-of-way acquisition, and utility relocation for the State Route 55 Improvement Project between Interstate 5 and State Route 91. Board of Directors' approval is requested to amend the cooperative agreement for additional funding for right-of-way capital and right-of-way support services.

# Recommendation(s)

Authorize the Chief Executive Officer to negotiate and execute Cooperative Agreement No. C-3-2465 between the Orange County Transportation Authority and the California Department of Transportation, in the amount of \$1,042,000, for additional right-of-way support services, right-of-way engineering, right-of-way acquisition, and utility relocation for the State Route 55 Improvement Project between Interstate 5 and State Route 91. This will increase the maximum cumulative obligation of the cooperative agreement to a total contract value of \$7,087,000.

#### Attachments:

**Transmittal** 

Staff Report

Attachment A

Attachment B

# 17. Amendment to Agreement for Additional Design Services for State Route 91 Improvement Project Between Acacia Street and La Palma Avenue

Jeannie Lee/James G. Beil

# Overview

On July 13, 2020, the Orange County Transportation Authority Board of Directors authorized an agreement with T.Y. Lin International, for the preparation of plans, specifications, and estimates for the State Route 91 Improvement Project between Acacia Street and La Palma Avenue. An amendment to the existing agreement is required for additional design services.

# Recommendation(s)

Authorize the Chief Executive Officer to negotiate and execute Amendment No. 5 to Agreement No. C-0-2073 between the Orange County Transportation Authority and T.Y. Lin International, in the amount of \$2,232,131, for additional design services for the State Route 91 Improvement Project between Acacia Street and La Palma Avenue. This will increase the maximum cumulative obligation of the agreement to a total contract value of \$13,945,033.

#### Attachments:

**Transmittal** 

Staff Report

Attachment A

18. Approval to Release Request for Proposals for Program Management and Construction Management Services for Improvements to Orange County Transportation Authority Headquarters Property

Steven L. King/James G. Beil

### Overview

Staff has developed a request for proposals to initiate a competitive procurement process to retain a consultant to provide program management and construction management services for the new Orange County Transportation Authority headquarters property.

# Recommendation(s)

- A. Approve the proposed evaluation criteria and weightings for Request for Proposals 5-3977 to select a firm to provide consultant services for program management and construction management services for improvements to the new Orange County Transportation Authority headquarters property.
- B. Approve the release of Request for Proposals 5-3977 for consultant services for program management and construction management for improvements to the new Orange County Transportation Authority headquarters property.

# Attachments:

Staff Report

Attachment A

# 19. Amendment to Agreement for Security Officer Services

Matt Ankley/Jennifer L. Bergener

# Overview

On June 12, 2023, the Orange County Transportation Authority Board of Directors approved an agreement with Inter-Con Security Systems, Inc. to provide security officer services, for a two-year initial term with one, one-year option term. Board of Directors' approval is requested to amend the agreement to include security services for the OC Streetcar Maintenance and Storage Facility and exercise the option term.

# Recommendation(s)

- A. Authorize the Chief Executive Officer to negotiate and execute Amendment No. 2 to Agreement No. C-2-2886 between the Orange County Transportation Authority and Inter-Con Security Systems, Inc., in the amount of \$332,158, to provide additional security officer services at the OC Streetcar Maintenance and Storage Facility.
- B. Authorize the Chief Executive Officer to negotiate and execute Amendment No. 2 to Agreement No. C-2-2886 between the Orange County Transportation Authority and Inter-Con Security Systems, Inc., in an amount of \$332,158 to exercise six months of the one-year option term for continued security officer services at the bus bases. These two actions will increase the maximum obligation of the agreement to a total contract value of \$1,756,316.

#### Attachments:

**Transmittal** 

Staff Report

Attachment A

**Presentation** 

# **Regular Calendar**

Orange County Local Transportation Authority Regular Calendar Matters

20. Comprehensive Transportation Funding Programs - 2025 Call for Projects Programming Recommendations

Charvalen Alacar/Rose Casey

#### Overview

The Orange County Transportation Authority issued the 2025 Measure M2 Comprehensive Transportation Funding Programs Regional Capacity Program and Regional Traffic Signal Synchronization Program call for projects in August 2024. Project applications were due in October 2024. A list of projects recommended for funding is presented for Board of Directors' review and approval.

# Recommendation(s)

- A. Approve the award of \$25.72 million in 2025 Regional Capacity Program (Project O) funds to nine local jurisdiction projects.
- B. Approve the award of \$11.99 million in 2025 Regional Traffic Signal Synchronization Program (Project P) funds to six local jurisdiction projects.

# Attachments:

**Transmittal** 

Staff Report

Attachment A

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**Attachment D** 

Presentation

### **Discussion Items**

- 21. Public Comments
- 22. Chief Executive Officer's Report
- 23. Directors' Reports

# **BOARD MEETING AGENDA**

# 24. Adjournment

The next regularly scheduled meeting of this Board will be held:

9:30 a.m., on Monday, April 28, 2025

OCTA Headquarters Board Room 550 South Main Street Orange, California



# April 14, 2025

**To:** Members of the Board of Directors

**From:** Darrell E. Johnson, Chief Executive Officer

**Subject:** Adopt Resolution No. 2025-025 and Authorize the Chief Executive

Officer to Take all Necessary Actions to Address the Emergency Need for Railroad Track Stabilization in the Vicinity of Mile Post 203.83 to 204.40 and 206.10 to 206.70 on the Orange

Subdivision

# Overview

The four reinforcement areas identified in the Coastal Rail Resiliency Study adjacent to the Orange County Transportation Authority-owned railroad right-of-way, in the vicinity of Mile Post 203.83 to 204.40 and 206.10 to 206.70 on the Orange Subdivision, have continued to experience coastal erosion and the hillside continues to move incrementally, posing an imminent threat to the railroad corridor and public safety if immediate necessary actions are not taken to mitigate the threat. Measures must be taken immediately to stabilize the track and maintain passenger and freight rail service.

# Recommendations

- A. Adopt Resolution No. 2025-025 and authorize the Chief Executive Officer to take all necessary actions to address the emergency need for railroad track stabilization in the vicinity of Mile Post 203.83 to 204.40 and 206.10 to 206.70 on the Orange Subdivision, and to return to the Board of Directors, as required, to report on the status thereof.
- B. Authorize the Chief Executive Officer to take any and all necessary actions in regard to agreements with partner public agencies to address the emergency need for railroad track stabilization in the vicinity of Mile Post 203.83 to 204.40 and 206.10 to 206.70 on the Orange Subdivision.
- C. Amend the Orange County Transportation Authority's Fiscal Year 2024-25 Budget by \$135,000,000, to accommodate the additional budget needed for the Coastal Rail Stabilization Priority Project.

# Background

The Orange County Transportation Authority (OCTA) owns the Orange Subdivision railroad right-of-way (ROW) between the Fullerton Junction and the San Diego County Line. This rail corridor is part of the Los Angeles – San Diego – San Luis Obispo (LOSSAN) Rail Corridor that hosts both intercity and commuter passenger and freight rail service. The LOSSAN Rail Corridor is of state and national importance and is also designated as a national defense connector line as part of the Strategic Rail Corridor Network by the Department of Defense.

Since 2021, the operations of the LOSSAN Rail Corridor in the City of San Clemente (San Clemente) have been forced to shut down on multiple occasions because of coastal bluff erosion, dry beach loss, revetment loss, and geologic landslide bluff failures. Over the past year, there have been additional landslides, continued hillside instability, and additional beach and railroad embankment erosion that pose imminent risk to the railroad service, life, and property.

The past closures have severed the only rail connection between San Diego County and the rest of the nation, affecting millions of annual passengers and impacting more than \$1 billion in annual freight movement. Additionally, the LOSSAN Rail Corridor plays a crucial role in the nation's Strategic Rail Corridor Network by supporting military logistics, freight movement, and passenger transportation, and ensuring connectivity between key military installations and commercial hubs along the west coast.

OCTA has addressed the ongoing emergencies as they have occurred and has determined that the four reinforcement areas identified in the Coastal Rail Resiliency Study (CRRS) are under imminent threat and require immediate action to prevent loss of property and essential public rail services, as well as for the protection of life and public safety to avoid a catastrophic bluff or shoreline embankment failure. During peak travel periods, a single Amtrak Pacific Surfliner train, which operates on the LOSSAN Rail Corridor, can carry upwards of 900 passengers per trip. The overall LOSSAN Rail Corridor travels through six counties between San Diego and San Luis Obispo. It is the second busiest passenger rail corridor in the United States with 150 daily passenger trains serving 41 stations and carrying eight million passengers annually, and an additional 70 daily freight trains. The Amtrak Pacific Surfliner rail service reduced nearly 45,000 tons of greenhouse gas emissions from its ridership in 2023 alone. This service, plus other passenger rail services along the rail corridor, are included throughout the California Transportation Plan and as a vital component of the State Rail Plan. There is currently \$5 billion of capital investments underway along

the corridor which rely on the corridor remaining operational. Additionally, the threatened beachside trail that parallels the railroad ROW below the unstable hillside slopes is traversed by millions of residents and visitors annually.

With each failure of the rail line, costs mount. For the LOSSAN Rail Corridor Agency, which operates the Amtrak Pacific Surfliner on behalf of the State, the closures have resulted in a net loss of \$14 million, which includes emergency bus bridges costing up to \$100,000 per week. OCTA has spent more than \$37 million so far on emergency fixes in the known ancient landslide area. Crucial freight shipments to the regional economy and military logistics have also faced significant delays. The biggest untold cost may be the loss of rail passengers who never return due to the lack of rail service reliability.

Further heightening the emergency nature of this situation are the storms that brought several inches of rain to Orange County in mid-February 2025. These recent atmospheric-river and king tide events mirror those that occurred in the previous three-plus years, which precipitated and are contributing causes to the coastal bluff landslides and coastal ocean intrusion that forced shutdowns of the rail line.

# **Discussion**

As a result of the ongoing imminent threat to the rail line, on March 31, 2025, OCTA submitted an emergency Coastal Development Permit (eCDP) request to the California Coastal Commission, and a Regional General Permit 63 (RGP63) request to the United States Army Corps of Engineers (USACE). The permit requests are to implement emergency measures at the four reinforcement areas identified in the CRRS.

Protective mitigation activities for each reinforcement area will include necessary solutions to alleviate the existing imminent threat to railroad infrastructure and public safety. Below are summary project descriptions for each reinforcement area, including the nature and cause of the emergency and the timing of emergency action work.

Reinforcement Areas 1 and 2 (Mile Post 203.83 to 204.40)

Nature and Cause of the Emergency: The ocean-side railroad embankment in Areas 1 and 2 has faced dry beach loss and rock riprap embankment (riprap) loss due to past storms and continuing erosion. The beach width varies seasonally and is impacted by storms, waves, and king tide events that leave little protection of the rail line by the existing embankment.

The purpose of the emergency action is to repair the existing riprap, which has become degraded by toe erosion, loss of stones from the riprap section, and over-steepened sections that do not meet engineering standards for embankment protection. Failure to take emergency action would risk further damage to railroad infrastructure and impacts to rail passenger service, freight service, national security, and life and safety of the pedestrians, passengers, and crew. It is currently estimated that the riprap repair duration is two months.

Reinforcement Area 3 (Mile Post 204.07 to 204.34)

Nature and Cause of the Emergency: Over the past four years, the rail corridor operations have been adversely affected by the processes of coastal bluff erosion. The steep privately-owned bluffs located above the rail corridor between Mile Post 204.00 and Mile Post 204.50 have both active slope failures and high potential for additional slope failures that would likely impact the rail infrastructure. Recent bluff failures at Mile Post 204.2 (Mariposa Pedestrian Bridge), Mile Post 204.6 (Casa Romantica), and reactivation of an ancient landslide at Mile Post 206.8 (Cyprus Shore) have resulted in forced shutdowns of rail operations. To date, monitoring of the temporary debris catchment walls at the Mariposa Pedestrian Bridge and Casa Romantica has demonstrated their effectiveness in protecting the railroad infrastructure. However, mud and debris have continued to amass behind the 12-foot-high temporary wall at Mariposa Pedestrian Bridge protecting the track. Debris is threatening to spill over at spot locations. Installation of a new upslope catchment wall is necessary to prevent debris from toppling over the existing downslope temporary catchment wall. The new catchment wall, once constructed, will allow for the debris to be cleared and temporary catchment wall to be removed.

In addition, three recent landslides have occurred and have been photo documented (two in March 2024 and one in November 2024 through January 2025) and are included in the attached presentation. These landslides are currently being partially retained by the existing damaged pedestrian trail structure. This is the same situation that occurred in January 2024 at the Mariposa Pedestrian Bridge that led to the eventual dislodgement and collapse of two spans of the pedestrian trail structure, resulting in the ultimate closure of the railroad and coastal trail, and subsequent emergency stabilization projects. These recent landslide movements are expected to progress with the potential of unpredictable catastrophic sudden failures, thus posing an imminent threat to the rail corridor and the public if necessary actions are not taken immediately to mitigate the ongoing threat.

The emergency action for Area 3 is to install a new catchment wall on the inland side of the rail corridor to prevent further rail disruptions and infrastructure damage, which can lead to unsafe conditions for rail passengers, freight and pedestrians on the trail. The proposed catchment wall will require the removal of the full length of the existing Mariposa Pedestrian Bridge, and construction of the new catchment wall with the reestablishment of the pedestrian trail along the length of the wall. The new catchment wall will protect the railroad, existing underground utilities, and restore coastal access with a pedestrian trail. It is currently estimated that the catchment wall construction duration is eight months.

Reinforcement Area 4 (Mile Post 206.00 to 206.10 and Mile Post 206.42 to 206.70)

Nature and Cause of the Emergency: The railroad embankment in Area 4 has faced dry beach loss and riprap loss due to past storms and continuing erosion. The beach width and depth vary seasonally and are also impacted by storms, waves, and king tide events. This has resulted in erosion of the railroad embankment and the fronting dune and has led to waves overtopping onto the railroad track and track bed. Historically, the beach elevation in this area was six to seven feet higher than current conditions.

Based on observation of existing conditions and modeling of storms and beach erosion, failure to take emergency action will risk further damage to railroad infrastructure and impacts to rail passenger service, freight service, national security, and life and safety of the pedestrians, passengers, and crew.

The emergency action for Area 4 is to reinforce the failing railroad embankment with both a section of engineered shore protection structures and to make repairs to existing riprap to avoid rail service disruptions and infrastructure damage that would lead to unsafe conditions for both passengers and freight rail operations. The emergency repair construction of the emergency engineered shoreline protection structure may take up to eight months to construct.

# Sand Nourishment

Approximately 540,000 cubic yards of sand will be imported from an offshore sand source and placed in Areas 1, 2, and 4 as soon as a sand source and delivery means becomes available. The sand source needs to be deemed suitable for volume, granularity, and color, and must obtain the necessary environmental clearances and permits. Offshore sand sources are the most feasible given the large quantity of sand needed for this project. Sand nourishment will work together

with the other improvements implemented through emergency actions and provide a first line of protection for the railroad.

OCTA is also supporting San Clemente in identifying additional offshore sand sources closer to San Clemente. Moreover, on March 31, 2025, OCTA released a request for information from firms regarding potential sand transport and delivery solutions, and the best industry practices related to the dredging and placement of sand. OCTA is committed to taking a holistic approach with sand placement as part of the overall solution, and this effort aims to expedite the sand placement process.

The eCDP covers the engineered and sand nourishment components of the project while the RGP63 includes only immediate-action project features related to revetments that are within the USACE's jurisdiction. The sand component will be part of a separate permitting process with the USACE due to required sand source and destination near-shore and off-shore environmental studies, and federal environmental clearance requirements not allowed through the emergency permitting process. Additionally, permits from the California State Lands Commission (CSLC) for work in CSLC jurisdictional areas and from the Regional Water Control Board will be required for certain project components.

# Operational Impacts

Work related to the riprap repairs and removal of the existing pedestrian bridge will likely require temporary cessation of passenger rail service. Freight service will likely remain operational at night with minimal disruption. This allows the maximum amount of work to be completed during the planned rail shutdown while trying to minimize the operational impacts to the rail corridor. Once the service resumes after the initial rail shutdown, the remaining work will be completed with railroad flagging protection and minimal impacts to rail services.

# **Emergency Procurement Approach**

Under normal circumstances, OCTA, like most public agencies, is required by the Public Contract Code (PCC) to procure public works projects utilizing a competitive process, which normally includes an invitation for bids and awarding the contract to the lowest responsible, responsive bidder. However, in certain circumstances, the PCC does allow for emergency procurements whereby the requirement for a competitive process is waived and the public agency can authorize the procurement of equipment, services, and supplies to address emergency circumstances without giving notice for bids to let contracts.

Specifically, PCC Section 22050 provides that a public agency can, by a four-fifths vote of its governing body, authorize the procurement of equipment, services, and supplies to address emergency circumstances. Before taking this action, the governing body is required to make findings, based upon substantial evidence, that the emergency will not permit a delay resulting from a competitive solicitation for bids, and that the action is necessary to respond to the emergency. The governing body can then delegate authority to order any action required to address the emergency.

Once the governing body has made those findings, the authorized individual, in this case the Chief Executive Officer (CEO), can immediately enter into contracts necessary to address emergency circumstances. The CEO is then required by the statute to report to the governing body, at its next regular meeting, and at every regularly scheduled meeting thereafter, the status of the emergency, and the governing body must determine at each meeting by a four-fifths vote that there is a need to continue the emergency action until such time that the emergency no longer exists.

Due to continual failures of the inland bluff and coastal erosion with continual loss of beach and loss of riprap needed to protect the railroad, immediate action must be taken to protect the railroad infrastructure. Failure to act would risk further damage to railroad infrastructure, impacts to rail passenger service, freight service, national security, and life and safety of the pedestrians, passengers, and crew. The current situation requires diligence without delay that would result from existing policies and procedures for solicitation of bids and entry into contracts. Without undertaking this emergency action, the approval processes that would be followed under the traditional permitting and PCC format could subject these areas to multiple winter and tropical storm seasons that could lead to catastrophic track failures. Moreover, emergency action is necessary for the preservation of railroad infrastructure, protection of OCTA property, and to prevent an immediate termination of a critical passenger and freight rail service.

# **Funding**

On December 2, 2024, the OCTA Board of Directors accepted the Federal Railroad Administration (FRA) Consolidated Rail Infrastructure and Safety Improvements (CRISI) Program grant (\$100 million), the Trade Corridor Enhancement Program grant (\$80 million), and the Transit and Intercity Rail Capital Program grant (\$125 million). In order to obligate and use the federal CRISI grant, the project would need to complete the National Environmental Policy Act (NEPA) compliance process. In addition, the California State Transportation Agency (CalSTA) and California Transportation

Commission (CTC) require the approved NEPA documentation to confirm the CRISI funds match to the state funds, in order to fully allocate and use the state funds for this project. Without pre-award authority, which also requires NEPA approval, the CRISI grant can only be used for contracts that are awarded and expenditures that follow NEPA approval. Awarding a contract prior to NEPA approval may put the CRISI funds at risk. Given the emergency circumstances, staff is in continued contact with the FRA, CTC, CalSTA, and the California Department of Transportation to identify ways to allocate state funds and obligate federal funds for the project.

# Fiscal Impact

An amendment to the OCTA Fiscal Year 2024-25 Budget, Capital Programs Division, Account No. 0018-9084-TR228-0N9, in the amount of \$135,000,000, is being requested to accommodate this project to fund all the necessary contracts and agreements.

# Summary

Staff recommends adoption of Resolution No. 2025-025 and authorization for the Chief Executive Officer to take whatever actions are necessary to address the emergency need for railroad track stabilization in the vicinity of Mile Post 203.83 to 204.40 and 206.10 to 206.70 on the Orange Subdivision, and to return to the Board of Directors, as required, to report on the status thereof (Attachment B). Staff also recommends amending the Orange County Transportation Authority Fiscal Year 2024-25 Budget to accommodate funding for the project.

#### Attachments

Α. **Project Location Map** 

Resolution No. 2025-025 B.

Prepared by:

Jason Lee **Project Manager** (714) 560-5833

Approved by:

James G. Beil, P.E. **Executive Director, Capital Programs** 

(714) 560-5646

# **Project Location Map**

- Four reinforcement areas were identified in January 2024
- Proposed solutions evaluated at a preliminary design level considering different materials, performance, costs, methods, and schedule

Area	Location (MP)	Challenge
1	203.80 - 203.90	Ongoing deterioration of existing riprap protection
2	204.00 – 204.40	Erosion - no beach at high tide and direct wave attack damaging existing riprap protection
3	204.07 – 204.34	Steep bluffs with high potential for failure that could impact rail infrastructure
4	206.00 - 206.10 206.42 - 206.70	Near San Clemente State Beach - erosion exposing areas of limited to no riprap protection



MP - Mile Post

# **RESOLUTION NO. 2025-025**

A RESOLUTION OF THE ORANGE COUNTY TRANSPORTATION AUTHORITY FINDING AND DETERMINING THAT AN EMERGENCY CONDITION EXISTS AND IMMEDIATE ACTION IS REQUIRED TO PRESERVE THE PROPERTY OF THE AUTHORITY AND PREVENT AN IMMEDIATE TERMINATION OF A CRITICAL AUTHORITY FUNCTION SUCH THAT PROCUREMENT OF EQUIPMENT, SERVICES, AND SUPPLIES FOR THOSE PURPOSES WITHOUT GIVING NOTICE FOR BIDS TO LET CONTRACTS IS REQUIRED

**WHEREAS**, the Orange County Transportation Authority (OCTA) is the owner of the certain rail right-of-way known as the Orange Subdivision (Rail Right-of-Way) of the Los Angeles-San Diego- San Luis Obispo (LOSSAN) Rail Corridor (Corridor), a portion of which is located in the cities of Dana Point, San Clemente, and San Juan Capistrano.

**WHEREAS**, the Rail Right-of-Way and the entire rail Corridor represent the only rail connection between San Diego County and Orange and Los Angeles Counties and is of state-wide and national importance; and

WHEREAS, since 2021, the operations of the Rail Right-of-Way and the Corridor have been forced to shut down on multiple occasions because of coastal bluff erosion, dry beach loss, and geologic landslide bluff failures. Over the past year, additional landslides, continued hillside instability, and additional beach and railroad embankment erosion has been observed that poses imminent risk to the railroad service life and property; and

WHEREAS, the past closures have severed the only rail connection between San Diego County and the rest of the nation, affecting millions of annual passengers and impacting more than \$1 billion in annual freight movement. Additionally, the Corridor plays a crucial role in the nation's Strategic Rail Corridor Network by supporting military logistics, freight movement, and passenger transportation, ensuring connectivity between key military installations and commercial hubs along the west coast; and

WHEREAS, for each failure of the rail line, costs to interested parties mount. For the LOSSAN Rail Corridor Agency, which OCTA is a member of and managing agency for, closures have resulted in a net loss of \$14 million to the Amtrak Pacific Surfliner service, which includes emergency bus bridges costing up to \$100,000 per day. In addition, OCTA has spent more than \$37 million to date on emergency fixes in the known ancient landslide area. Freight shipments crucial to the regional economy and military logistics have also faced significant delays; and

WHEREAS, OCTA has addressed the ongoing emergencies as they have occurred and through a comprehensive process, four (4) additional areas have been identified that are under imminent threat which require immediate action to prevent loss of property and essential public rail services, as well as for the protection of life and public safety to avoid catastrophic bluff failures and other damage to the Rail Right-of-Way and the Corridor; and

- **WHEREAS**, those four (4) additional areas are defined as Area 1: Mile Post (MP) 203.83 to 203.90, Area 2: MP 204.00 to 204.40, Area 3: MP 204.07 to 204.34, and Area 4: MP 206.00 to 206.70; and
- WHEREAS, based on the foregoing, OCTA must take immediate action to develop measures to protect the Rail Right-of-Way and the Corridor; and
- **WHEREAS**, this emergency circumstance will not permit the delay that would result from a competitive solicitation for bids; and
- **WHEREAS**, Public Contract Code Section 22050 authorizes OCTA, in the case of an emergency, to repair or replace a public facility, take any action directly related or required by that emergency, and to procure the necessary equipment, services, and supplies for those purposes, without giving notice for bid or letting of contracts pursuant to the Public Contract Code; and
- **WHEREAS**, said action requires a four-fifths vote of OCTA's Board of Directors in order to delegate the emergency authority to it Chief Executive Officer; and
- **NOW, THEREFORE, BE IT RESOLVED**, by at least a four-fifths vote of OCTA's Board of Directors under Public Contract Code Section 22050, OCTA does hereby find and determine as follows:
- <u>Section 1.</u> <u>Incorporation of Findings and Recitals</u>. The above findings and recitals are true and correct and are incorporated herein in full by this reference.
- <u>Section 2.</u> <u>Findings.</u> OCTA hereby finds, determines and declares each of the following:
- (a) The Rail Right-of-Way and the Corridor represent the only rail connection between San Diego County and Orange and Los Angeles Counties and is of state-wide and national importance; and
- (b) Additional landslides, continued hillside instability, and additional beach and railroad embankment erosion has been observed that poses imminent risk to the Rail Right-of-Way and the Corridor; and railroad service life and property; and
- (c) Past closures due to landslides, continued hillside instability and additional beach and railroad embankment erosion have severed the only rail connection between San Diego County and the rest of the nation, affecting millions of annual passengers and impacting more than \$1 billion in annual freight movement; and
- (d) The continued landslides, hillside instability, and additional beach and railroad embankment within the Rail Right-of-Way and Corridor constitutes an emergency circumstance that requires immediate action; and
- (e) This emergency circumstance will not permit the delay that would result from a competitive solicitation for bids under the Public Contract Code.

Acquisition of Necessary Equipment, Services, and Supplies. Pursuant to Section 3. OCTA set forth in Public Contract Code Section 22050, OCTA's Chief Executive Officer is hereby authorized to take any directly related and immediate action required to address the emergency circumstance detailed herein and to procure the necessary equipment, services, and supplies for those purposes, without giving notice for bids to let contracts. Review of Emergency Circumstance. Pursuant to Public Contract Code Section 4. Section 22050, OCTA's Board of Directors shall review the circumstance set forth herein and shall terminate said emergency circumstance when the need to continue said action no longer exists. Section 5. Effective Date. This Resolution No. 2025-025 shall take effect upon adoption. PASSED, APPROVED, and ADOPTED on this 14<sup>th</sup> day of April 2025. AYES: NOES: ABSTAIN: ABSENT: DOUG CHAFFEE, CHAIR ORANGE COUNTY TRANSPORTATION AUTHORITY This RESOLUTION was entered into at a meeting of the Orange County Local Transportation Authority held April 14, 2025, in Orange, California. ATTEST: ANDREA WEST CLERK OF THE BOARD APPROVED AS TO FORM:

JAMES M. DONICH GENERAL COUNSEL

# CERTIFICATE OF THE CLERK OF THE BOARD OF THE ORANGE COUNTY LOCAL TRANSPORTATION AUTHORITY

I, <u>Andrea West</u>, Clerk of the Board of the Orange County Transportation Authority (OCTA), hereby certify that the foregoing is a full, true and correct copy of a resolution duly adopted at a meeting of the governing board of OCTA duly and regularly held in the City of Orange, California, on <u>April 14</u>, 2025, of which meeting all of the members of OCTA had due notice.

I further certify that I have carefully compared the foregoing copy with the original minutes of said meeting on file and of record in my office, that said copy is a full, true, and correct copy of the original resolution adopted at said meeting and entered in said minutes, and that said resolution has not been amended, modified, rescinded or revoked in any manner since the date of its adoption, and the same is now in full force and effect.

I further certify that an agenda of said meeting was posted at least 72 hours before said meeting at a location in the City of Orange, California, freely accessible to the public and a brief general description of the resolution to be adopted at said meeting appeared on said agenda.

IN WITNESS WHEREOF, I have executed this certificate hereto as of this date, April 14, 2025.

By:			
	Its:	ANDREA WEST	
		CLERK OF THE BOARD	



# Coastal Rail Stabilization Priority Project

- Four reinforcement areas were identified in January 2024
- Proposed solutions evaluated at a preliminary design level considering different materials, performance, costs, methods, and schedule

Area	Location (MP)	Challenge	Proposed Solutions
1	203.80 – 203.90	Ongoing deterioration of existing riprap protection	Riprap repair (900 tons) followed by sand nourishment
2	204.00 – 204.40	Erosion - no beach at high tide and direct wave attack damaging existing riprap protection	Riprap repair (6,750 tons) followed by sand nourishment
3	204.07 – 204.34	Steep bluffs with high potential for failure that could impact rail infrastructure	1400-ft catchment structure
4	206.00 - 206.10 206.42 - 206.70	Near San Clemente State Beach - erosion exposing areas of limited to no riprap protection	Riprap repair (1,400 tons) and 1200-ft shoreline protection structure followed by sand nourishment





# Reinforcement Areas 1 through 4





# Need for Emergency Action

- The project team has observed erosion, landslides, and riprap degradation over the last few months.
- The infrastructure is subject to imminent failure and poses an immediate and serious threat to the railroad, public safety, and national security.

Risks	Impacts
Imminent Threat to Railroad Operations	Erosion and landslides are causing major disruptions to rail service.
Risk to Life and Safety	Landslides and debris pose a direct threat to pedestrians, passengers, and operators.
Progressive and Unpredictable Hazards	Slope instability could lead to sudden and catastrophic failures.
National Security Impacts	Disruption to transportation network for the defense corridor.
Interstate Commerce	Disruptions to transportation of goods.

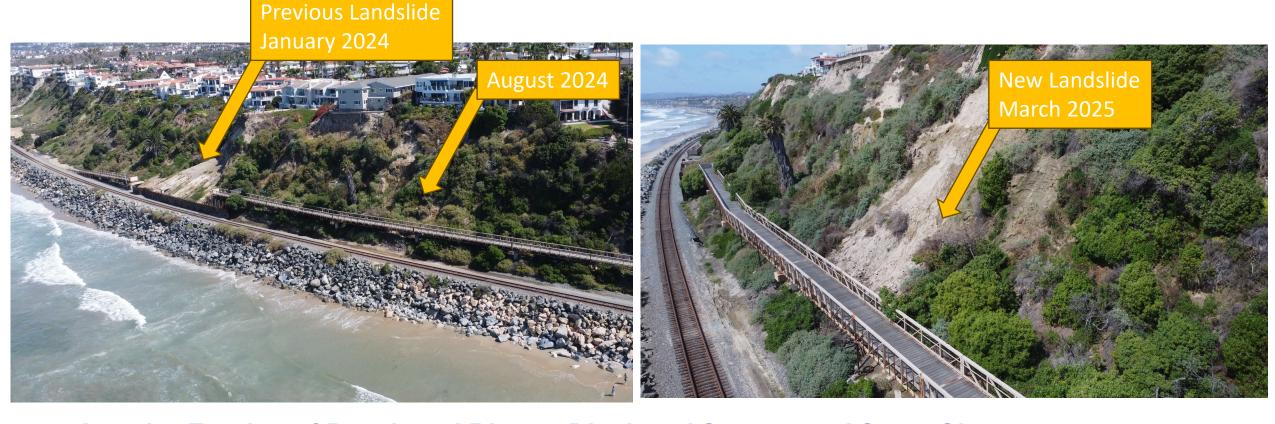


# Need for Emergency Action (cont.)



Area 3 - Landslides Adjacent to Active Track North of Pedestrian Bridge

# Need for Emergency Action (cont.)



Area 2 – Erosion of Beach and Riprap, Displaced Stones, and Steep Slopes Area 3 – Active Bluff Erosion and Landslides Adjacent to Active Track and Pedestrian Bridge

# Need for Emergency Action (cont.)





Area 4 – Degrading and Failure of Rock Riprap Adjacent to Active Track

# Need for Emergency Action (cont.)



Area 4 - Eroding Embankment and Degrading Riprap Adjacent to Active Track

# **Emergency Process**

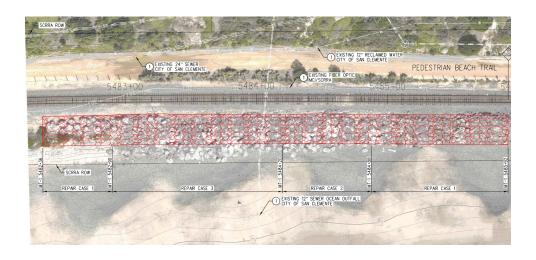
- Applies to situation posing a threat to railroad operations, safety and property requiring immediate action due to imminent risk to railroad operations, life, and property.
- Cyprus Shore, Casa Romantica, and Mariposa all implemented through the emergency process.
- California Coastal Commission eCDP submitted.
- USACE RGP 63 Emergency Permit submitted.
- Begin construction upon receiving emergency notice-to-proceed from regulatory agencies.
- USACE Letter of Permission for sand placement to be submitted late Summer.

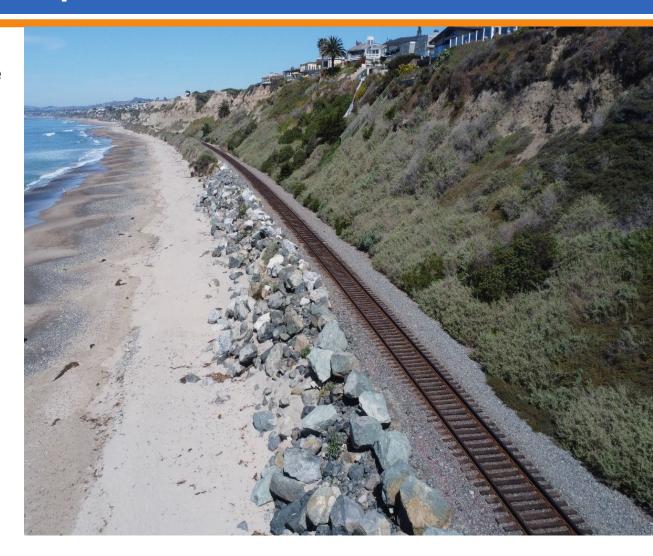
# EMERGENCY PROCESS 1 2 3 Emergency Authorization and CEQA Exemption Start Construction of Emergency Authorization

CEQA – California Environmental Quality Act RGP – Regional General Permit eCDP – Emergency Coastal Development Permit USACE - United States Army Corps of Engineers

# Area 1, 2, and 4 Riprap Repair

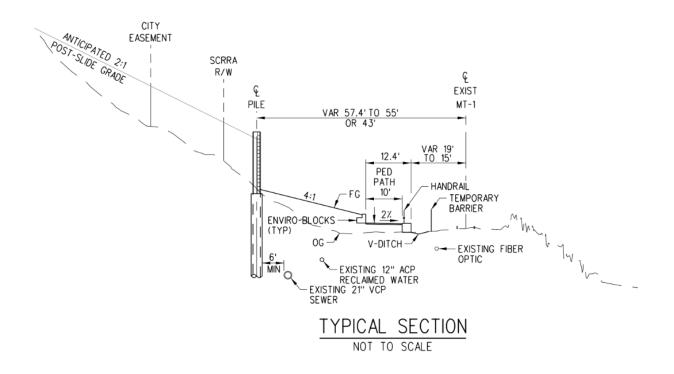
- Restore degraded riprap to protect tracks from wave damage and erosion and stabilize embankment to maintain slope integrity.
- Passenger rail service shutdown for up to four weeks for emergency riprap repairs and pedestrian bridge removal.
- Work proposed to be led by Metrolink contractors.





# Area 3 Catchment Wall

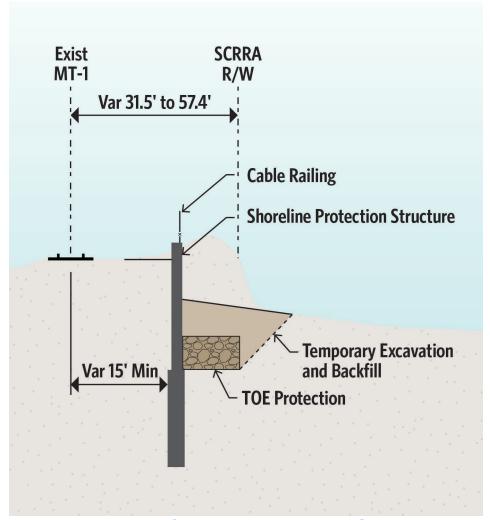
- Remove existing pedestrian bridge.
- Install a 1400-ft long catchment wall to protect track by retaining debris and soil from hillside.
- Construct a new at-grade pedestrian trail, replacing the out-of-service pedestrian bridge.
- The selected design-build contractor will complete this work.
- Construction is expected to be completed within eight months.



Area 3 - Catchment Wall and Pedestrian Trail

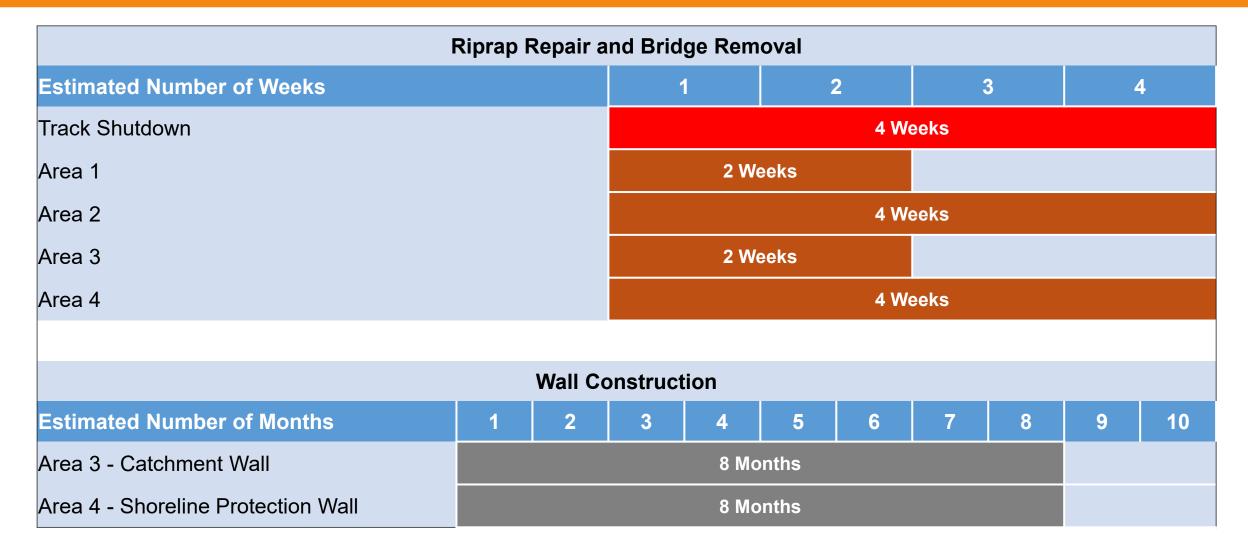
# Area 4 Shoreline Protection Structure

- Install a 1200-ft long shoreline protection structure to protect rail embankment from ongoing scour, erosion, and wave damage.
- All improvements will be constructed within railroad right-of-way.
- The selected design-build contractor will complete this work.
- Construction is expected to be completed within eight months.



Area 4 - Shoreline Protection Structure

# Estimated Schedule



# Sand Placement

- OCTA released industry Request for Information for potential sand dredging contractors.
- OCTA is securing environmental clearance for offshore source dredging and placement of sand for Areas 1, 2, and 4.
- Evaluating Surfside-Sunset sand borrow source and other nearby offshore sand sources in partnership with City of San Clemente.
- Preliminary Schedule:
  - Environmental and final design approvals: Anticipated Q4 of 2025
  - Invitation for Bids (IFB): Anticipated Q1 of 2026
  - Bids Due Date: Anticipated Q2 of 2026
  - Contract Award and Notice to Proceed: Anticipated Q2 of 2026
  - Project Completion: Anticipated in 2027





Pictures from San Clemente Sand Replenishment Project

# Funding Sources

Coastal Rail Stabilization Priority Project				
Coastal Rail Infrastructure Resiliency Project (Four Hot Spots)				
Project Approval/Environmental Document		Amount		
Local Transportation Climate Adaptation Program (LTCAP)	\$	3,820,000		
Measure M2/OC Go	\$	960,000		
Subtotal	\$	4,780,000		
Final Design and Construction		Amount		
Senate Bill (SB) 125 Transit Program	\$	3,800,000		
Consolidated Rail Infrastructure and Safety Improvements (CRISI) Program	\$	100,000,000		
SB 1 Trade Corridor Enhancement Program (TCEP) Advanced Programming	\$	80,000,000		
2024 Transit and Intercity Rail Capital Program (TIRCP)	\$	125,000,000		
Subtotal	\$	308,800,000		
Project Total	\$	313,580,000		

Note – State and Federal funding has not yet been allocated to project

# Recommendations

- Adopt Resolution No. 2025-025 and authorize the Chief Executive Officer to take all necessary actions to address the emergency need for railroad track stabilization in the vicinity of Mile Post 203.83 to 204.40 and 206.10 to 206.70 on the Orange Subdivision, and to return to the Board of Directors, as required, to report on the status thereof.
- Authorize the Chief Executive Officer to take any and all necessary actions regarding agreements with partner public agencies to address the emergency need for railroad track stabilization in the vicinity of Mile Post 203.83 to 204.40 and 206.10 to 206.70 on the Orange Subdivision.
- Amend the Orange County Transportation Authority Fiscal Year 2024-25 Budget by \$135,000,000 to accommodate the additional budget needed for the Coastal Rail Stabilization Priority Project.



#### Call to Order

The March 24, 2025, regular meeting of the Orange County Transportation Authority (OCTA) Board of Directors and affiliated agencies was called to order by Chair Chaffee at 9:30 a.m. at the OCTA Headquarters, 550 South Main Street, Orange, California.

**Directors Present:** Doug Chaffee, Chair

Jamey M. Federico, Vice Chair

Valerie Amezcua Mike Carroll Katrina Foley Patrick Harper Michael Hennessey

Fred Jung

Stephanie Klopfenstein

Janet Nguyen Vicente Sarmiento Mark Tettemer Donald P. Wagner Lan Zhou, Ex-Officio

**Directors Absent:** Carlos A. Leon

Tam T. Nguyen John Stephens

Staff Present: Darrell E. Johnson, Chief Executive Officer

Jennifer L. Bergener, Deputy Chief Executive Officer

Gina Ramirez, Assistant Clerk of the Board

Andrea West, Clerk of the Board

Sahara Meisenheimer, Clerk of the Board Specialist

James Donich, General Counsel

#### 1. Closed Session

A Closed Session was held as follows:

- A. Pursuant to Government Code Section 54956.9(d)(1) Conference with General Counsel Existing Litigation Orange County Transportation Authority v. WTW Properties, LLC OCSC Case no. 30-2021-01195108-CU-EI-CXC.
- B. Pursuant to Government Code Section 54956.9(d) Conference with General Counsel Potential Litigation One Item.

All members were present except for Directors Leon, T. Nguyen, and Stephens, who were absent from the meeting.

There was no report out on this item.



#### **Special Calendar**

#### 2. Public Hearing for the Proposed New Fare Media

Darrell E. Johnson, Chief Executive Officer, provided opening comments and introduced Ryan Armstrong, Department Manager, who provided a presentation on the item.

The Assistant Clerk of the Board stated that the Clerk's Office received a public comment from Grady Yu. The comment was emailed to the Board of Directors on March 23, 2025.

In-person public comments were received by:

- Grady Yu
- Peter Warner
- Nikkie Duncan

A motion was made by Director Jung, seconded by Director Foley, and declared passed by those present to receive and file initial public input on the proposed new fare media.

#### 3. Presentation of Resolutions of Appreciation for Employees of the Month

Resolutions of Appreciation as Employees of the Month for March 2025 were presented to:

- Jose Chin, Coach Operator
- Kiet Tran, Maintenance
- Charvalen Alacar, Administration

#### **Consent Calendar (Items 4 through 17)**

#### 4. Approval of Minutes

A motion was made by Director Foley, seconded by Director Amezcua, and declared passed by those present to approve the minutes of March 10, 2025 Orange County Transportation Authority and affiliated agencies' regular meeting.

Director J. Nguyen was not present to vote on this item.

#### 5. Orange County Transportation Authority Internal Audit Department Peer Review

Director Hennessy pulled this item for comment and praised Janet Sutter, Executive Director of Internal Audit, and her staff for their excellent work.



No action was taken on this receive and file information item.

## 6. Orange County Transportation Authority Investment and Debt Programs Report - January 2025

A motion was made by Director Foley, seconded by Director Amezcua, and declared passed by those present to receive and file as an information item.

Director J. Nguyen was not present to vote on this item.

#### 7. Second Quarter Fiscal Year 2024-25 Procurement Status Report

A motion was made by Director Foley, seconded by Director Amezcua, and declared passed by those present to receive and file as an information item.

Director J. Nguyen was not present to vote on this item.

#### 8. State Legislative Status Report

A motion was made by Director Foley, seconded by Director Amezcua, and declared passed by those present to:

- A. Adopt a SUPPORT position on SB 741 (Blakespear, D-Encinitas), which would clarify that a local emergency declared by a municipality, county, or special district qualifies as an emergency for coastal development permits.
- B. Adopt a SUPPORT position on SB 752 (Richardson, D-Inglewood), which would extend the sunset date on the sales tax exemption for the purchase of zero-emission transit buses.

Director J. Nguyen was not present to vote on this item.

#### 9. Federal Legislative Status Report

A motion was made by Director Foley, seconded by Director Amezcua, and declared passed by those present to adopt the proposed Principles for Surface Transportation Reauthorization Legislation and direct staff to take necessary and appropriate actions in furtherance of these goals in Washington, D.C.

Director J. Nguyen was not present to vote on this item.



## 10. Approval to Release Request for Proposals for OC ACCESS Eligibility Assessments and Transit Support Services

A motion was made by Director Foley, seconded by Director Amezcua, and declared passed by those present to:

- A. Approve the proposed evaluation criteria and weightings for Request for Proposals 5-3959 to select a firm to provide OC ACCESS eligibility assessments and transit support services.
- B. Approve the release of Request for Proposals 5-3959 for a consultant to provide OC ACCESS eligibility assessments and transit support services, for a three-year initial term with one, two-year option term.

Director J. Nguyen was not present to vote on this item.

## 11. Amendment to the Agreement for OC ACCESS Paratransit and OC Flex Microtransit Service

A motion was made by Director Foley, seconded by Director Amezcua, and declared passed by those present to authorize the Chief Executive Officer to negotiate and execute Amendment No. 7 to Agreement No. C-0-2150 between the Orange County Transportation Authority and First Transit, Inc., in the amount of \$79,867,843, to exercise the first option term to provide paratransit and microtransit services through December 31, 2027. This amendment will increase the maximum obligation to a total contract value of \$322,447,064.

Director J. Nguyen was not present to vote on this item.

#### 12. Approval to Award Contract for Lease and Full Service of Bus Tires

A motion was made by Director Foley, seconded by Director Amezcua, and declared passed by those present authorize the Chief Executive Officer to negotiate and execute Agreement No. C-4-2552 between the Orange County Transportation Authority and Bridgestone Americas Tire Operations, LLC, in the amount of \$9,223,781 for the lease and full service of bus tires for a five-year term.

Director J. Nguyen was not present to vote on this item.

#### 13. OC Flex Microtransit Pilot Program Update

In-person public comments were received by:

Peter Warner



A motion was made by Director Wagner, seconded by Director Klopfenstein, and declared passed by those present to:

- A. Authorize staff to undertake efforts necessary to discontinue OC Flex service effective July 1, 2025.
- B. Authorize staff to notify riders and stakeholders, and coordinate with the service operator to ensure a seamless conclusion of service and communicate alternative mobility options to impacted riders to support their travel needs.

Directors Amezcua and J. Nguyen were not present to vote on this item.

#### 14. May 2025 OC Bus Service Change

In-person public comments were received by:

Peter Warner

No action was taken on this receive and file information item.

## 15. Environmental Mitigation Program Endowment Fund Investment Report for December 31, 2024

A motion was made by Director Foley, seconded by Director Amezcua, and declared passed by those present to receive and file as an information item.

Director J. Nguyen was not present to vote on this item.

## 16. Agreement for Public Outreach Services for the Interstate 5 Improvement Project from Interstate 405 to State Route 55

A motion was made by Director Foley, seconded by Director Amezcua, and declared passed by those present to:

- A. Approve the selection of Kleinfelder Construction Services, Inc., as the firm to provide public outreach consultant services for the Interstate 5 Improvement Project from Interstate 405 to State Route 55.
- B. Authorize the Chief Executive Officer to negotiate and execute Agreement No. C-4-2488 between the Orange County Transportation Authority and Kleinfelder Construction Services, Inc., in the amount of \$1,199,260, for a six-year initial term with an option term of up to 24 months, to provide public outreach consultant services for the Interstate 5 Improvement Project from Interstate 405 to State Route 55.

Director J. Nguyen was not present to vote on this item.



#### 17. Contract Change Orders for Construction of the OC Streetcar Project

In-person public comments were received by:

Peter Warner

A motion was made by Director Hennessey, seconded by Director Sarmiento, and declared passed by those present to:

- A. Authorize the Chief Executive Officer to negotiate and execute Contract Change Order No. 3.4 to Agreement No. C-7-1904 with Walsh Construction Company II, LLC, in the amount of \$657,000, for removal and disposal of contaminated materials.
- B. Authorize the Chief Executive Officer to negotiate and execute Contract Change Order No. 61.1 to Agreement No. C-7-1904 with Walsh Construction Company II, LLC, in the amount of \$300,000, for the train-to-wayside control loop installed in embedded track.
- C. Authorize the Chief Executive Officer to negotiate and execute Contract Change Order No. 77.4 to Agreement No. C-7-1904 with Walsh Construction Company II, LLC, in the amount of \$350,000, for pavement modifications and restoration.
- D. Authorize the Chief Executive Officer to negotiate and execute Contract Change Order No. 177.1 to Agreement No. C-7-1904 with Walsh Construction Company II, LLC, in the amount of \$100,000, for the traffic signal pole foundation revisions.
- E. Authorize the Chief Executive Officer to negotiate and execute Contract Change Order No. 275 to Agreement No. C-7-1904 with Walsh Construction Company II, LLC, in the amount of \$750,000, for overhead contact system pole modifications.

Director Wagner voted in opposition to this item.

Directors Amezcua and J. Nguyen were not present to vote on this item.

#### Regular Calendar

There were no Regular Calendar matters.



#### **Discussion Items**

#### 18. Public Comments

In-person public comments were received by:

- Peter Warner
- Manual Pineda
- Gary Walsh

#### 19. Chief Executive Officer's Report

Mr. Johnson, CEO, reported on the following:

• 2025 Southern California Regional Bus Rodeo

#### 20. Directors' Reports

There were no Directors' Reports.

#### 21. Adjournment

The meeting adjourned at 10:31 a.m.

The next regularly scheduled meeting of this Board will be held: 9:30 a.m., on Monday, April 14, 2025
OCTA Headquarters
Board Room
550 South Main Street
Orange, California



#### April 14, 2025

**To:** Members of the Board of Directors

**From:** Doug Chaffee, Chair of the Board of Directors

**Subject:** Approval of the Revised 2025 Orange County Transportation

Authority Board of Directors Committee and External Agencies'

Assignments

#### **Overview**

The 2025 Board Member assignments for the Orange County Transportation Authority Board of Directors' committees and external agencies have been revised and are presented for Board of Directors' consideration and approval.

#### Recommendations

- A. Approve the revised Chair's assignments for the 2025 Orange County Transportation Authority Board of Directors' committees comprised of the Executive, Finance and Administration, Legislative and Communications, Regional Transportation Planning, State Route 91 Advisory, Transit, and Environmental Oversight committees.
- B. Receive the revised Chair's assignments for the 2025 external agencies comprised of the California Association of Councils of Governments, Los Angeles San Diego San Luis Obispo Rail Corridor Agency, Mobile Source Air Pollution Reduction Review Committee, Southern California Association of Governments' Regional Council, Orange County Council of Governments, and the Southern California Regional Rail Authority.

#### Background

The Orange County Transportation Authority (OCTA) is governed by an 18-member Board of Directors (Board) comprised of:

- Ten city members elected by the Orange County City Selection Committee;
- All five Orange County Board of Supervisors;
- Two public members selected by the 15 OCTA Board Members above; and

 The Governor's ex-officio member, who is a non-voting member and serves a four-year term, (appointed by the Governor of California), and historically has been held by the California Department of Transportation District 12 Director.

#### **Discussion**

Each year, the OCTA Board Chair (Chair) has the prerogative of assigning members to committees, and those appointments are then confirmed by the Board.

The Board previously approved the 2025 committee and external agencies assignments on January 27, 2025. Since that time, a new member of the Board has been appointed and the Chair has revised the committee assignments.

The recommended revised assignments to the OCTA Board committees and external agencies are detailed in Attachment A.

#### Summary

The recommended revised OCTA Board committees and Chair's external agencies' committee assignments for 2025 are presented for Board consideration and approval.

#### Attachment

A. 2025 Orange County Transportation Authority (OCTA) Board of Directors' Committees and External Agencies' Assignments – Revised

Prepared by:

Andrea West Clerk of the Board (714) 560-5611 Approved by:

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



### 2025 - Orange County Transportation Authority Board Committee & External Agency Assignments - Revised

OCTA Board Committee Assignments:	
Executive Committee	Finance and Administration Committee
Doug Chaffee, Chair	Michael Hennessey, Chair
Jamey M. Federico, Vice Chair	Patrick Harper, Vice Chair
Michael Hennessey, Finance & Administration Chair	Mike Carroll
Fred Jung, Transit Committee Chair	Jamey M. Federico
Stephanie Klopfenstein, Regional Transportation Planning Chair	Carlos A. Leon
Tam T. Nguyen Immediate Past Chair	Vicente Sarmiento
Donald P. Wagner, Legislative & Communications Chair	Mark Tettemer
Legislative and Communications Committee	Transit Committee
Donald P. Wagner, Chair	Fred Jung, Chair
Katrina Foley, Vice Chair	Vicente Sarmiento, Vice Chair
Fred Jung	Valerie Amezcua
Janet Nguyen	Stephanie Klopfenstein
Kathy Tavoularis	Carlos A. Leon
Mark Tettemer	Janet Nguyen
	Tam T. Nguyen
	Tam Trigayon
Regional Transportation Planning Committee	State Route 91 Advisory Committee
Stephanie Klopfenstein, Chair	Fred Jung
John Stephens, Vice Chair	Carlos A. Leon
Mike Carroll	Kathy Tavoularis
Jamey M. Federico	Mark Tettemer
Katrina Foley	Donald P. Wagner
Patrick Harper	Mike Carroll (Alternate)
Kathy Tavoularis	Doug Chaffee (Alternate)
Namy Tavoulans	Doug Chance (Alternate)
Environmental Oversight Committee	
Jamey Federico, Chair	
Mark Tettemer, Member	
External Agencies Assignments:	
California Association of Councils of Governments	LOSSAN Rail Corridor Agency
Patrick Harper	Katrina Foley
	Fred Jung
	Al Murray, Alternate
	Mark Tettemer, Alternate
	Wark Tetterner, Atternate
Mobile Source Air Pollution Reduction Review Committee	Orange County Council of Governments
Patrick Harper	Mike Carroll
Vacant, Alternate	
,	
Southern California Association of Governments' Regional	Southern California Regional Rail Authority
Council	(Metrolink)
Carlos A. Leon	Doug Chaffee
Canos A. Leun	Tam T. Nguyen
	Mike Carroll (Alternate)
	Vacant (Alternate)





#### **April 14, 2025**

**To:** Members of the Board of Directors

**From:** Andrea West, Clerk of the Board

Subject: Investments: Compliance, Controls, and Reporting, July 1

through December 31, 2024, Internal Audit Report No. 25-511

Finance and Administration Committee Meeting of March 26, 2025

Present: Directors Federico, Harper, Hennessey, and Leon

Absent: Directors Carroll, Sarmiento, and Tettemer

**Committee Vote** 

This item was passed by the Members present.

**Committee Recommendation(s)** 

Direct staff to implement a recommendation provided in Investments: Compliance, Controls, and Reporting, July 1 through December 31, 2024, Internal Audit Report No. 25-511.



#### March 26, 2025

**To:** Finance and Administration Committee

**From:** Darrell E. Johnson, Chief Executive Officer

Janet Sutter, Executive Director

Internal Audit

**Subject:** Investments: Compliance, Controls, and Reporting, July 1 through

December 31, 2024, Internal Audit Report No. 25-511

#### Overview

The Internal Audit Department has completed an audit of investments for the period July 1 through December 31, 2024. Based on the audit, the Orange County Transportation Authority complied with its debt, investment, and reporting policies and procedures; however, the Internal Audit Department made a recommendation to enhance the review of the monthly Investment and Debt Programs Reports.

#### Recommendation

Direct staff to implement a recommendation provided in Investments: Compliance, Controls, and Reporting, July 1 through December 31, 2024, Internal Audit Report No. 25-511.

#### Background

The Treasury Department (Treasury) is responsible for the management of the Orange County Transportation Authority's (OCTA) Investment Portfolio (Portfolio). On December 31, 2024, the Portfolio's book value was approximately \$2.8 billion. The portfolio is divided into two portfolios: the liquid portfolio for immediate cash needs; and the managed portfolio for future budgeted expenditures. In addition to these portfolios, OCTA has funds invested in debt service reserve funds for the 91 Express Lanes Program. OCTA's Treasurer manages the liquid portfolio, and four external investment managers administer the managed portfolio. OCTA also has investments in debt service reserve funds for various outstanding debt obligations.

The Investment Policy sets forth guidelines for all OCTA investments to ensure conformance with the California Government Code. The Investment Policy outlines permitted investments, as well as diversification guidelines. The diversification limits ensure the Portfolio is not unduly concentrated in securities of one type, industry, or entity, thereby assuring adequate portfolio liquidity should one sector or company experience difficulties.

#### **Discussion**

Multiple securities were not appropriately identified as variable and floating rate securities in the Portfolio Listing of the September and November 2024 Investment and Debt Programs Reports. Internal Audit recommended Treasury management confirm the presentation of variable and floating rate securities during its review of the monthly reports, and management agreed to enhance its review process to ensure consistency in future reports.

#### Summary

Internal Audit has completed an audit of investments for the period July 1 through December 31, 2024, and has offered a recommendation for improvement.

#### Attachment

A. Investments: Compliance, Controls, and Reporting, July 1 through December 31, 2024, Internal Audit Report No. 25-511

Prepared by:

Gabriel Tang Internal Auditor

(714) 560-5746

Approved by:

Janet Sutter

Executive Director, Internal Audit

(714) 560-5591

# ORANGE COUNTY TRANSPORTATION AUTHORITY INTERNAL AUDIT DEPARTMENT



# Investments: Compliance, Controls, and Reporting July through December 31, 2024

## **Internal Audit Report No. 25-511**

March 14, 2025



**Audit Team:** Gabriel Tang, CPA, Principal Auditor, Internal Audit

Serena Ng, CPA, Senior Manager, Internal Audit

**Distributed to:** Andrew Oftelie, Chief Financial Officer, Finance and Administration

Sean Murdock, Robert Davis, Rima Tan, Changsu Lee

## ORANGE COUNTY TRANSPORTATION AUTHORITY INTERNAL AUDIT DEPARTMENT

Investments: Compliance, Controls, and Reporting July 1 through December 31, 2024 March 14, 2025

#### **Table of Contents**

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Presentation of Variable and Floating Rate Securities in the Monthly Reports	3

## ORANGE COUNTY TRANSPORTATION AUTHORITY INTERNAL AUDIT DEPARTMENT

Investments: Compliance, Controls, and Reporting July 1 through December 31, 2024 March 14, 2025

#### Conclusion

The Internal Audit Department (Internal Audit) has completed an audit of investments for the period July 1 through December 31, 2024. Based on the audit, the Orange County Transportation Authority (OCTA) complied with its debt, investment, and reporting policies and procedures; however, Internal Audit made a recommendation related to the presentation of variable and floating rate securities in the monthly Investment and Debt Programs Reports.

#### Portfolio Management

The Treasury Department (Treasury) is responsible for the management of OCTA's Investment Portfolio (Portfolio). To accomplish this, Treasury uses the Clearwater treasury software system to monitor investments and investment manager performance.

On December 31, 2024, the Portfolio's book value was approximately \$2.8 billion. The portfolio is divided into two portfolios: the liquid portfolio for immediate cash needs and the managed portfolio for future budgeted expenditures. In addition to these portfolios, OCTA has funds invested in debt service reserve funds for the 91 Express Lanes Program. OCTA's Treasurer manages the liquid portfolio, and four external investment managers administer the managed portfolio. OCTA also has investments in debt service reserve funds for various outstanding debt obligations. OCTA's Accounting Department (Accounting) is responsible for recording all debt and investment transactions, and for reconciling all bank and custodial accounts monthly.

#### Investment Policy

The Investment Policy sets forth guidelines for all OCTA investments to ensure conformance with the California Government Code. The Investment Policy outlines permitted investments, as well as diversification guidelines. The diversification limits ensure the Portfolio is not unduly concentrated in securities of one type, industry, or entity, thereby assuring adequate portfolio liquidity should one sector or company experience difficulties.

OCTA has provided the investment managers with a copy of the Investment Policy and requires investment managers to invest their portfolios in accordance with the provisions of the Investment Policy.

## ORANGE COUNTY TRANSPORTATION AUTHORITY INTERNAL AUDIT DEPARTMENT

Investments: Compliance, Controls, and Reporting July 1 through December 31, 2024 March 14, 2025

#### Objectives, Scope, and Methodology

The primary <u>objective</u> was to determine if OCTA complied with its debt, investment, and reporting policies and procedures.

Audit objectives included determining if:

- Internal controls over OCTA's investment activities were adequately designed;
- OCTA was in compliance with the Investment Policy;
- Investment transactions were adequately supported; and
- OCTA was in compliance with investment requirements of debt issuances.

The <u>scope</u> included investment transactions and investment-related controls for the period July 1 through December 31, 2024.

The methodology consisted of obtaining the most current Investment Policy and Debt and Investment Management Manual, reviewing any personnel changes and corresponding updates to bank authorization signature cards, reviewing a haphazard sample of daily cash worksheets prepared by Accounting and Treasury staff, testing all the sweep purchases for compliance with the Investment Policy, testing all investment purchases for compliance with the Investment Policy and evidence of secondary review, testing a judgmental sample of wire and automated clearing house (ACH) transfers for accuracy and proper authorization, testing a judgmental sample of bank account reconciliations for compliance with policy, testing a haphazard sample of Treasury's weekly compliance review, and testing a haphazard sample of the monthly Investment and Debt Programs Reports provided to OCTA's Board of Directors, including testing a haphazard sample of 40 investment securities managed by investment managers for the selected month. For wire and ACH transfer testing. Internal Audit judgmentally selected wire or ACH transfers with a bias towards large transactions. Bank account reconciliations are selected with a bias towards bank accounts with the most transactions. Since the samples are non-statistical, any conclusions are limited to the sample items tested. The methodology also included confirming that Treasury obtained investment managers' acknowledgement of receipt of OCTA's Investment Policy and confirming that investment managers' performance is reported and compared to indices in the monthly Investment and Debt Program Reports.

We conducted this performance audit in accordance with Generally Accepted Government Auditing Standards. Those standards require that we plan and perform the audit to obtain sufficient, appropriate evidence to provide a reasonable basis for our findings and conclusions based on our audit objectives. We believe that the evidence obtained provides a reasonable basis for our findings and conclusions based on our audit objectives.

## ORANGE COUNTY TRANSPORTATION AUTHORITY INTERNAL AUDIT DEPARTMENT

Investments: Compliance, Controls, and Reporting
July 1 through December 31, 2024
March 14, 2025

#### Audit Comment, Recommendation, and Management Response

**Presentation of Variable and Floating Rate Securities in the Monthly Reports** 

Multiple securities were not appropriately identified as variable and floating rate securities in the Portfolio Listing of the September and November 2024 Investment and Debt Programs Reports. Variable and floating rate securities are identified with a Note (1) in the Portfolio Listing; however, the Note (1) was missing for 20 variable and floating rate securities in September 2024, and 17 variable and floating rate securities in November 2024.

#### Recommendation:

Internal Audit recommends that management confirm the presentation of variable and floating rate securities during its review of the monthly Investment and Debt Programs Reports.

#### **Management Response:**

Management concurs with the observation regarding the notation of floating and variable rate securities in the September and November 2024 Investment and Debt Programs Reports. Management will enhance its review process to ensure consistency in future reports.





#### April 14, 2025

**To:** Members of the Board of Directors

From: Andrea West, Clerk of the Board Andrea West,

Subject: Amendment to Cooperative Agreement with the County of

Orange, Orange County Sheriff's Department

#### Executive Committee Meeting of April 7, 2025

Present: Chair Chaffee, Vice Chair Federico, Directors Jung, Klopfenstein,

Nguyen, and Wagner

Absent: Director Hennessey

#### **Committee Vote**

This item was passed by the Members present.

Directors Nguyen and Wagner voted in opposition to this item.

#### **Committee Recommendation(s)**

Authorize the Chief Executive Officer to negotiate and execute Amendment No. 6 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 \$209,876, for the initial request of OC Streetcar Transit Police Services, effective May 2, 2025 through June 30, 2025. This will increase the maximum obligation of the agreement to a total contract value of \$12,869,312.



#### April 7, 2025

**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. In anticipation of the commencement of both pre-revenue, testing environment operations, and full revenue operations, and consistent with prior direction from the Board of Directors, additional dedicated staff are necessary to provide expanded Transit Police Services for OC Streetcar. Board of Directors' approval is requested to amend the agreement to include necessary funding for the remainder of fiscal year 2024-25.

#### Recommendation

Authorize the Chief Executive Officer to negotiate and execute Amendment No. 6 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 \$209,876, for the initial request of OC Streetcar Transit Police Services, effective May 2, 2025 through June 30, 2025. This will increase the maximum obligation of the agreement to a total contract value of \$12,869,312.

#### **Discussion**

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

OCTA anticipates pre-revenue operations for the OC Streetcar system to begin shortly after the first vehicles arrive in spring 2025. Vehicles will begin testing on track segment 1, between the Harbor Station and Raitt Street. This segment historically has seen frequent trespassing activity, including vandalism, camping, and students/pedestrians traversing the greenbelt. The Security and Emergency Preparedness Department, in consultation with TPS and consistent with prior direction from the Board, have determined a dedicated team of Orange County Sheriff's Deputies should be formed to provide law enforcement on the OC Streetcar system, with one sergeant and two deputies required for prerevenue operations. In total, one sergeant and six deputies will be requested for full revenue operations. Securing additional TPS staff now will allow appropriate time to acquire staff and ramp up personnel in a fiscally responsible manner that is in alignment with the remaining construction schedule. An amendment is required to increase the overall contract value for the remainder of the fiscal year (FY) to cover the cost of adding TPS labor for the remainder of FY 2024-25. For FY 2025-26, OCTA will return to the Board requesting the additional level of service provided by OCSD for TPS and a five-year contract renewal. The \$209,876 budget request represents an increase of 1.66 percent over the amount budgeted for FY 2024-25. The increase is associated with adding one full-time sergeant and two deputies at the current contract rates. This cost is pro-rated for the remaining two months of the fiscal year and includes both direct staff cost as well as necessary equipment and training.

Complete contracted 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. OCSD deputies assigned to TPS carry full police authorities, allowing them to conduct investigations and make misdemeanor and felony arrests. A cooperative agreement fact sheet is provided as Attachment B.

#### Fiscal Impact

Amendment No. 6 to Cooperative Agreement No. C-0-2330 is estimated to cost \$209,876, and establishes the OC Streetcar team of TPS. This will be in addition to the Fixed-Route Team, the Community-Oriented Policing Team, the Explosives Detection and Canine Handler Team, and the Investigative Team. Collectively, these groups protect all of OCTA's assets through routine patrols and specialized activities such as Visual Intermodal Prevention and Response and Anti-Terrorism-Anti-Crime operations.

#### Summary

Staff recommends the Board of Directors authorize the Chief Executive Officer to negotiate and execute Amendment No. 6 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 \$209,876 for the addition of two deputies and one sergeant to Transit Police Services from April 1, 2025 through June 30, 2025, bringing the maximum contract obligation to \$12,869,312.

#### 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:

Matt Ankley

Manager, Security and Emergency

Matthew Chukley

Preparedness (714) 560-5961

Approved by:

Jennifer L. Bergener

Deputy Chief Executive Officer

(714) 560-5462

#### 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, on-board OCTA buses, and OC Streetcar System
- 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, antiterrorism anti-crime, community-oriented policing, and Visible Intermodal Prevention and Response Team
- 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
- Six sergeant positions
- One investigator position
- 20 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
- Two deputy sheriff II OC Streetcar System
- One office specialist position

## 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)
    - 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
    - 20 deputy sheriff II fixed-route enforcement positions; includes three canines with bomb technicians

1

- 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: 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
      - o \$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, approved 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

- 5. June 12, 2023, Amendment No. 4 to Cooperative Agreement No. C-0-2330, \$11,396,565, approved by the Board.
  - To increase the maximum obligation for the fourth year of the five-year agreement.
    - \$10,948,608 for continued services with no staffing change, a
       2.38 percent decrease over FY 2022-23
      - Breakdown of decrease: wage, benefit, and other direct cost
         2.38 percent, special services 0.00 percent
    - A provision for up to \$447,957 for special services
      - o \$89,528 for special enforcement
      - \$23,179 for seasonal law enforcement
      - \$151,500 for canine units
      - \$60,000 for mounted enforcement units
      - o \$110,000 for VIPR/Counter Terrorism Team
      - \$13,750 for Angels Express
- 6. June 10, 2024, Amendment No. 5 to Cooperative Agreement No. C-0-2330, \$12,659,436 approved by the Board.
  - To increase the maximum obligation for the fifth year of the five-year agreement.
    - \$12,211,479 for continued services with no staffing change, a 14.48 percent increase over FY 2023-24
      - Breakdown of increase: wage, benefit, and other direct cost
         11.5 percent, special services 2.98 percent
    - A provision for up to \$447,957 for special services
      - \$89,528 for special enforcement
      - \$23,179 for seasonal law enforcement
      - o \$151,500 for canine units
      - \$60,000 for mounted enforcement units
      - \$110,000 for VIPR/Counter Terrorism Team
      - \$13,750 for Angels Express
- 7. April 7, 2025, Amendment No. 6 to Cooperative Agreement No. C-0-2330, \$209,876 pending approval by the Board.
  - To increase the maximum obligation for the fifth year of the five-year agreement.

- \$209,876 for added services on OC Streetcar System with the addition of two deputies and one sergeant, a 2.36 percent increase over FY 2024-25
  - o Breakdown of increase: wage, benefit, and other direct cost

Total committed to County of Orange, OCSD Cooperative Agreement No. C-0-2330: \$57,680,138.

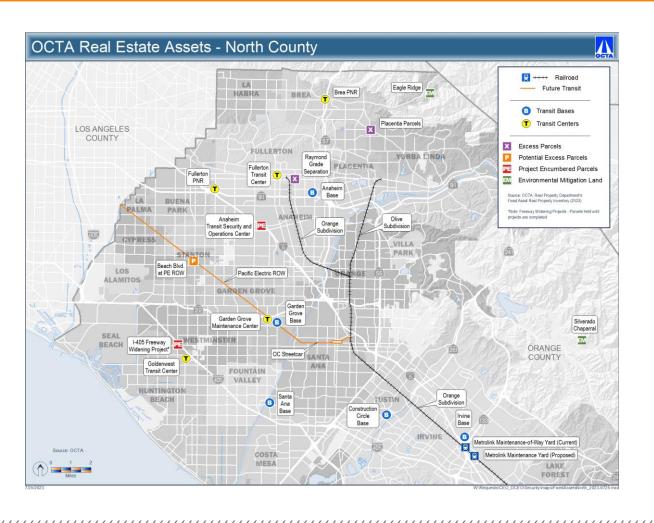
# Amendment to Cooperative Agreement with the County of Orange, Orange County Sheriff's Department

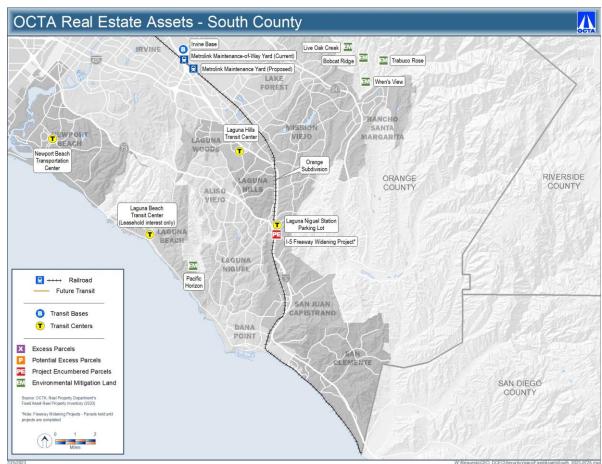


# Transit Police Services – Overview

- Transit Police Services (TPS) provided by Orange County Sheriff's Department (OCSD)
- 5-year contract approved on July 13, 2020
- Current TPS contract includes 33 total staff
  - 1 Captain
  - 5 Sergeants
  - 25 Deputies
  - 1 Investigator
  - 1 Office Technician

# Real Estate Assets





# TPS Teams - Current State

- Fixed-Route Transit Police Team (uniformed patrol)
- Right-of-Way Enforcement and Investigations Team
- Community-Oriented Policing Team (Behavioral Health Liaisons)
- Explosives Detection Canine Teams
- Administrative Team

# OC Streetcar Safety & Security

- Board of Directors (Board) approved combination of "Streetcar Security Officers" and sworn law enforcement
- Streetcar Security Officers provide day-to-day customer service and unarmed crime deterrent presence, reinforcing OCTA rider codes of conduct and policies similar to coach operators
- Law enforcement provides routine patrol and visible presence on the system, as well as response to crimes and emergencies
- The OC Streetcar Passenger Safety and Security Program must be responsive to the operating environment and community needs to ensure sustainable ridership

# OC Streetcar Team Proposal

- Dedicated Team for OC Streetcar alignment
- Pre-Revenue Request- May 2025 through June 30, 2025
  - 1 Sergeant
  - 2 Deputies
- Full Request for Revenue Operations TPS contract renewal (July 2, 2025 – June 30, 2030)
  - 1 Sergeant
  - 6 Deputies

# **Functions**

- Provide dedicated law enforcement on the OC Streetcar alignment
- Liase with local law enforcement agencies having jurisdiction
- Support efficient operation of the OC Streetcar
- Patrol the alignment to ensure safety and deter crime
- Coordinate with proposed Streetcar security officers during revenue operations

# Fiscal Impact

• Adding one sergeant and two deputies for the remainder of the 2024-25 fiscal year is estimated to add \$209,876 to the contract, bringing the total maximum contract obligation to \$12,869,312.

 Security and Emergency Preparedness is awaiting the first annual contract estimate of adding 1 sergeant and 6 deputies to existing services and will present the 5-year contract renewal with OCSD at a later Board meeting for approval.

## Recommendation

 Authorize OCTA to approve Amendment 6 to Contract C-0-2330 with the Orange County Sheriffs Department, creating the OC Streetcar team of TPS in the amount of \$209,876 for the remainder of the fiscal year.





#### April 14, 2025

**To:** Members of the Board of Directors

From: Andrea West, Clerk of the Board

**Subject:** Fiscal Year 2024-25 Second Quarter Budget Status Report

Finance and Administration Committee Meeting of March 26, 2025

Present: Directors Federico, Harper, Hennessey, and Leon

Absent: Directors Carroll, Sarmiento and Tettemer

#### **Committee Vote**

This item was passed by the Members present.

#### **Committee Recommendation(s)**

Receive and file as an information item.



#### March 26, 2025

**To:** Finance and Administration Committee

**From:** Darrell E. Johnson, Chief Executive Officer

**Subject:** Fiscal Year 2024-25 Second Quarter Budget Status Report

#### Overview

Orange County Transportation Authority staff has implemented the fiscal year 2024-25 budget. This report summarizes the material variances between the budget and actual revenues and expenses through the second quarter of fiscal year 2024-25.

#### Recommendation

Receive and file as an information item.

#### Background

The Board of Directors (Board) approved the Orange County Transportation Authority (OCTA) Fiscal Year (FY) 2024-25 Budget on June 24, 2024. The approved budget itemized the anticipated revenues and expenses necessary to deliver OCTA's transportation programs and projects.

The balanced budget as approved by the Board in June was \$1,756.6 million. Sources of funds were comprised of \$1,403.8 million in current FY revenues and \$352.8 million in use of prior year designations. Uses of funds were comprised of \$1,660.1 million of current FY expenditures and \$96.5 million of designations.

The Board has approved one amendment through the second quarter, increasing the expense budget by \$54.5 million. This increased the budget to \$1,811.1 million as summarized in Table 1 on the following page.

Table 1 - Working Budget

Date	Description	ı	Amount*
7/1/2024	Adopted Budget	\$	1,756,583
8/12/2024	Additional \$54.5 million for the new administrative head quarters	\$	54,500
	Subtotal Amendments	\$	54,500
	Total Working Budget	\$	1,811,083

HQ - Headquarters

\*in thousands

#### Discussion

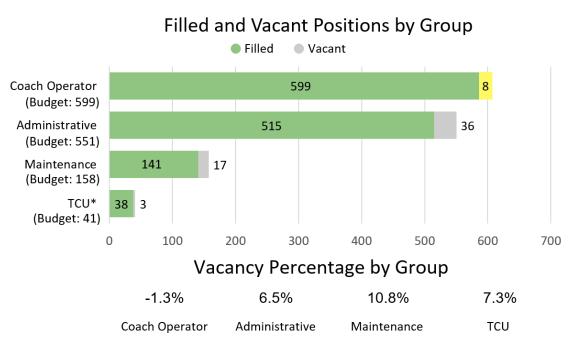
Staff monitors and analyzes revenues and expenditures versus the working budget. This report provides a summary level overview of staffing levels and explanations for material budget to actual variances within each pertinent OCTA program. The OCTA programs include Bus, Regional Rail, Express Lanes, Motorist 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 were \$3.7 million under the budget of \$108.1 million. This is primarily due to staffing vacancies agency wide; vacancy details are provided in the graph below. Coach operator positions were slightly over the budgeted amount due to lower attrition than anticipated when the budget was developed.



\*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. Sales tax receipts closely aligned to the budget through the second quarter. LTA sales tax receipts of \$218.6 million were \$0.2 million lower than the budget and LTF sales tax receipts of \$110.2 million were \$0.3 million higher than the budget.



Actuals Compared to Budget

Actuals Compared to Budget

**Major Programs** 

**Bus Program** 





Bus Program operating revenue of \$241.3 million was \$73.5 million above budget. This was due to the timing of federal operating assistance grant revenues anticipated in FY 2023-24 but received in FY 2024-25. Bus Program operating expenses of \$151.5 million were \$8.1 million under the budget. This is primarily due to lower than anticipated expenditures on recurring as-needed services and supplies, such as fuel, maintenance services, and professional services, which can vary based on need.



Bus Program capital revenue and expenses of \$175.1 million were \$39.4 million higher than the budget. This was due to capital revenues that were reimbursed based on current year's capital expenses. Capital expenses were higher than budgeted primarily due to the timing of the purchase of new electric buses that are budgeted for in the third quarter. This overrun was partially offset by lower than anticipated expenses pertaining to the Transit Security and Operations Center, based on lower than anticipated contract award and timing of construction and design costs not yet incurred due to the recent award.

#### Regional Rail Program





Regional Rail Program operating revenue of \$41.5 million was \$18.2 million higher than the budget. This was due to SB 125 (Chapter 54, Statutes of 2023) funds that were received in the second quarter but anticipated to be received in the fourth quarter. Rail operating expenses were \$18.2 million higher than budgeted. This was due to the timing of invoicing for the operating subsidy. Through the second quarter OCTA paid the first three quarters worth of invoices, expenses are anticipated to align to the budget by the end of the FY.



Regional Rail Program capital revenue of \$0.8 million was \$0.2 million over budget. This was due to capital revenue reimbursements received in the current FY that were budgeted in the previous FY. Capital expenses were aligned with the budget through the second quarter.

#### 91 Express Lanes Program



The 91 Express Lanes Program operating revenue of \$41.5 million exceeded the budget by \$8.8 million, primarily due to larger than anticipated revenue from toll violations, interest income, and 200,000 additional trips. Operating expenses of \$7.3 million were \$2.3 million lower than the budget of \$9.6 million, primarily due to lower usage of as-needed contracted and professional services.



The 91 Express Lanes Program capital revenue and expenses were in line with the budget.

#### 405 Express Lanes Program



The 405 Express Lanes Program operating revenue of \$26.4 million was \$4 million over budget, primarily due to higher than anticipated toll violation revenues. Operating expenses of \$7.4 million were \$11.8 million lower than the budget of \$19.2 million, primarily due to invoice timing differences for work on the back-office system and adjustments to the amortization of the Transportation Infrastructure Finance and Innovation Act loan. It is anticipated that expenditures will align with the budget this FY.

#### Motorist Services Program

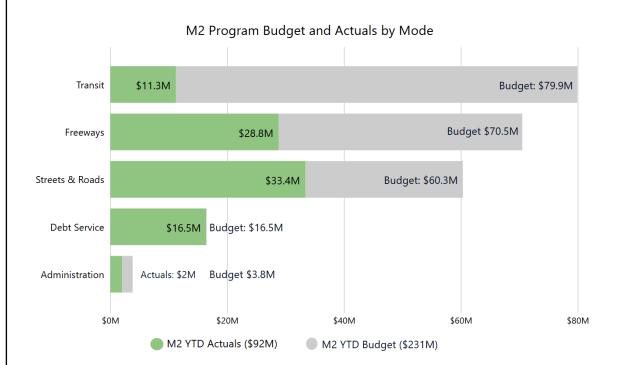




Motorist Services Program operating revenue and expenses of \$4 million were \$0.2 million lower than the budget. The underrun in expense is based on the timing of invoices and lower than budgeted contracted tow service costs for Freeway Service Patrol. The underrun is revenue is directly tied to the amount of revenue needed to fund expenditures.

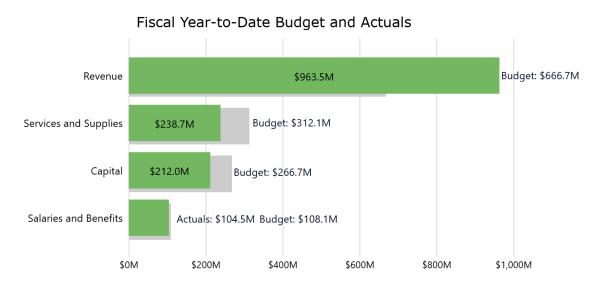
#### M2 Program





Total actual expenses of \$92 million for the M2 Program were \$139 million lower than the budget, primarily due to the timing of OC Streetcar construction expenses (\$65.5 million). Additionally, the timing of construction and right-of-way (ROW) payments for freeway projects including the Interstate 5 (I-5) to El Toro Road Freeway Project (\$33.7 million), State Route 91 (SR-91) freeway improvements (\$4 million), State Route 57 (SR-57) Project (\$1.3 million) contributed to the underrun. Also contributing to the variance are lower than anticipated expenses for the Local Fair Share programs (\$14.9 million), and Regional Traffic Signal Synchronization (\$11.9 million).

#### Summary



Overall, revenue of \$963.5 million was \$296.8 million over budget. This was primarily due to reimbursement of Transit and Intercity Rail Capital Program funding related to construction expenses incurred in prior years for the OC Streetcar Project. The timing of federal operating assistance grant revenues for the bus program and SB 125 funds for the rail program are also contributing to the overrun.

Operating expenses of \$238.7 million were \$73.4 million under budget, primarily due to the timing of expenses for freeway services, contributions to Orange County, cities, and local agencies for the Regional Traffic Signal Synchronization and Local Fair Share programs. Additionally, as-needed services and supplies as well as professional services contributed to the underrun.

Total OCTA capital expenses of \$212 million were \$54.7 million under budget, primarily due to the timing of OC Streetcar construction expenses and the timing of construction and ROW expenses for the I-5 to El Toro Road Freeway Project, SR-91 freeway improvements, and SR-57 Project.

Salaries and benefits of \$104.5 million underran the budget by \$3.6 million. This was primarily due to staffing vacancies in the administrative groups.

#### Attachment

A. Fiscal Year 2024-25 Second Quarter Budget Status Summary

Prepared by:

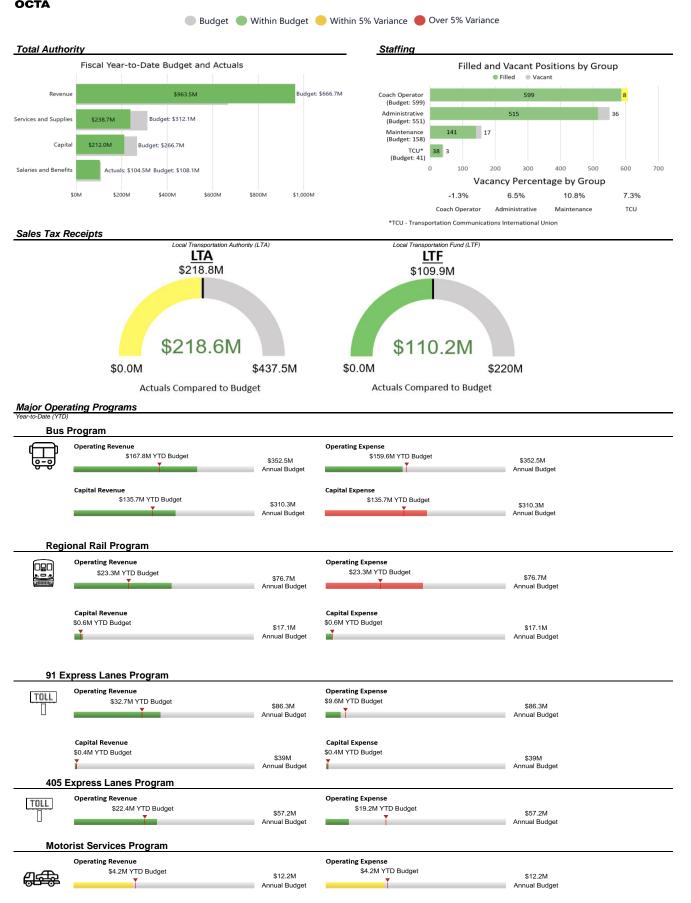
Victor Velasquez Department Manager, Financial Planning and Analysis (714) 560-5592 Andrew Oftelie Chief Financial Officer, Finance and Administration

(714) 560-5649

Approved by:



#### Fiscal Year 2024-25 Second Quarter Budget Status Summary







#### **April 14, 2025**

**To:** Members of the Board of Directors

**From:** Andrea West, Clerk of the Board

**Subject:** Sole Source Agreement for Health Insurance Brokerage Services

#### Finance and Administration Committee Meeting of March 26, 2025

Present: Directors Federico, Harper, Hennessey, and Leon

Absent: Directors Carroll, Sarmiento, and Tettemer

#### **Committee Vote**

This item was passed by the Members present.

#### **Committee Recommendation(s)**

Authorize the Chief Executive Officer to negotiate and execute sole source Agreement No. C-5-3980 between the Orange County Transportation Authority and Alliant Insurance Services, Inc., in the amount of \$640,000, for a five-year term, effective June 1, 2025 through May 31, 2030, to provide health insurance brokerage services.



#### March 26, 2025

To: Finance and Administration Committee

From: Darrell E. Johnson, Chief Executive Officer

**Subject:** Sole Source Agreement for Health Insurance Brokerage Services

#### Overview

The Orange County Transportation Authority contracts with the Public Risk Innovation, Solutions, and Management to participate in a purchasing insurance pool for employee health and welfare insurance benefits. Pool members are required to have Alliant Insurance Services, Inc. as their primary broker of record. To continue participation in the pool, a new broker agreement is necessary. A proposal was solicited and received from Alliant Insurance Services, Inc. as a sole source procurement for health insurance brokerage services. Board of Directors' approval is required for the firm to provide the services.

#### Recommendation

Authorize the Chief Executive Officer to negotiate and execute sole source Agreement No. C-5-3980 between the Orange County Transportation Authority and Alliant Insurance Services, Inc., in the amount of \$640,000, for a five-year term, effective June 1, 2025 through May 31, 2030, to provide health insurance brokerage services.

#### **Discussion**

The Orange County Transportation Authority (OCTA) uses a broker of record to assist the Benefits section of the Human Resources Department to implement and maintain OCTA's benefit programs for its employees. The broker of record provides marketing and placing of coverage, assists OCTA in developing comprehensive, cost-effective health and welfare programs, and supports and assists OCTA in resolving any health insurance carrier problems. Additionally, the broker of record informs OCTA of new legislation that may affect OCTA, performs research and analysis as requested, develops benefit communication pieces, and assists with open enrollment.

OCTA entered into a Joint Powers Agreement with Public Risk Innovation, Solutions, and Management (PRISM) in 2016 to participate in a purchasing insurance pool with other California counties and public entities for employee health and welfare insurance benefits. Alliant Insurance Services, Inc. (Alliant) is the exclusive broker of record for all PRISM programs, with exclusive rights to consult, underwrite, distribute, and service all PRISM programs and its members. The delivery of the PRISM programs is contractually provided based on the knowledge and expertise of the Alliant program and service teams. PRISM requires that OCTA and other pool members utilize Alliant as the primary broker of record. This is a normal rule of engagement for entry into risk sharing pools and programs.

The PRISM pool 2025 renewal rate was an increase of 4.8 percent from 2024. The market trend for insurance premiums for comparable size organizations to OCTA were increases averaging 12 percent in 2025. Therefore, it is in OCTA's best interest to remain a member of the PRISM insurance pool due to favorable insurance rates and to contract with Alliant as its primary broker of record in accordance with the PRISM Joint Powers Agreement.

#### Procurement Approach

This procurement was handled in accordance with OCTA's Board of Directors-approved policies and procedures for a sole source procurement.

Alliant is the exclusive broker of record for all PRISM public agency risk-sharing programs and the sole entity to consult, underwrite, distribute, and service all PRISM programs and its members. Therefore, Alliant is the sole source firm that can provide broker and consulting services to implement and maintain employee benefit programs. Alliant has represented PRISM since 1979 and the firm's core clientele are public agencies, including several located in Southern California. Based on its technical ability and financial status, Alliant is deemed responsible.

Alliant's proposal was reviewed by staff from the Contracts Administration and Materials Management and Human Resources 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 Alliant's proposed pricing. The Internal Audit price review report compared the rates proposed by Alliant to comparable contract rates with the City of San Bernardino, escalated by the 12-month Employment Cost Index rate

for December 2024 and found that Alliant's quoted pricing is lower. Therefore, the quoted price is deemed fair and reasonable.

Based on the above, the award is recommended to Alliant.

#### Fiscal Impact

Funds are included in OCTA's Fiscal Year 2024-25 Budget, People and Community Engagement Division, Human Resources Department. Account No. 1340-7519-A2307-FBE, and is funded through the Local Transportation Fund.

#### Summary

Staff recommends the Board of Directors authorize the Chief Executive Officer to negotiate and execute sole source Agreement No. C-5-3980 between the Orange County Transportation Authority and Alliant Insurance Services, Inc., in the amount of \$640,000, to provide health insurance brokerage services, for a five-year term, effective June 1, 2025 through May 31, 2030.

#### Attachment

None.

Prepared by:

Bea Maselli Section Manager III, Benefits

Haven believeenge

714-560-5825

Pia Veesapen Director, Contracts Administration and Materials Management

714-560-5619

Approved by:

Maggie McJilton

Executive Director, People and

Community Engagement

714-560-5824





#### **April 14, 2025**

To: Members of the Board of Directors

Andrea West, Clerk of the Board From:

Subject: Capital Programming Update

Regional Transportation Planning Committee Meeting of April 7, 2025

Present: Directors Federico, Foley, Klopfenstein, and Stephens

**Directors Carroll and Harper** Absent:

#### **Committee Vote**

This item was passed by the Members present.

#### Committee Recommendation(s)

- Authorize the use of up to \$180.584 million to fund the construction phase Α. and adjust costs associated with prior phases for the State Route 55 Improvement Project from Interstate 5 to State Route 91 (Project F) using Measure M2 funding.
- B. Authorize the use of up to \$334.367 million to fund the construction phase and adjust costs associated with prior phases for the State Route 91 Improvement Project from La Palma Avenue to State Route 55 (Segment 2) (Project I), using the following funding sources:
  - 91 Express Lanes Excess Revenue (\$323.726 million)
  - Local Partnership Program Formulaic (\$6.641 million)
  - Community Project Funding / Congressionally Directed Spending (\$4.000 million)
- C. Authorize the use of up to an additional \$132.149 million to supplement the construction funding and prior phase funding for the Interstate 5 Improvement Project from Interstate 405 to Yale Avenue (Segment 1) (Project B) using Measure M2 funding.
- D. Authorize the use of up to an additional \$80.172 million to supplement the construction funding and prior phase funding for the State Route 91 (Segments 1 and 3) (Project I) using 91 Express Lanes Excess Revenue.

### COMMITTEE TRANSMITTAL Page 2



- E. Authorize the use of up to an additional \$14.699 million to supplement the construction funding and prior phase funding for the Interstate 605/Katella Avenue Interchange Project (Project M) using Measure M2 funding.
- F. Authorize the inclusion of \$39.251 million in committed State Highway Operations and Protection Program funds and an additional \$22.769 million in uncommitted future state funds to integrate the California Department of Transportation Multi-Asset Project into the Capital Funding Program report for:
  - Interstate 5 Improvement Project between Interstate 405 and Yale Avenue (Segment 1) (Project B) (\$36.400 million in committed State Highway Operations and Protection Program funds and \$13.744 million in uncommitted future state funds)
  - State Route 91 Improvement Project from Acacia Street to La Palma Avenue (Segment 3) (Project I) (\$2.851 million in committed State Highway Operations and Protection Program funds and \$9.025 million in uncommitted future state funds)
- G. Authorize the use of up to \$8.000 million for the Inland Slope Rehabilitation Phase II Project from the following fund sources:
  - Measure M2 (\$5.600 million)
  - Local Partnership Program Formulaic (\$2.400 million)
- H. Authorize the use of up to \$12.830 million in Congestion Mitigation and Air Quality Improvement funds for the Future Zero-Emission Bus Project.
- I. 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.



#### April 7, 2025

**To:** Regional Transportation Planning Committee

From: Darrell E. Johnson, Chief Executive Officer

**Subject:** Capital Programming Update

#### Overview

The Orange County Transportation Authority uses a combination of federal, state, and local funding sources to plan and deliver Board of Directors-approved capital improvement and transit projects, including those promised in the voter-approved sales tax program, Measure M2. As projects advance through the various stages of development, funding sources and amounts are updated and adjusted to reflect the most current cost estimates and to maximize the benefit of local sales tax dollars. Board of Directors' authorization is requested to commit funding for current and planned projects as further described herein.

Africa

#### Recommendations

- A. Authorize the use of up to \$180.584 million to fund the construction phase and adjust costs associated with prior phases for the State Route 55 Improvement Project from Interstate 5 to State Route 91 (Project F) using Measure M2 funding.
- B. Authorize the use of up to \$334.367 million to fund the construction phase and adjust costs associated with prior phases for the State Route 91 Improvement Project from La Palma Avenue to State Route 55 (Segment 2) (Project I), using the following funding sources:
  - 91 Express Lanes Excess Revenue (\$323.726 million)
  - Local Partnership Program Formulaic (\$6.641 million)
  - Community Project Funding / Congressionally Directed Spending (\$4.000 million)
- C. Authorize the use of up to an additional \$132.149 million to supplement the construction funding and prior phase funding for the Interstate 5 Improvement Project from Interstate 405 to Yale Avenue (Segment 1) (Project B) using Measure M2 funding.

- D. Authorize the use of up to an additional \$80.172 million to supplement the construction funding and prior phase funding for the State Route 91 (Segments 1 and 3) (Project I) using 91 Express Lanes Excess Revenue.
- E. Authorize the use of up to an additional \$14.699 million to supplement the construction funding and prior phase funding for the Interstate 605/Katella Avenue Interchange Project (Project M) using Measure M2 funding.
- F. Authorize the inclusion of \$39.251 million in committed State Highway Operations and Protection Program funds and an additional \$22.769 million in uncommitted future state funds to integrate the California Department of Transportation Multi-Asset Project into the Capital Funding Program report for:
  - Interstate 5 Improvement Project between Interstate 405 and Yale Avenue (Segment 1) (Project B) (\$36.400 million in committed State Highway Operations and Protection Program funds and \$13.744 million in uncommitted future state funds)
  - State Route 91 Improvement Project from Acacia Street to La Palma Avenue (Segment 3) (Project I) (\$2.851 million in committed State Highway Operations and Protection Program funds and \$9.025 million in uncommitted future state funds)
- G. Authorize the use of up to \$8.000 million for the Inland Slope Rehabilitation Phase II Project from the following fund sources:
  - Measure M2 (\$5.600 million)
  - Local Partnership Program Formulaic (\$2.400 million)
- H. Authorize the use of up to \$12.830 million in Congestion Mitigation and Air Quality Improvement funds for the Future Zero-Emission Bus Project.
- I. 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) is underway with a robust program of Board of Directors (Board)-approved capital projects that support OCTA's mission to develop and deliver transportation solutions to enhance the quality of life and keep Orange County moving, and to continue delivering on promises made to voters through the Measure M2 (M2) half-cent sales tax program.

As projects advance through development, several different factors may influence cost and funding including cost changes as the project is further developed, funding requirements may limit the anticipated use of funds, opportunities to maximize external funding may arise, savings may be identified, and additional or different funding may be required. Staff regularly provides project updates for specific freeway and transit project costs individually and through the quarterly Capital Action Plan (CAP), which highlights project costs, schedules, and status.

Board action to update funding amounts and sources for projects is periodically requested, consistent with revised project needs as the project advances to the next phase of delivery. This item recommends adjustments to individual project funding by project phase to match actual and updated project costs and seeks approval to program the funds necessary for Board-approved freeway and transit improvements promised to the public throughout Orange County.

The Board has approved a set of policies, referred to as the Capital Programming Policies (CPP), that guide how OCTA uses federal, state, and local formula funds, such as Congestion Mitigation and Air Quality Improvement Program (CMAQ), Local Partnership Program – Formula (LPP-F), and 91 Express Lane (91 EL) Excess Revenues funds (Attachment A). The Board also previously took action to approve the policy regarding the use of 91 EL funds for M2 Freeway Project I on State Route 91 (SR-91).

Consistent with M2 and the CPP, staff recommends the use of external funds whenever possible to maximize the benefit of local funds. One fund source recommended in this item is LPP-F, which funds transportation improvements in jurisdictions that have voter-approved taxes dedicated to transportation such as the M2 program. On August 15, 2024, the California Transportation Commission (CTC) adopted LPP guidelines for the fifth round of LPP-F. OCTA's share is approximately \$18.821 million. The Board previously approved the use of approximately \$9.780 million of this funding for a separate project. This item will address the use of the remaining unprogrammed funds.

The State Highways Operation and Protection Program (SHOPP) funds are prioritized by the state to maintain and operate the state highways. Use of these funds is not governed by OCTA policies. However, OCTA and the California Department of Transportation (Caltrans) are integrating planned M2 freeway improvements and state highway maintenance projects, referred to as multi-asset projects (MAP). When OCTA M2 freeway projects and Caltrans MAP are combined into one construction package, the Caltrans SHOPP funds are included in the OCTA CAP project funding plans.

#### Discussion

Programming staff refers to the CAP and works directly with OCTA project managers to develop funding plans for Board-approved planned and ongoing projects that have met key milestones or require other adjustments. Other projects that may be developed outside of the CAP are also reviewed and may be recommended for funding adjustments through a similar process as appropriate.

#### Freeway Projects

Two M2 freeway improvement projects have progressed to final design and are recommended for construction funding:

- The State Route 55 (SR-55) Improvement Project from Interstate 5 (I-5) to SR-91 (Project F)
- The SR-91 Improvement Project from La Palma Avenue to SR-55 (Segment 2) (Project I)

Both projects, currently funded through the right-of-way (ROW) phase, are targeted for construction completion by 2030 in the updated Next 10 Delivery Plan, adopted by the Board on November 12, 2024.

Staff recommends the use of 91 EL, M2, LPP-F, and Community Project Funding/ Congressionally Directed Spending (CPF/CDS) as outlined in the table below. The recommended funding will support the construction phase. Additional changes to prior phases are also included to match actual costs. The combined funding need to meet the estimated cost is \$514.951 million. Project descriptions, funding justifications, and the funding breakdown for all phases of work are provided in Attachment B.

Existing Funding through ROW (000s)	91 EL	M2	STBG	HIP	Total	
SR-55, I-5 to SR-91	\$ -	\$ 11,045	\$ 8,359	\$ 2,641	\$ 22,045	
SR-91, La Palma Avenue to SR-55 (Segment 2)	\$ 42,814	\$ 40	\$ 3,460	\$ -	\$ 46,314	
Total	\$ 42,814	\$ 11,085	\$ 11,819	\$ 2,641	\$ 68,359	

STBG – Surface Transportation Block Grant HIP – Highway Infrastructure Program

Recommended Funding (000s)	91 EL	M2	LPP-F	CPF/CDS	Total
SR-55, I-5 to SR-91	\$ -	\$180,584	\$ -	\$ -	\$180,584
SR-91, La Palma Avenue to SR-55 (Segment 2)	\$323,726	\$ -	\$ 6,641	\$ 4,000	\$334,367
Total	\$323,726	\$180,584	\$ 6,641	\$ 4,000	\$514,951

Four additional M2 freeway improvement projects are recommended for supplemental funding due to revised cost estimates and adjustments to prior phases:

- The I-5 Improvement Project from Interstate 405 (I-405) to Yale Avenue (Segment 1) (Project B)
- The SR-91 Improvement Project from SR-55 to Lakeview Avenue (Segment 1) (Project I)
- The SR-91 Improvement Project from Acacia Street to La Palma Avenue (Segment 3) (Project I)
- The Interstate 605 (I-605) and Katella Avenue Interchange (Project M)

The I-5 Improvement Project from I-405 to Yale Avenue (Segment 1) and the SR-91 Improvement Project from Acacia Street to La Palma Avenue (Segment 3) have both reached 100 percent design, and the project cost estimates have been updated. The updated costs include escalated material costs, additional items that were not included in the environmental phase estimate, and design updates based on revised Caltrans standards and requirements. These projects were previously approved by the Board for construction funding.

On October 16, 2024, bids were opened by Caltrans for the SR-91 Improvement Project from SR-55 to Lakeview Avenue (Segment 1). A total of five bidders submitted bids for the project. The low bid came in 14.11 percent higher than the project engineer's estimate. Caltrans, as the lead agency for the construction phase, completed the bid review and awarded the contract to the lowest bidder. Additional construction capital funds are required to address the funding shortfall for the awarded construction contract value.

On January 23, 2025, the project bids were opened by Caltrans for the I-605 Katella Avenue Interchange, and the apparent low bidder came in 6.4 percent higher than the project engineer's estimate. Caltrans and OCTA have analyzed the bid results, and staff is recommending additional funding for construction capital and construction support activities.

The above four projects combined funding need is \$227.020 million as outlined in the table below and are recommended to use up to \$80.172 million in 91 EL for the SR-91 projects and \$146.848 million in M2 for the I-5 and I-605 projects. OCTA will continue to assess competitive grant opportunities for the SR-91 project and the use of 91 EL revenues will be adjusted if OCTA receives a grant. Project descriptions, funding justifications, and a funding breakdown are provided below and in additional detail provided in Attachment B.

Existing Funding (000s)		Federal <sup>1</sup>		State <sup>2</sup>		Local <sup>3</sup>		Total	
I-5, I-405 to Yale Avenue (Segment 1)	\$	52,894	\$ 1	106,712	\$	46,188	\$	205,794	
SR-91, SR-55 to Lakeview Avenue (Segment 1)*	\$	6,770	\$	42,566	\$	61,181	\$	110,517	
SR-91, Acacia Street to La Palma Avenue (Segment 3)	\$	4,770	\$	1	\$	159,722	\$	164,492	
I-605/Katella Avenue Interchange	\$	17,800	\$		\$	20,515	\$	38,315	
Total	\$	82,234	\$ 1	149,278	\$	287,606	\$	519,118	

- 1. Federal funding includes CPF/CDS, National Highway Performance Program, and STBG.
- 2. State funding includes LPP-F, State Transportation Improvement Program, and Trade Corridor Enhancement Program.
- 3. Local funding includes 91 EL and M2.

\*The SR-91 Improvement Project from SR-55 to Lakeview Avenue (Segment 1) funding table does not include the associated Caltrans MAP which is currently programmed with \$7.968 million in SHOPP and is being implemented with this project

Funding Need (000s)	91 EL	M2	Total	
I-5, I-405 to Yale Avenue (Segment 1)	\$ -	\$ 132,149	\$ 132,149	
SR-91, SR-55 to Lakeview Avenue (Segment 1)	\$ 22,260	\$ -	\$ 22,260	
SR-91, Acacia Street to La Palma Avenue (Segment 3)	\$ 57,912	\$ -	\$ 57,912	
I-605/Katella Avenue Interchange	\$ -	\$ 14,699	\$ 14,699	
Total	\$ 80,172	\$ 146,848	\$ 227,020	

The Caltrans MAP within the limits of the I-5 Improvement Project from I-405 to Yale Avenue is recommended to be added into the Capital Funding Program (CFP) report (Attachment C). This project is being supported and administered by Caltrans as part of the overall freeway improvement project. The I-5 from I-405 to Yale Avenue MAP components include grinding and overlaying hot mix asphalt along the freeway mainline and the introduction of new weigh-in-motion facilities. Integrating the I-5 from I-405 to Yale Avenue MAP components allows for concurrent construction rather than sequential construction in the interest of efficiency and minimizing public impacts.

The SHOPP funding that Caltrans has committed for the I-5 from I-405 to Yale Avenue MAP is \$36.400 million. OCTA has identified additional contingency and other costs, which are typical for OCTA projects, that yield a total estimated construction cost for the MAP to be \$50.144 million. Caltrans is responsible for all costs associated with the I-5 from I-405 to Yale Avenue MAP, and staff is recommending that the total estimated cost be included in the CFP, which results in the inclusion of \$13.744 million in unidentified, uncommitted future state funds, assuming Caltrans will provide the funding, when needed and as specified in the executed cooperative agreement with Caltrans.

Similarly, the project costs for the MAP which will be delivered in conjunction with the SR-91 Improvement Project from Acacia Street to La Palma Avenue (Segment 3) have increased by \$11.876 million from what is currently listed in the CFP to \$35.046 million. The SR-91 from Acacia Street to La Palma Avenue MAP

will include pavement rehabilitation, safety device upgrades, traffic census stations, updated smart street lighting, and electrical system upgrades. Like the previous MAP, OCTA has identified additional contingency and other costs which must be shown as funded in the CFP. The increase is partially supported by an additional \$2.851 million in committed SHOPP funds. The difference of \$9.025 million is recommended to be included in the CFP as future uncommitted state funds. Caltrans is responsible for all costs associated with the MAP. The inclusion of the additional committed SHOPP and future state funds will allow the project cost and potential funding to match the CAP quarterly report that was presented to the Board on February 10, 2025.

#### Transit Projects

There are two transit projects which are recommended for a total of \$20.830 million in federal, state, and local funds:

- Inland Slope Rehabilitation Phase II Along the OCTA-owned railroad ROW, several locations are experiencing significant soil instability and slope erosion in the cities of Laguna Niguel, Lake Forest, and Mission Viejo. The slope rehabilitation project will stabilize the slopes through different techniques including spraying concrete on the exposed slope faces, compacting slopes, and introducing new vegetation where appropriate to ensure long-term stability.
- Future Zero-Emission Bus (ZEB Project) The project will help OCTA to achieve compliance with the California Air Resources Board's (CARB) Innovative Clean Transit (ICT) regulation and meet the ZEB deployment and transition goals.

The recommended fund sources include LPP-F, CMAQ, and M2 funds. Project descriptions, funding justifications, and a funding breakdown are provided in Attachment B.

Funding Need (000s)	CMAQ	M2	LPP-F	Total	
Inland Slope Rehabilitation Phase II	\$ -	\$ 5,600	\$ 2,400	\$ 8,000	
Future ZEB	\$ 12,830	\$ -	\$ -	\$ 12,830	
Total	\$ 12,830	\$ 5,600	\$ 2,400	\$ 20,830	

Staff is recommending \$2.4 million in LPP-F and \$5.6 million in M2 to fully fund the Inland Slope Rehabilitation Phase II Project.

On December 12, 2022, the Board approved \$16.5 million in CMAQ for the design phase of the I-5 High-Occupancy Vehicle Project (HOV Project) from Avenida Pico to the Orange County/San Diego County Line. This funding must be obligated to a project by September 30, 2026. However, the design phase has been delayed due to recently enacted vehicle miles traveled mitigation

requirements as part of the current environmental process. That delay and new requirements have resulted in a significant cost increase to the design phase. To ensure the timely use of funds, staff proposes redirecting and using up to \$12.830 million of this CMAQ funding for the future ZEB Project. The remaining \$3.67 million in CMAQ funding was previously approved by the Board on February 10, 2025, to be allocated to a 2023 Orange County Complete Streets Program (OCCSP) Project as part of the Competitive Grant Programs – Update and Recommendations item. Funding recommendations for the design of the I-5 HOV Project will be presented at a later date, when issues around the required environmental mitigations have been resolved.

The CFP is included as Attachment C. It is a report that provides a summary of how OCTA's capital projects are currently funded and is updated with every funding action for capital projects, including the proposed changes in this item.

#### 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, state, and local funds for six freeway projects and two transit projects.

#### **Attachments**

- Capital Programming Policies by Fund Source, December 2021
- B. Capital Programming Update Project Descriptions
- C. Capital Funding Program Report

Prepared by:

Ben Ku

Section Manager,

Formula Funding Programs

(714) 560-5473

Approved by:

Rose Carry

Rose Casey

Executive Director, Planning

(714) 560-5729

## 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.

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 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 Measure M Ordinance No. 3, the Comprehensive Business Plan, and subsequent Board-approved plansand 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)	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	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**

State Route 55 (SR-55) Improvement Project from Interstate 5 (I-5) to State Route 91 (SR-91)

In the cities of Anaheim, Orange, Santa Ana, and Tustin, the SR-55 Improvement Project from I-5 to SR-91 will add one general purpose lane in each direction between I-5 and State Route 22 (SR-22) and include operational improvements between SR-22 and SR-91. Existing traffic volumes, traffic congestion, and travel delays along the SR-55 corridor are anticipated to grow as a result of forecasted increases in population, housing, and employment. The objective of the project is to reduce traffic congestion, improve mobility, and improve traffic operations. The project is funded through the right-of-way (ROW) phase.

Staff is recommending \$172.430 million in Measure M2 (M2) for construction and construction support for this project, which is Project F in the Next 10 Delivery Plan (Next 10 Plan). Additionally, the table below acknowledges downward adjustments to Project Approval/Environmental Documentation (PA/ED) and Plans, Specifications, and Estimates (PS&E) to reflect actual costs that have been incurred. The ROW cost estimate has increased due to the project requiring the acquisition of temporary construction easements or permanent easements from three additional privately-owned parcels. The total M2 funding requested is \$180.584 million. This recommendation is consistent with the Capital Programming Policies (CPP) regarding the use of M2 funds.

Existing Funding (\$000s)	STBG	M2 HIP		Total
PA/ED	\$5,000		-	\$5,000
PS&E	\$3,359	\$5,000	\$2,641	\$11,000
ROW	-	\$6,045	-	\$6,045
CON	-	-	-	\$0
TOTAL	\$8,359	\$11,045	\$2,641	\$22,045

Proposed Funding (\$000s)	STBG	M2	HIP	Total
PA/ED	\$4,506	ı	ı	\$4,506
PS&E	\$3,359	\$4,294	\$2,641	\$10,294
ROW	-	\$14,905	-	\$14,905
CON	-	\$172,430	-	\$172,430
TOTAL	\$7,865	\$191,629	\$2,641	\$202,135
CHANGE	-\$494	\$180,584	ı	\$180,090

CON – Construction HIP – Highway Infrastructure Program STBG - Surface Transportation Block Grant

### SR-91 Improvement Project from La Palma Avenue to SR-55 (Segment 2)

In the City of Anaheim, the SR-91 Improvement Project from La Palma Avenue to SR-55 (Segment 2) will add one general purpose lane in the eastbound (EB) direction on SR-91 from La Palma Avenue to SR-55, widen the EB Santa Ana River bridge, and reconstruct the Glassell Street/Kraemer Boulevard and Tustin Avenue bridges over the SR-91. The project aims to further optimize traffic operations and reduce congestion. The project is funded through the ROW phase.

Staff recommends the use of \$323.726 million in 91 Express Lanes (91 EL) Excess Revenues, \$4 million in Community Project Funding/Congressionally Directed Spending (CPF/CDS), and \$6.641 million in SB 1 (Chapter 5, Statutes of 2017) Local Partnership Program Formulaic (LPP-F) funding for the project. Additionally, staff is requesting adjustments for PA/ED, PS&E, and ROW to reflect actual costs or updated cost estimates. The construction cost estimate has increased to include the most up-to-date cost estimates, which consider escalated material costs, additional items not included in the environmental phase, and design updates based on revised California Department of Transportation (Caltrans) standards and requirements. The ROW cost estimate was also updated to include additional acquisition costs. This is Project I in the Next 10 Plan and this recommendation is consistent with the CPP regarding the use of 91 EL and LPP-F funds. It is also consistent with a separate Board of Directors (Board)-adopted policy that allows the use of 91 EL for M2 freeway projects on SR-91. CPF/CDS funds are specifically directed by the United States Congress for the SR-91 project.

Existing Funding (\$000s)	STBG	M2	91 EL	Total
PA/ED	\$3,460	\$40	-	\$3,500
PS&E	-	-	\$14,648	\$14,648
ROW	-	-	\$28,166	\$28,166
CON	-	-	-	-
TOTAL	\$3,460	\$40	\$42,814	\$46,314

Proposed Funding (\$000s)	STBG	M2	91 EL	CPF/CDS	LPP-F	Total
PA/ED	\$3,460	\$40	\$950	-	-	\$4,450
PS&E	-	-	\$20,095	-	-	\$20,095
ROW	-	-	\$31,278	-	-	\$31,278
CON	-	-	\$314,217	\$4,000	\$6,641	\$324,858
TOTAL	\$3,460	\$40	\$366,540	\$4,000	\$6,641	\$380,681
CHANGE	-	ı	\$323,726	\$4,000	\$6,641	\$334,367

### I-5 Improvement Project from Interstate 405 (I-405) to Yale Avenue (Segment 1)

The I-5 Improvement Project from I-405 to Yale Avenue (Segment 1) will add one mixed-flow lane in both directions in the City of Irvine. This segment of the I-5 corridor is experiencing congestion and long traffic delays due to demand exceeding capacity. The project will reduce corridor traffic congestion, improve traffic operations, and improve access to high-occupancy vehicle lanes.

Staff is recommending the use of an additional \$132.149 million in M2 for the project. The project cost estimates were last updated in 2021 when the project report was finalized. The construction cost estimate has increased to include the most up-to-date cost estimates, which consider escalated material costs, additional items not included in the environmental phase, and design updates based on revised Caltrans standards and requirements. As part of this request, staff is recommending adjustments to PS&E and ROW to reflect actual costs or updated cost estimates. PS&E has increased to include the most up-to-date cost estimates and ROW has increased to include additional utility relocation costs. This is Project B in the Next 10 Plan and the recommendations are consistent with the CPP regarding the use of M2 funds.

Existing Funding (\$000s)	STBG	M2	STIP	NH	LPP-F	Total
PA/ED	\$4,473	ı	-	ı	•	\$4,473
PS&E	-	\$7,396	-	-	\$7,395	\$14,791
ROW	-	\$100	-	\$5,421	\$3,979	\$9,500
CON	\$43,000	\$38,692	\$95,338	-	-	\$177,030
TOTAL	\$47,473	\$46,188	\$95,338	\$5,421	\$11,374	\$205,794

Proposed Funding (\$000s)	STBG	M2	STIP	NH	LPP-F	Total
PA/ED	\$4,473	-	-	-	-	\$4,473
PS&E	-	\$8,642	-	-	\$7,395	\$16,037
ROW	-	\$2,131	-	\$5,421	\$3,979	\$11,531
CON	\$43,000	\$167,564	\$95,338	-	-	\$305,902
TOTAL	\$47,473	\$178,337	\$95,338	\$5,421	\$11,374	\$337,943
CHANGE		\$132,149	-	-	-	\$132,149

STIP – State Transportation Improvement Program

NH - National Highway Performance Program

# <u>I-5 Improvement Project from I-405 to Yale Avenue (Segment 1) Multi-Asset Project</u> (MAP)

The State Highway Operation and Protection Program (SHOPP) funding for the Caltrans MAP will be added as a separate project into the Capital Funding Program (CFP) report so staff can keep track of this as part of the larger project. However, this funding is directly programmed by Caltrans. The MAP components include grinding and overlaying hot mix asphalt along the freeway mainline, as well as the introduction of new weigh-in-motion facilities in both northbound (NB) and southbound (SB) directions.

OCTA has identified additional contingency, outreach, and other costs that should be included. Caltrans is still responsible for all costs associated with the MAP and staff is recommending listing the total project cost of \$50.144 million, which includes \$13.744 million in uncommitted future state funds in the CFP report. These funds are for the CON phase and the inclusion of SHOPP and future state funds in the CFP will match the costs outlined in the Capital Action Plan that is presented to the Board quarterly.

Proposed Funding (\$000s)	SHOPP	Future State Funds	Total
TOTAL	\$36,400	\$13,744	\$50,144

### SR-91 Improvement Project from SR-55 to Lakeview Avenue (Segment 1)

The SR-91 Improvement Project from SR-55 to Lakeview Avenue will improve operations, reliability, safety, and throughput, thereby improving the economic vitality of Orange County and beyond. The project will realign the westbound (WB) on-ramp to direct traffic to WB SR-91, construct a new drop ramp that will connect the Lakeview Avenue bridge directly to the southbound SR-55, separate traffic on WB SR-91 from SB SR-55, and replace the Lakeview Avenue bridge with standard lanes, shoulders, and sidewalks in each direction. These improvements will help improve safety, reduce collisions, and add connections to the regional Santa Ana River Trail.

This project was initially approved for funding on July 10, 2023. On October 16, 2024, the project bids were opened by Caltrans and the apparent low bid came in 14.11 percent higher than the project engineer's estimate. Due primarily to this, the project needs additional funding and \$22.260 million in 91 EL funding is being requested for the project. PA/ED and PS&E adjustments are due to the additional coordination needed for the MAP, and ROW is being adjusted downward due to updated cost estimates. This is Project I in the Next 10 Plan and is consistent with the CPP regarding the use of 91 EL funds. It is also consistent with a separate Board-adopted policy that allows the use of 91 EL for M2 freeway projects on SR-91.

Existing Funding (\$000s)	STBG	M2	TCEP	91 EL	CPF/CDS	Total*
PA/ED	\$1,770	\$30	-	-	-	\$1,800
PS&E	-	-	-	\$8,503	-	\$8,503
ROW	-	-	-	\$5,926	-	\$5,926
CON	-	-	\$42,566	\$46,722	\$5,000	\$94,288
TOTAL	\$1,770	\$30	\$42,566	\$61,151	\$5,000	\$110,517

Proposed Funding (\$000s)	STBG	M2	TCEP	91 EL	CPF/CDS	Total
PA/ED	\$1,770	\$30	-	\$430	-	\$2,230
PS&E	-	-	-	\$8,837	-	\$8,837
ROW	-	-	-	\$2,046	-	\$2,046
CON	-	-	\$42,566	\$72,098	\$5,000	\$119,664
TOTAL	\$1,770	\$30	\$42,566	\$83,411	\$5,000	\$132,777
CHANGE	ı	1	ı	\$22,260	-	\$22,260

TCEP - Trade Corridor Enhancement Program

#### SR-91 Improvement Project from Acacia Street to La Palma Ave (Segment 3)

The SR-91 Improvement Project between Acacia Street and La Palma Avenue (Segment 3) will provide WB operational improvements between Acacia Street and La Palma Avenue, WB improvements at State College Boulevard, and reconstruction of the La Palma Avenue overcrossing bridge. The project will also provide a new bypass ramp that allows NB State Route 57 (SR-57) traffic to exit at Orangethorpe Avenue in advance of the SR-91/NB SR-57 connector merge.

The project was approved for funding through construction in July 2024. This project currently needs \$57.912 million in additional 91 EL funding due to a revised construction cost estimate which considers the higher-than-expected bids on the SR-91 Improvement Project from SR-55 to Lakeview Avenue (Segment 1) and other comparable recent projects in the region. Similar to the SR-91 Segment 1, PA/ED and PS&E cost increases are due to the additional coordination needed to incorporate the MAP scope and also due to design refinements to minimize the ROW needed, which has reduced the ROW cost estimate. This is Project I in the Next 10 Plan and is consistent with the CPP regarding the use of 91 EL funds. It is also consistent with a separate Board-adopted policy that allows the use of 91 EL for M2 freeway projects on SR-91.

<sup>\*</sup>The SR-91 Improvement Project from SR-55 to Lakeview Avenue (Segment 1) funding table does not include the associated Caltrans MAP which is currently programmed through all phases of work with \$7.968 million in SHOPP and is being implemented with this project.

Existing Funding (\$000s)	STBG	M2	91 EL	CPF/CDS	Total
PA/ED	\$1,770	\$30	Ī	ı	\$1,800
PS&E	-	-	\$10,861	ı	\$10,861
ROW	-	-	\$5,510	-	\$5,510
CON	-	-	\$143,321	\$3,000	\$146,321
TOTAL	\$1,770	\$30	\$159,692	\$3,000	\$164,492

Proposed Funding (\$000s)	STBG	M2	91 EL	CPF/CDS	Total
PA/ED	\$1,770	\$30	\$418	-	\$2,218
PS&E	-	-	\$12,213	-	\$12,213
ROW	-	-	\$5,290	-	\$5,290
CON	-		\$199,683	\$3,000	\$202,683
TOTAL	\$1,770	\$30	\$217,604	\$3,000	\$222,404
CHANGE	-	-	\$57,912	-	\$57,912

# SR-91 Improvement Project from Acacia Street to La Palma Avenue (Segment 3) MAP

The SHOPP funding for the Caltrans MAP component of the SR-91 Improvement Project from Acacia Street to La Palma Avenue (Segment 3) is detailed below. The project includes pavement rehabilitation, safety device upgrades, census stations, updated smart street lighting, and electrical conduit replacements.

OCTA staff has identified additional contingency, outreach, and other costs that increase the estimated cost for the project by \$11.876 million to \$35.046 million. Caltrans has committed an additional \$2.851 million in SHOPP funding to support additional costs. Caltrans is responsible for all costs associated with the MAP. In order to meet the updated costs as identified by OCTA, it is recommended to include \$9.025 million in uncommitted future state funds. These project costs include all phases of work and allow the project funding listed in the CFP to match costs identified in the Capital Action Plan that is presented to the Board quarterly.

Funding (\$000s)	\$23,170	\$23,170		
Existing	SHOPP	Total		

Proposed Funding (\$000s)	SHOPP	Future State Funds	Total		
TOTAL	\$26,021	\$9,025	\$35,046		
CHANGE	\$2,851	\$9,025	\$11,876		

### Interstate 605 and Katella Avenue Interchange

The Interstate 605 (I-605) and Katella Avenue Interchange Project will improve interchange traffic operations and pedestrian and bicycle facilities at I-605 and the Katella Avenue interchange, located in the western portion of the City of Los Alamitos. The I-605/Katella Avenue interchange currently experiences roadway and operational deficiencies in the form of inefficient traffic operations and deficiencies in community mobility for automobiles, pedestrians, and bicycle traffic.

On January 23, 2025, the project bids were opened by Caltrans and the apparent low bidder came in 6.4 percent higher than the project engineer's estimate. Caltrans and OCTA analyzed the bid results. Some of the cost increases are attributable to higher bid unit costs associated with retaining walls, paving materials, and clearing and grubbing. The associated estimated costs for construction support services to be performed by Caltrans and OCTA's consultants were also adjusted, respectively. Additionally, prior phase cost estimates have been adjusted. PA/ED has decreased to match actual costs, and the PS&E increase was due to adjustments to incorporate an overlapping Caltrans safety lighting and electrical project that was within the project footprint. ROW increased due to the costs of two utility relocations being higher than anticipated as well as some improvements that were not included in the environmental phase. This included a water line that had to be relocated deeper than previously estimated. This is Project M in the Next 10 Plan and is consistent with the CPP regarding the use of M2 funds. Staff is recommending increasing M2 funds by \$14.699 million and increasing the overall project cost to \$53.014 million to support the cost at contract award.

Existing Funding (\$000s)	STBG	M2	Total
PA/ED	ı	\$1,824	\$1,824
PS&E	ı	\$3,000	\$3,000
ROW	ı	\$3,031	\$3,031
CON	\$17,800	\$12,660	\$30,460
TOTAL	\$17,800	\$20,515	\$38,315

Proposed Funding (\$000s)	STBG	M2	Total
PA/ED	-	\$1,012	\$1,012
PS&E	-	\$4,115	\$4,115
ROW	-	\$7,209	\$7,209
CON	\$17,800	\$22,878	\$40,678
TOTAL	\$17,800	\$35,214	\$53,014
CHANGE	-	\$14,699	\$14,699

### Inland Slope Rehabilitation Phase II

Within the OCTA-owned ROW between Mile Post (MP) 187.3 and 193.2 in the cities of Laguna Niguel, Lake Forest, and Mission Viejo, several sloped areas along the railroad are experiencing soil stability and erosion issues, posing risks to the railway's structural integrity. To address these challenges, OCTA engaged its Rail Project Management Consultant to assess and propose cost-effective solutions, such as stabilizing slopes with shotcrete or recompacting soil and adding vegetation for long-term stability. Additionally, a severely eroded earthen culvert at MP 193.0-193.2 in the City of Laguna Niguel, exacerbated by a concrete wall from an adjacent property, has been identified for remediation, with concrete lining proposed as a solution. In collaboration with Metrolink, OCTA is finalizing plans to implement these improvements, ensuring the safety, functionality, and longevity of its infrastructure while addressing environmental concerns.

Staff recommends using up to \$2.4 million in LPP-F Cycle 4 funds and Cycle 5 funds with \$5.6 million matching M2 funds for the construction phase. Inland Slope Rehabilitation Phase II is part of Project R and the use of M2 and LPP-F for the project is consistent with the Board-approved CPP.

Existing Funding (\$000s)	M2	Total
PA/ED	\$170	\$170
PS&E	-	-
ROW	-	-
CON	-	-
TOTAL	\$170	\$170

Proposed Funding (\$000s)	M2	LPP-F	Total
PA/ED	\$170	-	\$170
PS&E	-	-	
ROW	-	-	-
CON	\$5,600	\$2,400	\$8,000
TOTAL	\$5,770	\$2,400	\$8,170
CHANGE	\$5,600	\$2,400	\$8,000

### Future Zero-Emission Bus (ZEB)

OCTA has developed the ZEB Rollout Plan to comply with the California Air Resources Board's Innovative Clean Transit regulation. The regulation requires transit agencies to begin purchasing ZEBs in 2023, with the goal of transitioning all transit buses to zero-emission technology by 2040. In 2020, OCTA initiated the ZEB Pilot Program with ten hydrogen fuel-cell electric buses (FCEB) and ten battery electric buses (BEB). Currently, OCTA plans to purchase additional FCEBs and BEBs to replace compressed natural gas (CNG) buses to meet the ZEB deployment goals. This project aims to replace approximately 200 buses by 2031.

This project is currently funded with \$9.794 million in Congestion Mitigation and Air Quality Improvement (CMAQ) and \$11.460 million in SB 125\* funds. Staff is proposing an additional \$12.830 million in CMAQ funds. The use of CMAQ for ZEB replacement is consistent with the CPP regarding CMAQ for rail and bus transit capital projects. This funding is intended to support a portion of the additional cost of replacing the CNG buses with ZEBs. Based on the cost of buses today, the estimated total additional cost ranges from \$120 million to \$150 million.

Existing Funding (\$000s)	CMAQ	SB125	Total		
PA/ED	-	-	-		
PS&E	-	-	-		
ROW	-	-	-		
CON	\$9,794	\$11,460	\$21,254		
TOTAL	\$9,794	\$11,460	\$21,254		

Proposed Funding (\$000s)	CMAQ	SB125	Total
PA/ED	-	-	
PS&E	-	-	-
ROW	-	-	-
CON	\$22,624	\$11,460	\$34,084
TOTAL	\$22,624	\$11,460	\$34,084
CHANGE	\$12,830	-	\$12,830

\*SB 125 – SB 125 (Chapter 54, Statutes of 2023) Transit and Intercity Rail Capital Program Formula



### Pending Approval by OCTA Board of Directors - April 14, 2025

State Highway Project											
			Federal Funds		State Funds			Local Funds			
Project Title	M Code	<b>Total Funding</b>	STBG/CMAQ	FTA	Other Fed.	STIP	SB1	Other State	M1	M2	Other Local
I-5 widening, I-405 to Yale Avenue (Segment 1)	В	\$337,943	\$47,473		\$5,421	\$95,338	\$11,374			\$178,337	
I-5 widening, Yale Avenue to SR-55 (Segment 2)	В	\$261,164	\$32,527		Ĭ		\$9,780			\$218,857	
I-5 widening, Alicia Parkway to El Toro Road (Segment 3)	С	\$227,523	\$49,897		\$4,728		\$16,915			\$155,983	
I-5 widening, Oso Parkway to Alicia Parkway (Segment 2)	С	\$228,675	\$48,676		\$7,921					\$172,078	
I-5 widening, SR-73 to Oso Parkway (Segment 1)	С	\$248,198	\$28,167		\$6,433	\$73,735	\$18,242	\$29,832		\$91,789	
I-5, SR-73 to El Toro Road landscaping/replacement planting	С	\$12,335	\$790			\$6,000				\$5,545	
I-5/EI Toro Interchange	D	\$9,713	\$9,213							\$500	
SR-55 (I-5 to SR-91)	F	\$202,135	\$7,865		\$2,641					\$191,629	
SR-55 widening between I-405 and I-5	F	\$505,720	\$160,500		\$42,375	\$80,000	\$140,000			\$82,845	
SR-57 Orangewood Avenue to Katella Avenue	G	\$120,921	\$11,500		\$3,240					\$106,181	
SR-57 truck climbing lane phase II: Lambert Road to LA County Line	G	\$24,500				\$24,500					
SR-91, Acacia Avenue to La Palma Avenue (Segment 3) 2	ı	\$222,404	\$1,770		\$3,000					\$30	\$217,604
SR-91, La Palma Avenue to SR-55 (Segment 2)	ı	\$380,681	\$3,460		\$4,000		\$6,641			\$40	\$366,540
SR-91, SR-55 to Lakeview Avenue (Segment 1)	ı	\$132,777	\$1,770		\$5,000		\$42,566			\$30	\$83,411
SR-91, SR-57 to SR-55 (Segment 1,2 and 3) Outreach	ı	\$2,000									\$2,000
SR-91, SR-241 to I-15	J	\$41,800									\$41,800
I-405 improvements, SR-73 to I-605	К	\$2,159,999	\$35,000		\$10,648			\$89,771		\$1,395,650	\$628,930
I-405 (I-5 to SR-55)	L	\$8,000	\$8,000								
I-605/ Katella Avenue interchange <sup>2</sup>	М	\$53,014	\$17,800							\$35,214	
241/91 Express Lanes (HOT) connector		\$182,298	\$50								\$182,248
I-5 Managed Lane Project from Avenida Pico to San Diego County Line		\$24,228	\$23,478								\$750
I-5 widening, I-405 to Yale Avenue (Segment 1) Multi Asset Project 3,4		\$50,144			\$36,400			\$13,744			
I-5 widening, Yale Avenue to SR-55 (Segment 2) Multi Asset Project		\$27,861			\$27,861						
SR-74 - Gap closure for 0.9 mile and multimodal improvements		\$87,513	\$30,000		\$4,250	\$43,913				\$7,200	\$2,150
SR-74 widening, City/County line to Antonio Parkway		\$40,905	\$5,285			\$10,000					\$25,620
SR-91, Acacia Avenue to La Palma Avenue (Segment 3) Multi Asset Project 3,4		\$35,046			\$26,021			\$9,025			
SR-91, SR-55 to Lakeview Avenue (Segment 1) Multi Asset Project		\$7,968			\$7,968						
State Highway Project Totals		\$5,635,465	\$523,221		\$197,907	\$333,486	\$245,518	\$142,372		\$2,641,908	\$1,551,053

 Federal Funding Total
 \$721,128

 State Funding Total
 \$721,376

 Local Funding Total
 \$4,192,961

 Total Funding (000's)
 \$5,635,465



### Pending Approval by OCTA Board of Directors - April 14, 2025

State Highway Project Completed											
			Federal Funds		State Funds			Local Funds		s	
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	А	\$41,500	\$36,191							\$5,309	
I-5 HOV lane each direction s/o PCH to San Juan Creek Road	С	\$74,300	\$11,326					\$20,789		\$42,185	
I-5 HOV lanes from s/o Avenida Vista Hermosa to s/o PCH	С	\$75,300	\$12,065			\$46,779				\$16,456	
I-5 HOV lanes: s/o Avenida Pico to s/o Avenida Vista Hermosa	С	\$83,500	\$26,867		\$1,600	\$43,735				\$11,298	
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	Н	\$62,977						\$27,227		\$35,750	
SR-91 w/b connecting existing aux lanes, I-5 to SR-57 - landscaping	Н	\$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 Canyon Road replacement planting	J	\$2,898				\$2,898					
SR-91 widening, SR-55 to Gypsum Canyon Road (Weir Canyon Road/SR-241)	J	\$76,993				\$22,250		\$54,045		\$698	
I-405 s/b aux lane - University Drive to Sand Canyon Avenue and Sand Canyon Avenue to SR-133 $$		\$2,328				\$2,328					
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		\$1,043,284	\$170,211		\$97,888	\$183,114		\$380,452	\$20,578	\$174,439	\$16,602

Federal Funding Total \$268,099

State Funding Total \$563,566

Local Funding Total \$211,619

Total Funding (000's) \$1,043,284



#### Pending Approval by OCTA Board of Directors - April 14, 2025

- 1. Authorize the use of up to \$514.951 million to fund the construction phase and adjust costs associated with prior phases of the State Route 55 Improvement Project from Interstate 5 to State Route 91 (Project F) and the State Route 91 Improvement Project from La Palma Avenue to State Route 55 (Segment 2) (Project I) using the following funding sources:
- a. 91 Express Lanes Excess Revenue (\$323.726 million)
- b. Measure M2 (\$180.584 million)
- c. Local Partnership Program Formulaic (\$6.641 million)
- d. Community Project Funding / Congressionally Directed Spending (\$4.000 million)
- 2. Authorize the use of up to an additional \$227.020 million to supplement the construction funding and prior phases of four M2 freeway improvement projects, including one segment on Interstate 5 (Project B), two segments on State Route 91 (Project I), and the Interstate 605/Katella Avenue Interchange Project (Project M) from the following fund sources:
- a. Measure M2 (\$146.848 million)
- b. 91 Express Lanes Excess Revenue (\$80.172 million)
- 3. Authorize the inclusion of \$39.251 million in committed State Highway Operations and Protection Program funds and an additional \$22.769 million in uncommitted future state funds to integrate the California Department of Transportation Multi-Asset Project into the Capital Funding Program report for:
- a. Interstate 5 Improvement Project between Interstate 405 and Yale Avenue (Segment 1) (Project B) (\$36.400 million in committed State Highway Operations and Protection Program funds and \$13.744 million in uncommitted future state funds)
- b. State Route 91 Improvement Project from Acacia Street to La Palma Avenue (Segment 3) (Project I) (\$2.851 million in committed State Highway Operations and Protection Program funds and \$9.025 million in uncommitted future state funds)
- 4. OCTA is estimating that additional funding will be required from the California State Department of Transportation for the Multi-Asset Project than what has been committed. It is the California State Department of Transportations responsibility to fully fund the Multi-Asset Project at whatever level is required.

#### Acronyms:

Aux - Auxilliary

Board - Board of Directors

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

S/B - Southbound

S/O - South of

SB 1 - SB 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



		В	us Transit F	Project							
			Fe	deral Fun	ds	9	State Fund	s		Local Fund	s
Project Title	M Code	<b>Total Funding</b>		FTA	Other Fed.	STIP	SB1	Other State	M1	M2	Other Local
Go Local - Step 1	S	\$5,730							\$5,730		
Mobile ticketing equipment	S	\$4,036						\$4,036			
M2 Project V Community Circulators	V	\$53,767								\$53,767	
M2 Project W Safe Transit Stops (City)	w	\$1,708								\$1,708	
M2 Project W Safe Transit Stops (OCTA)	w	\$370								\$370	
40 Hydrogen Fuel-Cell 40-Foot Buses		\$65,595	\$29,831					\$35,764			
Anaheim Transportation Network suballocation		\$8,942		\$8,942							
Associated Transportation Improvements		\$556		\$556							
Bike Lockers at Santa Ana Regional Transportation Center (SARTC)		\$2,000						\$2,000			
Bravo! 553 (operating costs)		\$7,275	\$5,721					\$1,554			
Bus engine repowers (173)		\$12,365	\$12,365								
Capitalized cost of contracted services FY 2021-22 to FY 2025-26 (ACCESS and contracted fixed-route contracts)		\$347,334		\$249,882							\$97,452
DCFC Charging at Fullerton Transportation Center and SARTC		\$1,250						\$1,250			
Digital bus stop sign 13" along high quality transit corridors (143 sign)		\$2,500				\$2,500					
Engine repower/rebuild contract		\$4,071					\$4,071				
Enhanced Mobility for Seniors and Disabled (EMSD) Call		\$2,280									\$2,280
Facilities upgrades, modifications, and replacement projects		\$1,739					\$1,739				
Harbor Blvd. dynamic bus lane (env./engineering)		\$5,100						\$5,100			
Harbor Boulevard Connected Bus Pilot Stage I		\$2,000		\$1,600				\$400			
Harbor Boulevard Connected Bus Pilot Stage II		\$6,800						\$5,400		\$1,400	
Harbor Boulevard high-capacity transit expansion environmental		\$14,000	\$14,000								
Heating-Ventilation Unit Replacement at Santa Ana bus base		\$7,000					\$7,000				
Hydrogen Fueling Station at Garden Grove		\$13,500						\$13,500			
Installation of Battery-Electric Chargers at Santa Ana Base		\$1,500					\$1,500				
Non-fixed-route paratransit operations assistance - FY 2021-22 to FY 2025-26		\$257,046		\$97,682							\$159,364
OC Bus Operations - Connections to OC Streetcar		\$6,072						\$6,072			
OC Mobility Hubs Strategy		\$297	\$263			\$34					
Open payment system and smart fareboxes		\$26,500						\$26,500			
Preventive maintenance - including salaries and benefits (includes ATN & Laguna Beach)		\$362,772		\$362,772							
Purchase 117 replacement paratransit vehicles		\$14,995		\$14,995							
Purchase 131 replacement paratransit vehicles		\$32,165		\$32,165							
Rehabilitation and renovation at OCTA bus facilities		\$1,509		\$1,207							\$302
Rideshare/vanpool		\$20,232	\$20,232								
Security Gates at Garden Grove, Santa Ana, Anaheim bases		\$5,646					\$5,646				
Standby backup generators at Anaheim and IRCC bases		\$1,374					\$1,374				
Transit Security and Operations Center		\$68,261			\$3,660	\$10,381	\$43,828	\$5,603			\$4,789



		Ві	us Transit I	Project							
			Fe	ederal Fun	ds	9	State Fund	S	I	Local Fund	s
Project Title	M Code	<b>Total Funding</b>	STBG/CMAQ	FTA	Other Fed.	STIP	SB1	Other State	M1	M2	Other Local
Transit service expansion planning		\$9,000	\$9,000								
Vanpool Program - capital lease		\$12,999	\$12,999								
Zero emission bus (future)		\$34,084	\$22,624					\$11,460			
Zero emission bus and bus facility		\$142,955	\$115,594					\$27,361			
Zero-emission Bravo! buses (ten-battery electric) and bus infrastructure		\$14,004					\$6,466	\$7,538			
Zero-Emission Paratransit Vehicle Pilot		\$5,016		\$2,508				\$2,507			\$1
Bus Transit Project Totals		\$1,586,345	\$242,629	\$772,309	\$3,660	\$12,915	\$71,624	\$156,045	\$5,730	\$57,245	\$264,188
Federal Funding Total \$1,018,598		JI.	,		,				,		
State Funding Total \$240,584											
Local Funding Total \$327,163											
Total Funding (000's) \$1,586,345											

Bus Transit Project Completed											
			Fe	deral Fun	ds		State Fund	S		Local Fun	ds
Project Title	M Code	<b>Total Funding</b>	STBG/CMAQ	FTA	Other Fed.	STIP	SB1	Other State	M1	M2	Other Local
ACCESS and fixed-route radio systems upgrade		\$22,465		\$4,434	\$341			\$16,239			\$1,451
Bravo! 529 buses (six)		\$3,595	\$549					\$3,046			
Bus replacement - articulated alternative fuel buses (60')		\$31,105	\$22,250	\$8,855							
Bus replacement (40' and ACCESS)		\$149,009	\$29,198	\$68,139							\$51,672
Engine rebuild		\$16,294		\$14,824				\$1,470			
FTA Section 5310 Enhanced Mobility of Seniors and Individuals with Disabilities		\$3,657		\$3,657							
FTA Section 5316 Jobs Access and Reverse Commute		\$13,962		\$13,962							
FTA Section 5317 New Freedom		\$6,388		\$6,388							
Goldenwest Transportation Center parking structure		\$4,000	\$3,400								\$600
Goldenwest Transportation Center surface lot		\$2,000						\$1,200			\$800
Heating ventilation unit replacements		\$405		\$313			\$92				
iShuttle replacement buses (12)		\$6,760					\$6,084				\$676
MSRC County Transportation Commission Partnership Program		\$2,761						\$1,924			\$837
Purchase 201 40-foot alternative fuel replacement buses (OCTA)		\$94,599		\$64,148							\$30,451
Transit Security Program		\$3,167						\$3,167			
VSS upgrades at OCTA facilities		\$1,159		\$960				\$199			
Zero-emission hydrogen fuel cell buses (ten)		\$12,978					\$5,640	\$7,338			
Bus Transit Project Completed Totals		\$374,304	\$55,397	\$185,680	\$341		\$11,816	\$34,583			\$86,487



	Bus Transit Project Completed											
				F	ederal Fur	nds		State Fund	ds		Local Fund	ls
	Project Title	MC	Code Total Fun	ding STBG/CMAC	FTA	Other Fed.	STIP	SB1	Other State	M1	M2	Other Local
Federal Funding Total	\$241,418											
State Funding Total	\$46,399											
Local Funding Total	\$86,487											
Total Funding (000's)	\$374,304											



#### Pending Approval by OCTA Board of Directors - April 14, 2025

1. Authorize the use of up to \$12.830 million in Congestion Mitigation and Air Quality Improvement funds for the Future Zero-Emission Bus Project.

#### **Acronyms:**

ATN - Anaheim Transportation Network

Board - Board of Directors

CMAQ - Congestion Mitigation Air Quality Improvement Program

DCFC - Direct Current Fast Charging

FTA - Federal Transit Administration

FY - Fiscal Year

IRCC - Irvine Construction Circle

M Code - Project Codes in Measure M1 and M2

M1 - Measure M1

M2 - Measure M2

MSRC - Mobile Source Air Pollution Reduction Review Committee

OCTA - Orange County Transportation Authority

SB 1 - SB 1 (Chapter 5, Statutes of 2017)

STBG - Surface Transportation Block Grant

STIP - State Transportation Improvement Program

VSS - Video Surveillance System



			Rail Proj	ect							
			Fe	deral Fun	ds	S	State Fund	s	Į	ocal Fund	S
Project Title	M Code	<b>Total Funding</b>		FTA	Other Fed.	STIP	SB1	Other State	M1	M2	Other Local
OC Streetcar (New Starts)	M1/S	\$649,000	\$130,132	\$171,961				\$175,427		\$171,480	
OC Streetcar (non-New Starts)	M1/S	\$16,702		\$342					\$6,904	\$9,313	\$143
OC Streetcar (operations and potential future capital needs)	M1/S	\$0	\$0								
Anaheim Canyon Station	R	\$34,200	\$30,432							\$2,000	\$1,768
Coastal Rail Infrastructure Resiliency Project Environmental Phase 2	R	\$10,220			\$8,176					\$2,044	
Coastal Rail Stabilization Priority Project	R	\$313,580			\$103,824		\$80,000	\$128,800		\$956	
Cyprus Shore Initial Track Stabilization Projects (MP 206.8)	R	\$8,000	ĺ							\$7,000	\$1,000
Cyprus Shore Track Stabilization Projects (MP 206.8)	R	\$14,110	\$6,000		\$1,210	\$6,000		\$200		\$700	
Fullerton Transportation Center stair rehabilitation	R	\$1,065		\$1,030							\$35
Future VSS	R	\$217		\$174							\$43
Inland Slope Rehabilitation Phase II	R	\$8,170					\$2,400			\$5,770	
Irvine Station Improvement Project	R	\$6,330						\$6,330			
Laguna Niguel to San Juan Capistrano passing siding	R	\$35,956	\$24,652	\$1,015		\$3,000		\$6,734			\$555
Metrolink fare revenue loss	R	\$135,745						\$135,745			
Metrolink new capital	R	\$11,249	\$2,121	\$9,128							
Metrolink rehabilitation/renovation - FY 2021-22 to FY 2025-26	R	\$199,302		\$199,302							
Metrolink station and track improvements, and rehabilitation	R	\$3,063		\$2,617							\$446
MP 204.2 Mariposa Point	R	\$9,200				\$9,200					
OC Maintenance Facility	R	\$91,428		\$198		\$20,000		\$71,230			
Orange Olive Wye connection	R	\$16,000				\$16,000					
Placentia Commuter Rail Station	R	\$34,825	\$50			\$2,500		\$400		\$8,000	\$23,875
Preventive maintenance (SCRRA - Metrolink)	R	\$92,953		\$92,953							
Rail track and structures	R	\$88,504						\$88,504			
San Clemente Track Protection (MP 204.6)	R	\$5,500				\$3,000	\$2,500				
San Juan Creek Bridge replacement	R	\$65,670	\$908	\$39,833	\$913		\$5,578	\$17,059		\$1,379	
SCRRA operating subsidy assistance	R	\$2,510								\$2,510	
Slope and culvert improvements	R	\$300		\$300							
Slope stabilization Laguna Niguel-Lake Forest	R	\$5,168		\$4,834						\$334	
Tactile tile project	R	\$1,569		\$1,538						\$31	
VSS at commuter rail stations	R	\$4,409		\$3,594				\$56			\$759
M2 Project S Transit extensions to Metrolink (Rubber Tire)	S	\$733								\$733	
OC Streetcar operations	S	\$78,874	\$19,500					\$59,374			
ARTIC environmental, ROW, program management support, site plan	M1	\$41,369							\$8,869		\$32,500
Rail Project Totals		\$1,985,921	\$213,795	\$528,819	\$114,123	\$59,700	\$90,478	\$689,859	\$15,773	\$212,250	\$61,124



				Rail Proje	ect							
				Fe	deral Fun	ds		State Fund	ds		Local Fund	sk
	Project Title	M Code	<b>Total Funding</b>	STBG/CMAQ	FTA	Other Fed.	STIP	SB1	Other State	M1	M2	Other Local
Federal Funding Total	\$856,737											
State Funding Total	\$840,037											
Local Funding Total	\$289,147											
Total Funding (000's)	\$1,985,921											

		Rail	Project Co	mpleted							
			Fe	deral Fun	ds	9	State Fun	ds	L	ocal Fund	s
Project Title	M Code	<b>Total Funding</b>	STBG/CMAQ	FTA	Other Fed.	STIP	SB1	Other State	M1	M2	Other Local
Fullerton Transportation Center parking expansion	M1/R	\$33,667				\$11,250		\$11,035	\$9,718		\$1,664
Laguna Niguel-Mission Viejo Station parking improvements and expansion (ADA ramps)	M1/R	\$5,581	\$3,204	\$732					\$1,645		
Metrolink Grade Crossing safety improvements (OCX)	M1/R	\$80,618						\$18,250	\$7,600	\$30,710	\$24,058
Metrolink rolling stock	M1/R	\$158,009	\$42,230	\$35,390				\$36,300	\$44,089		
Metrolink service track expansion	M1/R	\$119,957						\$51,399	\$68,558		
Orange Transportation Center parking structure	M1/R	\$31,003	\$2,555	\$2,644		\$13,762			\$1,850	\$420	\$9,772
Sand Canyon Avenue grade separation	M1/R	\$62,050	\$10,536					\$28,192	\$3,116	\$5,352	\$14,854
M2 Project S Fixed-Guideway Anaheim Rapid connection	M1/S	\$9,924		\$1,516					\$6,000	\$1,286	\$1,122
Anaheim Regional Intermodal Transportation Center (ARTIC) construction	M1/T	\$184,164	\$33,250	\$37,253	\$3,501	\$29,219			\$43,900	\$35,291	\$1,750
Fullerton Transportation Station expansion planning, environmental PSR	M1/T	\$0	\$0						\$0		
Santa Ana grade separation planning and environmental PSR	M1/T	\$1,333	\$1,180						\$153		
Santa Ana Transportation Station planning and environmental PSR	M1/T	\$1,003	\$888						\$115		
17th Street grade separation environmental	R	\$2,476								\$2,476	
Control Point at 4th Street	R	\$2,985		\$2,985							
Control Point Stadium crossover	R	\$6,490		\$3,245				\$3,245			
LOSSAN Corridor grade separations PSR in Anaheim, Orange, and Santa Ana	R	\$2,699								\$2,699	
Metrolink grade crossing safety improvements ROW	R	\$3,025								\$3,025	
North Beach crossings safety enhancements	R	\$348						\$166		\$182	
Positive Train Control (Metrolink)	R	\$39,916		\$4,492	\$1,234			\$34,190			
Rail Crossing signal lights and pedestrian gates	R	\$252						\$252			
Rail station platform safety improvements (Fullerton, Irvine, and Tustin)	R	\$553						\$553			
Safety repairs for San Clemente Pier Station	R	\$122						\$122			
San Clemente Beach Trail crossings safety enhancements	R	\$4,999						\$2,170		\$2,251	\$578
Ticket vending machines	R	\$6,857									\$6,857
Transit Rail Security (monitors, fencing, video surveillance)	R	\$163						\$163			
Go Local	S	\$7,730							\$7,730		
Fiber Optics installation (Metrolink)	M1	\$23,183		\$10,903				\$10,479	\$1,801		
Laguna Niguel-Mission Viejo Station parking expansion (south lot)	M1	\$4,135						\$695	\$3,440		



Rail Project Completed													
					Federal Funds			9	State Fund	S	I	ocal Fund	s
	Project Title	M	VI Code	<b>Total Funding</b>	STBG/CMAQ	FTA	Other Fed.	STIP	SB1	Other State	M1	M2	Other Local
Tustin Rail Station parking expans	sion		M1	\$15,390				\$1,100		\$7,181	\$7,109		
Rail Project Completed To	otals			\$808,632	\$93,843	\$99,160	\$4,735	\$55,331		\$204,392	\$206,824	\$83,692	\$60,655
Federal Funding Total	\$197,738												
State Funding Total	\$259,723												
Local Funding Total	\$351,171												
Total Funding (000's)	\$808,632												



#### Pending Approval by OCTA Board of Directors - April 14, 2025

- 1. Authorize the use of up to \$8.000 million for the Inland Slope Rehabilitation Phase II Project from the following fund sources:
- Measure M2 (\$5.600 million)
- Local Partnership Program Formulaic (\$2.400 million)

### Acronyms:

ADA - Americans with Disabilities Act

Board - Board of Directors

CMAQ - Congestion Mitigation Air Quality Improvement Program

FFY - Federal Fiscal Year

FTA - Federal Transit Administration

FY - Fiscal Year

LOSSAN - Los Angeles-San Diego-San Luis Obispo Rail Corridor M

Code - Project Codes in Measure M1 and M2

M1 - Measure M1

M2 - Measure M2

MP - Mile Post

OC - Orange County

OCTA - Orange County Transportation Authority

OCX - Rail-Highway Grade Crossing/Safety Enhancement Project PSR

- Project Study Report

ROW - Right-of-Way

SB 1 - SB 1 (Chapter 5, Statutes of 2017)

SCRRA - Southern California Regional Rail

Authority/Metrolink

STBG - Surface Transportation Block Grant

STIP - State Transportation Improvement Program

VSS - Video Surveillance System



## Approved by OCTA Board of Directors - February 10, 2025

\$1,175,340

\$1,643,499

**Local Funding Total** 

Total Funding (000's)

		Lo	ocal Road P	roject							
			Fe	deral Fu	nds		State Fund	ls	ı	Local Fund	s
Project Title	M Code	<b>Total Funding</b>	STBG/CMAQ	FTA	Other Fed.	STIP	SB1	Other State	M1	M2	Other Loca
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	0	\$402,211						\$24,254		\$377,957	
SR-57 truck climbing lane phase I - Lambert Road interchange improvement	0	\$121,500			\$7,719	\$74,705				\$19,254	\$19,822
M2 Project P Regional Signal Synchronization Program call	Р	\$158,828	\$1,774					\$11,762	\$4,546	\$140,746	
Regional Traffic Signal Synch (Edinger Avenue, MacArthur Boulevard /Talbert Avenue, and Warner Ave)	Р	\$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	Х	\$64,449								\$64,449	
Active Transportation Program - regional call		\$82,704	\$6,359		\$62,653	\$92		\$107			\$13,493
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								
First Street Multimodal Boulevard Design		\$4,300						\$4,300			
Local Agency led SCCP projects		\$3,357					\$3,357				
M1 Combined Transportation Funding Program (CTFP)		\$34,000							\$34,000		
McFadden Avenue Transit Signal Priority Pilot		\$3,690						\$3,690			
OC Connect Santa Ana - Garden Grove Rails-to-Trails		\$8,000			\$3,750	\$3,900		\$350			
OC Loop - Segment A		\$38,233				\$38,233					
Orange County Complete Streets (Wave 3)		\$34,706	\$26,316								\$8,390
Orange County Complete Streets (Wave 4)		\$5,229	\$4,687								\$542
Orange County Complete Streets Program (Wave 1)		\$40,915	\$25,062								\$15,853
Orange County Complete Streets Program (Wave 2)		\$40,072	\$33,421								\$6,651
Pavement Management Relief Funding Program		\$9,469			\$3,811			\$5,658			
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
Local Road Project Totals		\$1,643,499	\$156,374		\$94,232	\$128,930	\$13,557	\$75,066	\$39,826	\$995,476	\$140,038
Federal Funding Total \$250,606 State Funding Total \$217,553											

Local Road Project Completed											
			Fe	ederal Fund	ds		State Fund	s		Local Fund	s
Project Title	M Code	<b>Total Funding</b>	STBG/CMAQ	FTA	Other Fed.	STIP	SB1	Other State	M1	M2	Other Local
Grand Avenue widening, 1st Street to 4th Street	0	\$12,537	\$6,708								\$5,829



#### Approved by OCTA Board of Directors - February 10, 2025

		Local R	oad Projec	t Comple	ted						
			Fe	ederal Fun	ds		State Fund	ds		Local Fund	s
Project Title	M Code	<b>Total Funding</b>	STBG/CMAQ	FTA	Other Fed.	STIP	SB1	Other State	M1	M2	Other Local
Kraemer Boulevard grade separation	0	\$63,830	\$22,044					\$16,973		\$22,981	\$1,832
Lakeview Avenue grade separation	0	\$110,702	\$37,102		\$9,709			\$27,344		\$21,792	\$14,755
Orangethorpe Avenue grade separation	0	\$106,043	\$38,240		\$18,600			\$30,324		\$16,182	\$2,697
Placentia Avenue grade separation	0	\$64,539						\$33,386		\$27,453	\$3,700
Raymond Avenue grade separation	0	\$125,419						\$95,482		\$22,373	\$7,564
State College Boulevard grade separation	0	\$99,380	\$27,161		\$10,887			\$34,785		\$15,460	\$11,087
Tustin Avenue/Rose Drive grade separation	0	\$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
ARRA transportation enhancements		\$6,833			\$4,049				\$500		\$2,284
Arterial Pavement Management Program		\$50,951	\$19,655		\$604						\$30,692
Atlanta Avenue widening		\$4,160	\$2,278								\$1,882
Firestone Boulevard widening at Artesia Boulevard		\$2,468	\$2,059								\$409
Local Agency American Reinvestment and Recovery Act of 2009 rehabiliation projects		\$32,369			\$32,369						
Del Obispo widening	M1	\$6,419	\$3,740								\$2,679
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		\$840,715	\$223,243		\$76,218			\$268,544	\$6,492	\$156,141	\$110,077

Federal Funding Total	\$299,461
State Funding Total	\$268,544
Local Funding Total	\$272,710
Total Funding (000's)	\$840,715

#### **Acronyms:**

ARRA - American Recovery and Reinvestment Act of 2009 Board - Board of Directors

Call - Call for Projects

CMAQ - Congestion Mitigation Air Quality Improvement Program

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 - SB 1 (Chapter 5, Statutes of 2017)

SCAG - Southern California Association of Governments

SCCP - Solutions for Congested Corridors SHA - State Highway Account

SR-57 - State Route 57

STBG - Surface Transportation Block Grant

STIP - State Transportation Improvement Program

# Capital Programming Update



# Background

- Board-approved project delivery continues to progress
  - M2 freeway projects
  - Transit capital projects
- Project funding adjustments needed
  - Fund subsequent phases
  - Align with updated estimates
  - Adjust funding sources
  - Maximize use of external funds
- Board approval necessary for programming

Board – Board of Directors M2 – Measure M2

# Overview

- M2 freeway improvement projects recommended for construction and prior phase funding:
  - SR-55 Improvement Project (I-5 to SR-91)
  - SR-91 Improvement Project (La Palma Avenue to SR-55)
- M2 freeway improvement projects recommended for supplemental funding due to updated project estimates:
  - I-5 Improvement Project (I-405 to Yale Avenue)
  - SR-91 Improvement Project (SR-55 to Lakeview Avenue)
  - SR-91 Improvement Project (Acacia Street to La Palma Avenue)
  - I-605 and Katella Avenue Interchange
- Two transit projects recommended for funding
  - Inland Slope Rehabilitation Phase II Funding for construction phase
  - Future Zero-Emission Bus Funding for additional buses

SR-55 – State Route 55 I-5 – Interstate 5 SR-91 – State Route 91 I-405 – Interstate 405 I-605 – Interstate 605

# Funding Recommendations (\$762.801 Million)

## Funding for Construction and Prior Phases for Freeway Projects

Funding Need (000s)	91 EL	M2	LPP-F	CPF/CDS	Total	Existing Funding	Total Project Cost
SR-55, I-5 to SR-91	-	\$180,584	-	-	\$180,584	\$22,045	\$202,135*
SR-91, La Palma to SR-55 (Seg 2)	\$323,726	-	\$6,641	\$4,000	\$334,367	\$46,314	\$380,681
Total Phase	\$323,726	\$180,584	\$6,641	\$4,000	\$514,951	\$68,359	\$582,816

## Additional Funding for Freeway Projects

Funding Need (000s)	91 EL	M2	Total additional	Existing Funding	Total Project Cost
I-5, I-405 to Yale (Seg 1)	-	\$132,149	\$132,149	\$205,794	\$337,943
SR-91, SR-55 to Lakeview Ave (Seg 1)	\$22,260	-	\$22,260	\$110,517	\$132,777
SR-91, Acacia to La Palma Ave (Seg 3)	\$57,912	-	\$57,912	\$164,492	\$222,404
I-605 / Katella Ave Interchange	-	\$14,699	\$14,699	\$38,315	\$53,014
Total additional need	\$80,172	\$146,848	\$227,020	\$519,118	\$746,138



Funding Need (000s)	CMAQ	M2	LPP-F	Total	Existing Funding	Total Funding	Estimated Project Cost
Inland Slope Rehabilitation Phase II	-	\$5,600	\$2,400	\$8,000	\$170	\$8,170	\$8,170
Future Zero Emission Bus **	\$12,830	-	-	\$12,830	\$21,254	\$34,084	\$120,000
Total	\$12,830	\$5,600	\$2,400	\$20,830	\$21,424	\$42,254	\$128,170

- Funding recommendation F regarding SHOPP funding not included
- \*\* SR-55, I-5 to SR-91 total project cost includes a deprogramming of \$494,000 in federal STBG, therefore total and existing funding do not equal total project
- \*\*\* Estimated project cost is the incremental difference between the cost for replacing the CNG buses versus transitioning to zero-emission buses.

91 EL - 91 Express Lane Excess Revenue

Ave - Avenue

CMAQ - Congestion Mitigation and Air Quality Improvement Program

CNG - Compressed natural gas

CPF/CDS - Community Project Funding/Congressionally Directed Spending

CON - Construction I-5 - Interstate 5

I-405 - Interstate 405





I-605 - Interstate 605

LPP-F - Local Partnership Program Formulaic

M2 - Measure M2

SR-55 - State Route 55

SR-91 - State Route 91

Seg - Segment

STBG - Surface Transportation Block Grant

SHOPP - State Highway Operations and Protection Program

# Updates from March Regional Transportation Planning Committee

- I-605/Katella Avenue interchange funding recommendation increased from \$1.760 million to \$14.699 million
  - New recommendation includes updating all prior phases to reflect actual costs for environmental, design, and right-of-way
  - Updated construction cost estimate reflects all of OCTA's internal costs, such as additional contingency, public awareness and outreach
- Additionally, prior phases for all projects were updated per actual costs and updated estimates
- Recommendations revised to separate individual projects

# Recommendations

- A. Authorize the use of up to \$180.584 million to fund the construction phase and adjust costs associated with prior phases for the SR-55 Improvement Project from I-5 to SR-91 (Project F) using Measure M2 funding.
- B. Authorize the use of up to \$334.367 million to fund the construction phase and adjust costs associated with prior phases for the SR-91 Improvement Project from La Palma Avenue to SR-55 (Segment 2) (Project I), using the following funding sources:
  - 91 Express Lanes Excess Revenue (\$323.726 million)
  - Local Partnership Program Formulaic (\$6.641 million)
  - Community Project Funding/Congressionally Directed Spending (\$4.000 million)
- C. Authorize the use of up to an additional \$132.149 million to supplement the construction funding and prior phase funding for the I-5 Improvement Project from I-405 to Yale Avenue (Segment 1) (Project B) using Measure M2 funding.
- D. Authorize the use of up to an additional \$80.172 million to supplement the construction funding and prior phase funding for the SR-91 (Segments 1 and 3) (Project I) using 91 Express Lanes Excess Revenue.
- E. Authorize the use of up to an additional \$14.699 million to supplement the construction funding and prior phase funding for the I-605/Katella Avenue Interchange Project (Project M) using Measure M2 funding.





# Recommendations (Continued)

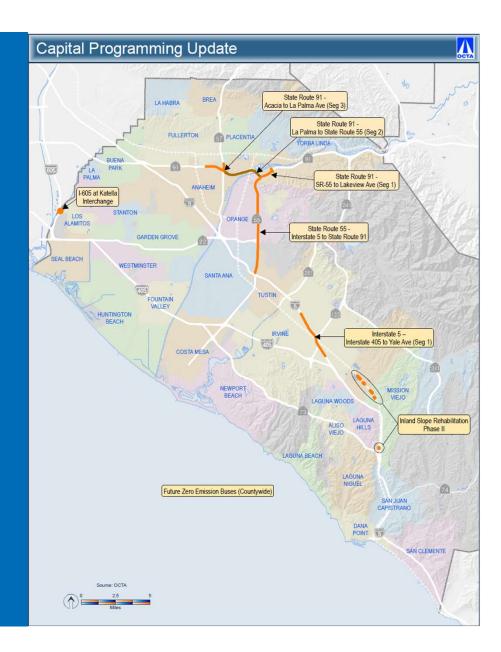
- F. Authorize the inclusion of \$39.251 million in committed State Highway Operations and Protection Program funds and an additional \$22.769 million in uncommitted future state funds to integrate the California Department of Transportation Multi-Asset Project into the Capital Funding Program report for:
  - I-5 Improvement Project between I-405 and Yale Avenue (Segment 1) (Project B)
     (\$36.400 million in committed State Highway Operations and Protection Program funds and \$13.744 million in uncommitted future state funds)
  - SR-91 Improvement Project from Acacia Street to La Palma Avenue (Segment 3) (Project I)
     (\$2.851 million in committed State Highway Operations and Protection Program funds and \$9.025 million in
     uncommitted future state funds)
- G. Authorize the use of up to \$8.000 million for the Inland Slope Rehabilitation Phase II Project from the following fund sources:
  - Measure M2 (\$5.600 million)
  - Local Partnership Program Formulaic (\$2.400 million)
- H. Authorize the use of up to \$12.830 million in Congestion Mitigation and Air Quality Improvement funds for the Future Zero-Emission Bus Project.
- I. 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.







# Questions







### **April 14, 2025**

Members of the Board of Directors To:

Andrea West, Clerk of the Board From:

Subject: Active Transportation Program Biannual Update

Regional Transportation Planning Committee Meeting of April 7, 2025

Directors Federico, Foley, Klopfenstein, and Stephens Present:

Absent: **Directors Carroll and Harper** 

#### **Committee Vote**

No action was taken on this item.

### Staff Recommendation(s)

Receive and file as an information item.



#### April 7, 2025

**To:** Regional Transportation Planning 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 with local jurisdictions, key stakeholders, and the public. An update on recent and upcoming activities is provided.

appl

#### Recommendation

Receive and file as an information item.

### Background

The Orange County Transportation Authority (OCTA) is engaged in regional active transportation projects and programs in Orange County (OC). 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, accessible, and connected bicycling and walking networks. Updates on these projects and a summary of additional active transportation efforts are discussed below.

#### Discussion

Electronic Bicycles (E-Bikes) Safety Action Plan

In December 2024, OCTA completed the E-Bike Safety Action Plan (Plan) to address gaps in e-bike safety resources at regional, state, and local levels. The Plan proposes strategies to address these gaps and identifies potential funding sources to facilitate future e-bike initiatives.

The project team conducted an inventory of available e-bike data and non-infrastructure e-bike resources, including crash and count data, injury data, ongoing local safety efforts, regional initiatives, and statewide initiatives and legislation. The project team then conducted a gap analysis of these resources and initiatives, identifying areas where resources were both available and not available. The project team also engaged with OC's local jurisdictions, law enforcement agencies, regional agencies such as Orange County Healthcare Agency (OCHCA), hospitals such as Providence Mission Hospital, retailers, and other stakeholders involved in e-bike safety efforts, as well as the broader OC community.

Analyzing the stakeholder and community input, data and non-infrastructure inventory, and gap analysis, the project team developed the final Plan which recommends actions in six key strategy areas: infrastructure, legislation, collisions/injuries, ridership, education/encouragement, and retail collaboration. Each strategy area is accompanied by individual strategies and recommended actions to move towards safer e-bike use in OC.

Recommendations identified in the Plan include:

- Infrastructure: Continue to advance bikeway infrastructure which fosters safe e-bike riding.
- Legislation: Support e-bike use as a sustainable transportation mode and encourage safe adoption of active modes.
- Collisions/injuries: Build understanding of crash and risk factors, especially those that result in severe injury or fatality.
- Ridership: Understand growth trends and hot spots for e-bike use.
- Education/encouragement: Target behavior changes for key groups affected by e-bike safety issues.
- Retailer collaboration: Leverage e-bike retailers for outreach and data collection.

OCTA staff is exploring implementations and partnership strategies to best operationalize the recommendations identified in the plan.

Next Safe Travels Education Program (Next STEP) Project

In June 2024, OCTA, in partnership with OCHCA, launched the Next STEP Project which partners with city staff, schools, and school districts to conduct walking and bicycling education and encouragement activities and assess

infrastructure needs at participating schools. The Project will be implemented at 25 eligible public elementary schools across OC. The \$2.1 million Next STEP Project is funded by an \$850,000 California Transportation Commission Active Transportation Program (ATP) grant and a \$1.25 million Southern California Association of Governments (SCAG) Regional Early Action Planning (REAP) 2.0 grant.

Using eligibility criteria established in the Safe Routes to School Action Plan, the project team has thus far enrolled 14 schools to participate in the infrastructure needs element of the Project (Attachment A). While all cities have been contacted, enrollment in the project remains incomplete as the project team continues working to meet with district and school staff to enroll the remaining schools based on their eligibility and ability to participate in the Project. The project team is conducting walk audits in collaboration with school staff, school districts, city staff, county staff (as appropriate), parents, and the OCHCA. These audits include observing drop-off and/or pick-up activities followed by an evaluation of surrounding roadway, bicycle, and pedestrian facilities. During the walk audits, parents and school staff are encouraged to provide feedback on infrastructure conditions as well as safety and access needs. Traffic data collection efforts and student travel tally surveys are also completed to help analyze the use and movement of vehicles, bicycles, and pedestrians near schools. Recommendations based on the audits will be developed by the project team and reviewed by each city prior to being finalized.

Project staff is soliciting participation from 25 schools to gauge interest in the education programming component. Once recruitment is complete, the project team will begin delivering walking and bicycling education and encouragement activities at participating schools.

Active Transportation Outreach and Engagement Project

The Active Transportation Education and Engagement Project began in summer 2024 and will continue through June 2026. The project team is attending community events, conducting and participating in bicycle rodeos, developing online education modules, and deploying mobile street team ambassadors to distribute safety materials to the public. These efforts aim to empower residents to safely and confidently use bicycling and walking as a viable mode of transportation. The project also strengthens partnerships with community-based organizations in support of active transportation safety to help increase community engagement and participation and further develop OCTA's active transportation stakeholder group. This project is funded with a \$400,000 SCAG REAP 2.0 grant.

The project team is working with local jurisdictions and stakeholders to identify community events where providing active transportation engagement and education can be beneficial to the safety and well-being of the community. Collateral and educational materials were developed and are being distributed to aid in this messaging including:

- Vehicle, pedestrian, and bicycle safety tips flyers
- E-bike safety flyers
- E-bike stickers
- Bicycle stickers

The project team identified and procured walking and bicycle safety equipment. Depending on the focus of the events attended, the project team has been distributing the following:

- Reflective ankle wraps and keychains
- Bicycle lights
- Bicycle bells
- Bicycle helmets

The project team has attended 14 events, engaged 1,840 attendees, and distributed over 2,497 safety items and 1,966 educational materials (Attachment B).

#### **OC Connect Project**

OCTA is completing the Project Approval and Environmental Document (PA/ED) phase of the OC Connect Project in cooperation with the cities of Garden Grove and Santa Ana (Cities), the California Department of Transportation (Caltrans) District 12, and Orange County Public Works. This project proposes approximately four miles of Class I shared-use path, connecting the Cities and closing an active transportation gap for the communities around the former Pacific Electric Right-of-Way (PEROW) corridor.

Closing this gap would greatly improve the active transportation connectivity by providing a safe, well-connected active transportation corridor linking the Cities' downtown areas to the surrounding communities as well as the Santa Ana River Trail, multiple transit stops, and the OC Streetcar. In addition to increased connectivity, the project creates a valuable and lasting community greenway that benefits both Cities' downtown areas and the neighborhoods surrounding the corridor. Transformation of the former PEROW corridor into a vibrant community will promote health and wellbeing and create a positive identity using recreation and leisure amenities not currently available in the surrounding areas.

OC Connect PA/ED phase is funded by a \$3 million ATP grant, which will complete preliminary design, determine the trail's feasibility, estimate project costs, and complete the requisite environmental documentation. Caltrans, as assigned by the Federal Highway Administration, is the lead agency under the National Environmental Policy Act and OCTA is the lead agency under the California Environmental Quality Act (CEQA). In addition to design and environmental document preparation, OC Connect includes extensive communication with local stakeholders and the surrounding community through a two-phase public outreach and input campaign. These meetings provided opportunities for public comments and discussion regarding the project and the CEQA statutory exemption documentation and process.

OCTA has also secured \$6 million in funding to complete the project through the final design or Plans, Specifications, and Estimates (PS&E) phase. After the PA/ED phase concludes in June 2025, OCTA plans to begin the procurement process for PS&E services. Prior to beginning the PS&E phase, OCTA is working with the Cities to secure a commitment to operate and maintain the trail once constructed. Staff will provide the Board with an update in fall 2025 after the completion of the PA/ED phase.

### **Orange County Bicycle Counts**

OCTA is collecting bicycle count data from 450 locations on roads and bicycle paths across the County and updating the OCTA bicycle counts database. This data supports active transportation in the County by providing data for analysis, grant applications, and project development. OCTA is using a web-based platform for local agencies to request counts at specific locations. In January and February 2025, outreach emails were sent to key city and county representatives, including city engineers, public works directors, and active transportation coordinators with the purpose of encouraging jurisdictions to request bicycle count locations within their jurisdiction.

Data collection took place in June 2024 and will take place again in May 2025. Counts are taken at each location for one weekday and one weekend day during the collection period. The count information includes a range of data categories such as direction of travel, sidewalk versus street usage, electric versus non-electric bicycles, and helmet usage. The final 2024 bicycle count data has been added to the database and is available to cities upon request. The 2025 data is expected to be available by the end of summer 2025.

### Summary

OCTA supports efforts to improve active transportation throughout OC. This includes ongoing education, encouragement, engineering, and evaluation efforts for active transportation. Coordination and collaboration will continue between regional, state, and local agencies, key stakeholders, and the public to encourage and support safer walking and bicycling in OC.

### **Attachments**

- A. Next Safe Travels Education Program Participating Schools (Infrastructure)
- B. Active Transportation Outreach Support Summary

Prepared by:

Peter Sotherland

Active Transportation Coordinator

(714) 560-5386

Approved by:

Rose Casey

Executive Director, Planning

(714) 560-5729

Rose Casey

### **ATTACHMENT A**

Next Safe Travels Education Program Participating Schools (Infrastructure)						
City	City District					
Aliso Viejo	Capistrano Unified	Wood Canyon Elementary				
Cypress	Cypress Elementary	Clara J. King Elementary				
Fountain Valley	Garden Grove Unified	James Monroe Elementary				
		Sunnyside Elementary				
		Ocia A. Peters Elementary				
Garden Grove	Garden Grove Unified	Earl Warren Elementary				
	Garden Grove Onnied	Patton Elementary				
		Garden Park Elementary				
		Mitchell Elementary				
Lake Forest	Saddleback Valley Unified	Rancho Canada Elementary				
Orange County Public Works (Unincorporated)	Capistrano Unified	Las Flores Elementary				
San Juan Capistrano	Capistrano Unified	Harold Ambuehl Elementary				
Tustin	Tustin Unified	Sycamore Magnet Academy				
านรถก	i usun Onnea	Benjamin F. Beswick Elementary				

Active Transportation Outreach Support Summary							
Event Name	Date Participation		City				
SEPTEMBER - 2024							
Fiestas Patrias	09/14/24	Pop Up	Santa Ana				
Community Bike Ride to Raise Prostate Cancer Awareness	09/24/24	Рор Uр	Fullerton				
OCTOBER - 2024							
Walk to School Day - Washington Elementary	10/09/24	Pop Up	Santa Ana				
Trunk or Treat Resource Fair	10/23/24	Рор Uр	Santa Ana				
NOVEMBER - 2024		I					
Metrolink Holiday Express Train	11/30/24	Pop Up	Anaheim				
DECEMBER - 2024							
Rossmoor Winter Festival	12/14/24	Pop Up	Rossmoor				
Holiday Market at Anaheim Garden Walk	12/21/24	Pop Up	Anaheim				
JANUARY - 2025							
City of Santa Ana Tet Festival	01/25/25	Pop Up	Santa Ana				
First Baptist Church Tet Celebration	01/30/25	Mobile Street Team	Westminster				
FEBRUARY - 2025							
2025 Roger Millikan Race	02/09/25	Mobile Street Team	Brea				
Cal State Fullerton Bike Safety Check	02/19/25	Pop Up	Fullerton				
Oso Fit 5k and Community Health Fair	02/22/25	Pop Up	Mission Viejo				
Aliso Viejo Brave Race 5K & 1K Fun Run	02/23/25	Pop Up Aliso Viejo					
Strong Town OC Active Transportation Forum	02/27/25	Pop Up Fullertor					

# Active Transportation Program Biannual Update



### Overview

E-Bike Safety Initiatives and Projects

**Next STEP** 

**Active Outreach and Education** 

**OC** Connect

Orange County Bicycle Counts

E-Bike - Electric Bicycle Next STEP - Next Safe Travels Education Program

# E-Bike Safety Initiatives and Projects

### E-Bike Safety Action Plan

- Completed in winter 2024
- Incorporated input from cities, stakeholders, and public
- Made recommendations and identified potential lead and partner agencies

### Six Goal Focus Areas

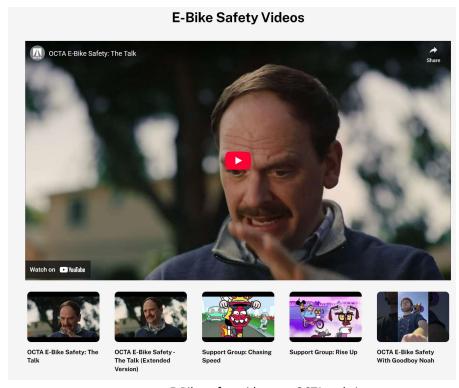
- Infrastructure
- Legislation
- · Collisions/injuries
- Ridership
- Education/encouragement
- Retailer collaboration



# E-Bike Safety Initiatives and Projects (Cont.)

### **E-Bike Initiatives**

- New safety videos
- Injury collaborative
- Quarterly meeting
- Education and rodeos



E-Bike safety videos on OCTA website

# Next Safe Travels Education Program

### **Project Summary**

- 25 schools eligibility determined by Safe Routes to School Action Plan needs analysis
- Evaluation/concept development
- Educational programming

### **Current Activities**

- School recruitment
- City, schools, and district staff coordination
- Conduct walk audits
- Collect traffic data



Walk Audit at Beswick Elementary in Tustin

SRTS – Safe Routes to School

### Active Outreach and Education

### **Project Overview**

- Education and safety engagement
- Community events participation
- Bicycle rodeos
- · Online education modules
- · Mobile street teams for safety material distribution
- Staff are taking event requests

### **Distributed Materials**

- Educational Materials Distributed: 1905 total
- Safety Equipment Distributed: 2280 total
  - Reflective ankle wraps and keychains, water bottles, bicycle lights, bells, helmets, spoke reflectors



BRAVE Race 1k 5k and 10k for the Joyful Child Foundation event

### **OC Connect**

### **Project Overview**

- 1.5 miles in the City of Garden Grove
- 2.3 miles in the City of Santa Ana
- Preliminary engineering and environmental approval

#### **Project Goals**

- Greater connectivity
- Provides low-cost transportation option
- New parks and green space
- Community identity
- Historic preservation

### **Project Status**

- Completed public outreach
- Completed preliminary design
- Finalizing environmental documentation with Caltrans

Caltrans - California Department of Transportation



# **OC Connect**

### **Next Steps**

- Complete project approval and environmental document phase (June 2024)
- Secure commitments for maintenance and operations
- Begin final design/plans, specifications and estimate phase



Wide Section Trail Side Element Concept
PE ROW – Pacific Electric Right-of-Way



Bridge/Santa Ana River Trail Concept



**Existing Conditions** 



**Example Trail** 

# Orange County Bicycle Counts

### **Project Overview**

- Track bicycle usage across 450 locations
- Various metrics collected
- Data collection will be in May 2025
- Asked for city feedback January February

### Use of Data

- Supports grant applications and project planning
- Available by request for analysis
- Incorporation into OCTA's flow map

OCTA - Orange County Transportation Authority

### **Next Steps**

- Return to the Board of Directors with updates on active transportation efforts including:
  - OC Connect, e-bike safety efforts, active transportation outreach, upcoming projects
  - Partnering with stakeholders
- Seek funding opportunities to support active transportation initiatives and projects
  - Continue working with local agencies and community groups to advance active transportation measures for all Orange County residents





### **April 14, 2025**

To: Members of the Board of Directors

Andrea West, Clerk of the Board From:

Subject: Amendments to the Master Plan of Arterial Highways

Regional Transportation Planning Committee Meeting of April 7, 2025

Present: Directors Federico, Foley, Klopfenstein, and Stephens

**Directors Carroll and Harper** Absent:

### **Committee Vote**

This item was passed by the Members present.

### Committee Recommendation(s)

- Approve amending the Master Plan of Arterial Highways to fully remove Α. the Garfield-Gisler Santa Ana River crossing.
- B. Direct staff to close out the Memorandum of Understanding C-6-0834 among the cities of Costa Mesa, Fountain Valley, and Huntington Beach, and the Orange County Transportation Authority regarding agency responsibilities for implementing the consensus recommendation for the Garfield Gisler Bridge Crossing over the Santa Ana River.
- C. Approve amending the Master Plan of Arterial Highways to accommodate the following requests:
  - 1. City of Anaheim: Remove Weir Canyon Road between Blue Sky Road and State Route 241 (not constructed).
  - 2. City of Costa Mesa: Reclassify Merrimac Way from a primary (four-lane, divided) arterial to a divided collector (two-lane, divided) arterial between Harbor Boulevard and Fairview Road.
  - 3. City of Irvine: Reclassify Yale Avenue from a secondary (four-lane, undivided) arterial to a collector (two-lane undivided) arterial between Michelson Drive and University Drive.
  - 4. City of Stanton: Reclassify Orangewood Avenue from a secondary (four-lane, undivided) arterial to a divided collector (two-lane divided) arterial between Santa Rosalia Street and the eastern city boundary.



### COMMITTEE TRANSMITTAL Page 2

The Master Plan of Arterial Highways will be amended to reflect each approved request contingent upon receipt of documentation confirming that all affected general plans are consistent with the proposed amendment and are compliant with the California Environmental Quality Act. Amendment requests will expire if the Orange County Transportation Authority does not receive such documentation within three years of granting approval.

Should the proposed Master Plan of Arterial Highways amendment be modified for any reason after receiving approval, the modified Master Plan of Arterial Highways amendment must be returned to the Orange County Transportation Authority Board of Directors for reconsideration and action.

- D. Direct the Executive Director of Planning, or her designee, to file a Notice of Exemption from the California Environmental Quality Act in support of the Master Plan of Arterial Highways amendment.
- E. Receive and file a status report of ongoing Master Plan of Arterial Highways coordination activities.



### April 7, 2025

**To:** Regional Transportation Planning Committee

From: Darrell E. Johnson, Chief Executive Officer

**Subject:** Amendments to the Master Plan of Arterial Highways

#### Overview

The Orange County Transportation Authority administers the Master Plan of Arterial Highways, including the review and approval of amendments requested by local agencies. The cities of Anaheim, Costa Mesa, Irvine, and Stanton have requested amendments to the Master Plan of Arterial Highways that are recommended for approval. In addition, removal of the Garfield-Gisler Santa Ana River crossing is recommended for approval, and support letters have been received from the cities of Costa Mesa, Fountain Valley, and Huntington Beach. A status update is also provided on Master Plan of Arterial Highways coordination activities, including ongoing collaboration with the cities of Costa Mesa and Newport Beach.

#### Recommendations

- A. Approve amending the Master Plan of Arterial Highways to fully remove the Garfield-Gisler Santa Ana River crossing.
- B. Direct staff to close out the Memorandum of Understanding C-6-0834 among the cities of Costa Mesa, Fountain Valley, and Huntington Beach, and the Orange County Transportation Authority regarding agency responsibilities for implementing the consensus recommendation for the Garfield-Gisler Bridge Crossing over the Santa Ana River.
- C. Approve amending the Master Plan of Arterial Highways to accommodate the following requests:
  - 1. City of Anaheim: Remove Weir Canyon Road between Blue Sky Road and State Route 241 (not constructed).
  - City of Costa Mesa: Reclassify Merrimac Way from a primary (four-lane, divided) arterial to a divided collector (two-lane, divided) arterial between Harbor Boulevard and Fairview Road.

- 3. City of Irvine: Reclassify Yale Avenue from a secondary (four-lane, undivided) arterial to a collector (two-lane undivided) arterial between Michelson Drive and University Drive.
- 4. City of Stanton: Reclassify Orangewood Avenue from a secondary (four-lane, undivided) arterial to a divided collector (two-lane divided) arterial between Santa Rosalia Street and the eastern city boundary.

The Master Plan of Arterial Highways will be amended to reflect each approved request contingent upon receipt of documentation confirming that all affected general plans are consistent with the proposed amendment and are compliant with the California Environmental Quality Act. Amendment requests will expire if the Orange County Transportation Authority does not receive such documentation within three years of granting approval.

Should the proposed Master Plan of Arterial Highways amendment be modified for any reason after receiving approval, the modified Master Plan of Arterial Highways amendment must be returned to the Orange County Transportation Authority Board of Directors for reconsideration and action.

- D. Direct the Executive Director of Planning, or her designee, to file a Notice of Exemption from the California Environmental Quality Act in support of the Master Plan of Arterial Highways amendment.
- E. Receive and file a status report of ongoing Master Plan of Arterial Highways coordination activities.

### Background

The Master Plan of Arterial Highways (MPAH) coordinates roadway system planning across Orange County jurisdictions. The MPAH was first adopted by the County of Orange in 1956, and the Orange County Transportation Authority (OCTA) assumed administration responsibilities in 1995. These responsibilities include the review and approval of MPAH amendments proposed by local agencies to maintain the integrity and continuity of the MPAH system. This is necessary to assess the potential for transportation-related concerns and ensure interagency collaboration to avoid unintended impacts in neighboring jurisdictions or regional transportation systems.

The following section provides details on the recommendation to remove the Garfield-Gisler Santa Ana River crossing, in collaboration with the cities of Costa Mesa, Fountain Valley, and Huntington Beach. Additional amendment requests from the cities of Anaheim, Costa Mesa, Irvine, and Stanton are discussed as well. Finally, a status report on other ongoing MPAH coordination activities is also provided that includes updates regarding collaborative efforts

with the cities of Costa Mesa and Newport Beach related to the active 19th Street amendment request by the City of Costa Mesa.

#### **Discussion**

Garfield-Gisler Bridge Removal

OCTA has been collaborating with the cities of Costa Mesa, Fountain Valley, and Huntington Beach (Cities) regarding the proposed MPAH amendment to remove the Garfield-Gisler bridge (Bridge). For nearly 20 years, the Cities have been jointly working to implement improvements in lieu of the Bridge, as agreed upon in the 2006 memorandum of understanding (MOU). The MOU required that OCTA, in coordination with the Cities, reevaluate the MPAH network performance with the implemented improvements before determining whether to delete the Bridge from the MPAH. Amendment No. 1 to the MOU extended the completion date of the reevaluation to the end of calendar year 2026. The intent of this change was to ensure that the Interstate 405 (I-405) Improvement Project would be completed and opened to traffic prior to conducting the reevaluation.

On March 4, 2025, the Garfield-Gisler Santa Ana River Crossing Technical Review (Attachment A [Technical Review]), prepared by OCTA, was provided to the Cities for their review and concurrence. A peer review of the Technical Review was also conducted by a third-party engineering firm to provide additional assurance to the Cities of OCTA's evaluation methodology and findings. The resulting peer review document prepared by Iteris Inc. (Attachment B) was also shared with the Cities. The 2006 MOU and Amendment No. 1 to the MOU noted above are included in the appendices to the Technical Review.

The Orange County Transportation Analysis Model (OCTAM) 3.1 was used for the original evaluation in 2006 to analyze 2030 MPAH network conditions without the Bridge. The reevaluation in the Technical Review uses OCTAM 5.1 to assess 2050 MPAH network conditions without the Bridge. The results were compared to determine if the network is still expected to perform at least as well as the original evaluation results, despite forecasting an additional 20 years. Below is a summary of the findings from this analysis:

- The forecasted traffic volumes and congestion levels in the study area have either remained stable or improved compared to the 2006 study forecasts
- All major parallel corridors and key Santa Ana River crossings have experienced stable or improved levels of service, with most roadways showing either a reduction in traffic volumes or roadway capacity increases that accommodate increased volumes.
- The updated OCTAM 5.1 model reflects significant changes since the original study, including demographic shifts, the completion of the

- I-405 Improvement Project, and improvements to the region's transportation modeling approach.
- A comparison of the 2025 OCTAM 5.1 forecasts against the 2006 study confirms that the Bridge is not needed to effectively accommodate forecasted traffic demand in the area.
- Given the findings, further in-depth study of the Bridge is not warranted.

Based on these findings, the reevaluation demonstrates that, without the Bridge, the MPAH meets or exceeds expectations set by the original evaluation results, which were the basis of the 2006 MOU. The peer review and reviews by the Cities confirmed that the methodology and findings in the Technical Review are valid. Therefore, due to the infrastructure improvements that have been made since 2006, and in consideration of the support letters received from the Cities (Attachments C, D, and E), staff recommends Board of Directors (Board) approval of the amendment to remove the Bridge from the MPAH.

### Additional Amendment Requests

MPAH amendment requests were submitted to OCTA by the cities of Anaheim (Attachment F), Costa Mesa (Attachment G), Irvine (Attachment H), and Stanton (Attachment I). Most of the amendments, which are summarized in the table below, support local active transportation initiatives. Maps for each amendment request are provided in Attachments J, K, L, and M, respectively.

Agency	Current Configuration	MPAH Classification	Requested Classification				
Weir Canyon Road Extension – between Blue Sky Road and     State Route 241							
Anaheim	Not Constructed	Four-Lane, Divided	Removal				
2. Merrimac V	Vay – between Harbor	Boulevard and Fairvie	ew Road				
Costa Mesa Two-Lane, Divided Four-La		Four-Lane, Divided	Two-Lane, Divided				
3. Yale Avenu	3. Yale Avenue – between Michelson Drive and University Drive						
Irvine Two-Lane, Undivided		Four-Lane, Divided	Two-Lane, Undivided				
4. Orangewood Avenue – between Santa Rosalia Street and eastern city boundary							
Stanton	Four-Lane, Undivided	Four-Lane, Undivided	Two-Lane, Divided				

Detailed reviews of these amendment requests are documented in Attachment N. In brief, the performance of the MPAH and OCTA transit service is not expected to be adversely impacted by the requested amendments. They are, therefore, recommended for approval.

California Environmental Quality Act (CEQA)

Amendments to the MPAH are exempt from CEQA review. With direction from the Board, staff will file a Notice of Exemption from CEQA for the proposed MPAH amendment.

### MPAH Amendment Status Update

There are currently 21 active amendments proposed for the MPAH (Attachment O). Several of the active amendments are awaiting local action to amend their respective general plans. Others are either under review, in the cooperative study process, or pending resolution of issues with other agencies.

One of the active amendment requests was submitted by the City of Costa Mesa in 2019 to reclassify West 19th Street from a primary arterial to a divided collector. At the time, the City of Newport Beach requested to delay consideration of the City of Costa Mesa's amendment request while updating its General Plan, citing potential traffic demand increases related to the proposed Banning Ranch development. In 2021, OCTA reengaged with the cities of Costa Mesa and Newport Beach, but discussions were complicated and ultimately stalled by the pending sale of Banning Ranch, now known as the Frank and Joan Randall Preserve (Randall Preserve), and other evolving land-use plans. In 2024, the Board directed staff to re-engage the cities of Costa Mesa and Newport Beach. This led to a May 2024 meeting where all parties agreed that OCTA should conduct a traffic study to assess MPAH facilities within the Randall Preserve area including the proposed MPAH amendment to reclassify West 19th Street, after state-mandated housing element updates are completed in February 2025.

OCTA recently executed a consultant contract to support this cooperative traffic study of MPAH facilities in the Randall Preserve area. The study aims to establish consensus on MPAH network needs before moving forward with recommending agreed upon amendments, including the West 19th Street amendment. At the time of preparing this staff report, a meeting with all parties was scheduled for April 4, 2025, to kick off the study and discuss the study's scope, timeline and next steps.

### Summary

A consensus has been reached between OCTA and the Cities to remove the Bridge from the MPAH. Additionally, the cities of Anaheim, Costa Mesa, Irvine, and Stanton have requested further amendments to the MPAH. Based on an analysis of the changes requested, the MPAH guidance has been satisfied, and staff recommends Board approval of all the requested amendments. Finally, OCTA is initiating a study in collaboration with the cities of Costa Mesa and Newport Beach to determine MPAH network needs in the Randall Preserve area and to build consensus on a final set of amendments that will include a resolution to the 2019 request from the City of Costa Mesa regarding West 19th Street.

#### Attachments

- A. Garfield-Gisler Santa Ana River Crossing Technical Review
- B. FINAL Peer Review Garfield-Gisler Santa Ana River Crossing Technical Review
- C. Letter from Raja Sethuraman, Public Works Director, City of Costa Mesa, to Rose Casey, Executive Director, Planning, Orange County Transportation Authority, dated March 13, 2025, re: Master Plan of Arterial Highways Concurrence with the Garfield-Gisler Santa Ana Crossing Technical Review
- D. Letter from Scott Smith, Public Works Director, City of Fountain Valley, to Rose Casey, Executive Director, Planning, Orange County Transportation Authority, dated March 11, 2025, re: Master Plan of Arterial Highways Concurrence with the Garfield-Gisler Santa Ana Crossing Technical Review
- E. Letter from Chau Vu, Public Works Director, City of Huntington Beach, to Rose Casey, Executive Director, Planning, Orange County Transportation Authority, dated March 17, 2025, re: Master Plan of Arterial Highways Concurrence with the Garfield-Gisler Santa Ana Crossing Technical Review
- F. Request Letter from Rudy Emami, PE, Director of Public Works, City of Anaheim, to Rose Casey, Orange County Transportation Authority, dated February 4, 2025, re: City of Anaheim Master Plan of Arterial Highways Amendment Request 2025 General Plan Update
- G. Request Letter from Raja Sethuraman, Public Works Director, City of Costa Mesa, to Gregory Nord, Section Manager III, Orange County Transportation Authority, dated November 18, 2024, re: Master Plan of Arterial Highways (MPAH) Amendment Request Merrimac Way, City of Costa Mesa, Focused Traffic Study
- H. Request Letter from Sean Crumbly, Director Public Works & Sustainability Department, City of Irvine, to Kia Mortazavi, Executive Director, Planning, Orange County Transportation Authority, dated October 7, 2024, re: Master Plan of Arterial Highways (MPAH) Amendment Request Yale Avenue between Michelson Drive and University Drive

- I. Request Letter from Cesar Rangel, Public Works Director / City Engineer, City of Stanton, to Kia Mortazavi, Executive Director, Planning, Orange County Transportation Authority, dated December 18, 2024, re: Master Plan of Arterial Highways (MPAH) Amendment Request Orangewood Avenue between Santa Rosalia Street and City Limits
- J. City of Anaheim MPAH Amendment Map
- K. City of Costa Mesa MPAH Amendment Map
- L. City of Irvine MPAH Amendment Map
- M. City of Stanton MPAH Amendment Map
- N. Master Plan of Arterial Highways Amendment Detailed Discussion
- O. Status Report on Pending Master Plan of Arterial Highways Amendments

Prepared by:

Ivy Hang

Senior Transportation Analyst

(714) 560-5684

Approved by:

Rose Casey

Executive Director, Planning

(714) 560-5729

Rose Casey

**Final Report** 

### Garfield-Gisler Santa Ana River Crossing Technical Review

Orange County, California

### Prepared by:



Orange County Transportation Authority 550 S Main St, Orange, CA 92868

#### Authors:

Brian Smolke, M.S., T.E.; Anup Kulkarni, M.S., Ph.D.; Gregory Nord, MURP

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### **BACKGROUND**

The Orange County Master Plan of Arterial Highways (MPAH) was first adopted by the County of Orange (County) in 1956, and the Orange County Transportation Authority (OCTA) assumed administration responsibilities in 1995. These responsibilities include the review and approval of MPAH amendments proposed by local agencies to maintain the integrity and continuity of the MPAH system. This sometimes requires OCTA to lead cooperative traffic studies and facilitate discussions between local agencies to develop consensus on the proposal before approving amendments. This is consistent with Policy 1.3 in the Guidance for Administration of the Orange County Master Plan of Arterial Highways (MPAH Guidance), as approved by the OCTA Board of Directors (Board) on August 14, 2017. Policy 1.3 requires a coordinated planning process with affected agencies, which helps to avoid or mitigate potential and/or unintended impacts to communities and facilities in neighboring jurisdictions.

The Santa Ana River Crossings as discussed in this report refer to the roadway bridges over the Santa Ana River between Interstate 405 and Pacific Coast Highway that were planned to facilitate east-west traffic flow. These crossings have a long history dating back to the origins of the MPAH in 1956. At that time, the Garfield-Gisler bridge was identified on the MPAH as one of four Santa Ana River Crossings. Two of the four bridge crossings (Hamilton-Victoria and Adams Street) have been constructed. The other two (19th Street-Banning and Garfield-Gisler) bridges remained unbuilt and faced community opposition due to concerns with the potential for increased traffic in local neighborhoods.

In 1991, Costa Mesa requested that the County (the MPAH administrator at that time) remove the Garfield-Gisler bridge and 19th Street-Banning bridge from the MPAH. In 1993, the County and the cities of Costa Mesa, Huntington Beach, Fountain Valley, and Newport Beach (affected agencies) conducted the first traffic study of the proposed bridge deletions, called the Phase I Santa Ana River Crossing (SARX) Study. The study concluded that deletion of the bridges would require substantial improvements to the surrounding arterial highway system to mitigate the traffic that would be diverted. Consequently, the request to delete the bridges from the MPAH was not approved.

At the urging of neighborhood groups and Costa Mesa, the County led another effort to build consensus on alternatives to the planned bridges. An extensive public outreach effort and a Technical Advisory Group (TAG) consisting of the local agencies and citizens identified seven alternatives for further study. The County was on the verge of conducting a comprehensive environmental impact report (EIR) when the Orange County bankruptcy of 1994 occurred. As a result, the study was postponed while the MPAH was transferred to OCTA in 1995.

By 1998, OCTA initiated development of the Santa Ana River Crossings Study and a program level EIR (PEIR) in cooperation with the affected agencies. This effort engaged staff from the affected agencies through a TAG, as well as elected officials from the affected agencies through a Policy Advisory Committee (PAC). The initial range of alternatives was narrowed to one alternative that called for modifications to both the 19th Street-Banning Avenue and Garfield/Gisler Bridges. The Draft PEIR

was prepared in 2001, and a final version was presented to the Board in 2002. However, it was not certified by the Board and remained as a Draft PEIR due to unresolved differences of opinion amongst the jurisdictions.

In 2003, an item was brought to the Board to approve the Combined Transportation Funding Program projects, which included a project submitted by the City of Fountain Valley to develop preliminary designs and a project-level EIR for the Garfield-Gisler Bridge. A decision on funding this project was deferred multiple times to allow more time for the affected agencies to build consensus. In 2004, staff from OCTA and the cities of Fountain Valley and Costa Mesa agreed to recommending approval of the funding for the project with the condition that the study would be led by OCTA, in cooperation with the cities, and include analysis of an alternative to building the bridge. In August 2004, the Board approved the funding consistent with the agreed upon conditions.

In 2005, OCTA initiated the cooperative study, originally known as the Garfield-Gisler Preliminary Engineering and Supplemental Environmental Impact Report (PE/SEIR). The intent was to provide information that would enable the cities of Costa Mesa, Fountain Valley, and Huntington Beach to reach consensus as to whether the bridge should be deleted from the MPAH. As the study progressed, it was determined that the 2001 Draft PEIR could not be used as the basis for an SEIR. Therefore, the SEIR portion was dropped, and the study was renamed the Garfield-Gisler Area Study. OCTA staff held a series of meetings with the TAG and PAC to discuss options for reaching consensus. Through these meetings, it was agreed that:

- 1. OCTA would complete the Garfield-Gisler Area Study, in cooperation with the cities of Costa Mesa, Fountain Valley, Huntington Beach, Newport Beach, and the County of Orange.
- 2. The Garfield-Gisler Area Study would provide conceptual technical data and preliminary cost estimates for the following three alternatives:
  - a. Build the Garfield-Gisler Bridge and implement associated roadway improvements
  - Do not build the Garfield-Gisler Bridge, but implement roadway improvements generally consistent with those identified for the Garfield-Gisler area in the 2001 Draft PEIR
  - c. Do not build the Garfield-Gisler Bridge, but implement alternative mitigation strategies such as Smart Street improvements on major arterials in the study area to achieve traffic flow enhancements generally equivalent to those that would be realized by constructing the bridge
- 3. Upon completion of the Garfield-Gisler Area Study, OCTA and the cities of Costa Mesa, Fountain Valley, and Huntington Beach would explore options to formalize the study's findings.

In 2006, the results of the study were shared with the PAC. The PAC unanimously voted to advance the Smart Street and Bridge Widening Alternative A improvements (consistent with alternative 2.C in the list above), and to amend the MPAH to reclassify the Garfield-Gisler Bridge as "Right-of-Way Reserve". This classification preserves the right-of-way on the MPAH but requires agencies to refrain from including the facility for general plan purposes or traffic analysis. This direction led to the 2006

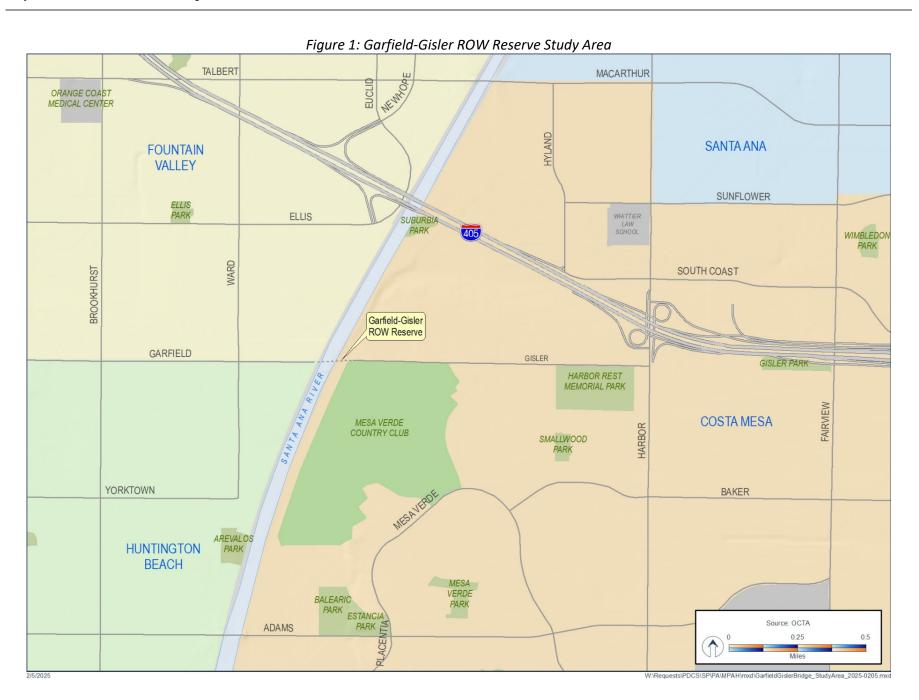
memorandum of understanding (MOU) that is in place today, which includes the Smart Street and Bridge Widening Alternative A improvements. With the MOU in place, the party agencies have been working to implement the identified improvements consistent with the MOU terms. The signed 2006 MOU is provided in Appendix A.

In 2019, staff from the MOU party agencies met several times to discuss the status of the agreement. All agencies agreed that the MOU should be amended to allow the 405 Improvement Project to be completed and for traffic patterns to settle before making a final determination of the bridge's disposition on the MPAH. The MOU was officially amended in 2020, and the 405 Improvement Project was subsequently completed and opened to traffic on December 1, 2023. Now, in 2025, this Report has been prepared over one year since the opening of the 405 project and is intended to analyze traffic conditions and recommend a final determination of the requested deletion of the Garfield-Gisler Bridge from the MPAH and conclude the long-standing MOU. The executed amendment to the MOU is provided in Attachment B.

### **OVERVIEW OF 2025 SARX REVIEW**

The 2006 Garfield-Gisler SARX study utilized future-year travel forecasts from the Orange County Transportation Analysis Model (OCTAM) version 3.2, which was the latest version of OCTA's travel forecasting model at the time. This review evaluates future-year traffic forecasts from OCTAM 5.1, the current version of OCTAM (as of February 2025), against those used in the original 2006 Garfield-Gisler study. Comparing different OCTAM versions is uncommon, as the numerous and significant model changes which occur over time result in inconsistent comparisons. However, the approach was necessary for this analysis as the goal was to evaluate how travel patterns changed between the different model versions in the vicinity of the Garfield-Gisler Right-of-Way (ROW) reserve. A key indicator guiding this review was that if congestion increased in the current version of the model, then a more detailed analysis of the MPAH status of the Garfield-Gisler Right-of-Way reserve might be warranted. Meanwhile, if congestion hasn't increased, then the conclusions of the 2006 Garfield-Gisler SARX study remain valid and the Garfield-Gisler ROW reserve can be fully removed from the MPAH without the need of another in-depth traffic study.

This study assessed congestion levels along nearby facilities to the Garfield-Gisler ROW reserve using daily Level-of-Service (LOS) measures as defined in OCTA's MPAH Guidance. Special attention was given to facilities that cross the Santa Ana River parallel to the Garfield-Gisler ROW reserve, but all significant facilities in the vicinity were also analyzed to determine the general trend in the area. Figure 1 below shows the study area and the Garfield-Gisler ROW reserve.



### **MODEL VERSIONS**

The current version of OCTA's travel forecasting model, OCTAM version 5.1, uses demographic data from OCP 2022. The base year for OCP 2022 is 2019 and reflects a population of 3.2 million residents. The OCP 2022 forecast projects a future Orange County population of 3.3 million for the year 2050. This latest forecast indicates a significant slowing of growth for Orange County compared with OCP 2004. This change includes the removal of the previously proposed Banning Ranch housing development, which was a significant land-use assumption in OCTAM 3.2, adding approximately 2,000 new residents near the Garfield-Gisler ROW reserve. Since then, the area has been designated an open space preserve, and the current OCTAM 5.1 model assumes no development there. Additionally, OCTAM 5.1 reflects the current built conditions including both the general purpose and express lane additions as constructed on I-405 in 2023, as well as the existing capacity on MacArthur Boulevard bridge over the Santa Ana River.

OCTAM 5.1 incorporates numerous other updates from OCTAM 3.2, including recalibrated parameters to reflect recently observed trends in travel behavior as well as changes to the overall modeling process to reflect the best state-of-the-practice. One example of such a difference is that OCTAM 3.2 was based in the TRANPLAN travel forecasting software while OCTAM 5.1 runs in TransCAD. TRANPLAN is a notably older travel modeling program that runs in the DOS environment and is no longer supported. TransCAD is considered more capable of developing more accurate models due to its superior data integration, advanced traffic assignment, and enhanced calibration, resulting in more reliable transportation analysis. Table 1 highlights the key differences between the different model versions.

Table 1: OCTAM Key Differences

Key Differences	OCTAM 3.2	OCTAM 5.1
<b>Horizon Year</b>	2030	2050
Software Platform	TRANPLAN	TransCAD
Demographics	OCP 2004 projected OC population at 3.6 million by 2030	OCP 2022 projects OC population at 3.3 million by 2050
MPAH Assumptions	Includes 2005 MPAH buildout	Includes 2024 MPAH buildout
I-405 Assumptions	Added two general-purpose lanes	Added two general-purpose lanes and one HOV lane, and converted HOV lanes to tolled Express Lanes

These differences highlight how transportation forecasting has evolved over time, incorporating updated land use projections, infrastructure improvements, and long-term regional mobility needs. The OCTAM 5.1 analysis reflects current conditions more accurately, reinforcing that the removal of the Garfield-Gisler Bridge from the MPAH will not result in significant adverse traffic impacts

### **FINDINGS**

The forecast daily volume and Level of Service (LOS) comparisons between the original (2006) study and current (2025) travel model reveals significant changes in travel demand. Almost all facilities showed decreased forecast volumes, a trend which will be discussed later in the report.

The few locations where forecast traffic volumes increased had additional lanes added since the 2006 study, resulting in greater roadway capacity. For instance, the MacArthur Boulevard bridge over the Santa Ana River, two additional travel lanes were added per the 2006 MOU. The daily volumes on the bridge increased from 30,000 in the 2006 study to 35,000 in the 2025 model, but the additional lanes resulted in the LOS improving from LOS C to LOS B.

The Adams Avenue bridge over the Santa Ana River experienced a reduction in daily volumes from 44,000 to 40,000, maintaining an LOS of C. While congestion on I-405 was not analyzed, the forecasts were reviewed for the sake of completeness and a substantial decrease was observed, from 414,000 to 364,000. Tables 2 and 3 below compare the future LOS and volume forecasts for the key bridges that parallel the Garfield-Gisler ROW reserve.

Table 2: SARX Daily Future MPAH Level of Service Comparison

Roadway	Original (2006) Study	Current Model			
MacArthur Blvd	С	В			
Adams Ave	С	С			

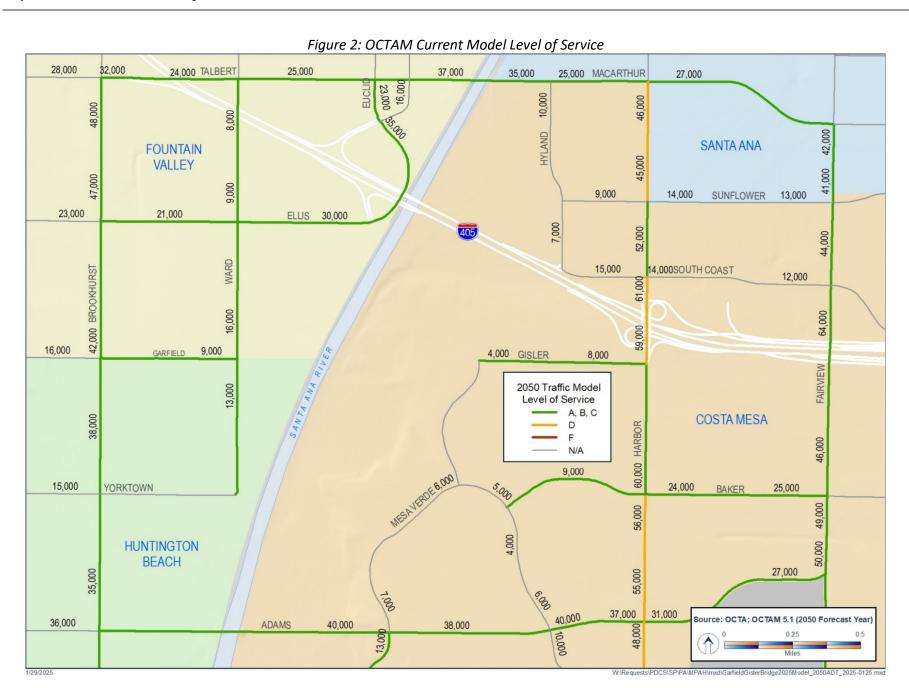
Table 3: SARX Daily Future Volume Comparison

Roadway	Original (2006) Study	Current Model		
MacArthur Blvd	30,000	35,000		
Adams Ave	44,000	40,000		
I-405	414,000	364,000		

Across all facilities in the vicinity of the Garfield-Gisler ROW reserve, LOS remained the same or improved, indicating better traffic conditions compared to the results from 2006. A detailed regional comparison below in Table 4 further highlights reduced traffic volumes and/or improved LOS near the proposed Garfield-Gisler bridge. For example, MacArthur Boulevard (Brookhurst to Ward) saw a 1,000-vehicle increase in volume, but additional lanes resulted in an improvement in LOS from B to A. Ellis Avenue (Brookhurst to I-405 SB ramps) experienced a 4,000-vehicle decrease, with LOS improving from E to C. Similarly, all segments of Harbor Boulevard showed reduced volumes and corresponding LOS improvements, reflecting the positive changes on the surrounding roadway network.

Table 4: OCTAM Segment Level Analysis Comparisons: Original Study and Current Model

		- Comp		nal (2006) 1 odel Foreca			nt (2025) T odel Foreca		ADT Original vs Current	Support for Garfield- Gisler Bridge
Roadway	From	То	Lanes	ADT	LOS	Lanes	ADT	LOS	Model	Removal
MacArthur Boulevard/ Talbert Avenue	Brookhurst St	Ward Street	4	23,000	В	6	24,000	А	1,000	Yes
MacArthur Boulevard/ Talbert Avenue	Ward St	Newhope St	6	27,000	А	6	25,000	А	-2,000	Yes
MacArthur Boulevard/ Talbert Avenue	Newhope St	Mt. Washington St	7	38,000	А	7	37,000	А	-1,000	Yes
MacArthur Boulevard/ Talbert Avenue	Mt. Washington St	Hyland Ave	4	30,000	С	6	35,000	В	5,000	Yes
MacArthur Boulevard/ Talbert Avenue	Hyland Ave	Fairview Rd	6	31,000	А	6	25,000	А	-6,000	Yes
Ellis Avenue	Brookhurst St	I-405 SB ramps	4	34,000	Е	4	30,000	С	-4,000	Yes
Euclid Street	I-405 underpass	Talbert Ave	6	37,000	В	6	29,000	Α	-8,000	Yes
Garfield Avenue	Brookhurst St	Ward Street	4	10,000	Α	4	9,000	Α	-1,000	Yes
Gisler Avenue	Country Club Dr	Harbor Blvd	2	15,000	В	2	8,000	Α	-7,000	Yes
Baker Street	Mesa Verde Dr	Royal Palm Dr	2	11,500	E	2	9,000	С	-2,500	Yes
Baker Street	Royal Palm Dr	Harbor Blvd	4	15,000	Α	4	9,000	Α	-6,000	Yes
Baker Street	Harbor Blvd	Fairview Rd	4	26,000	В	4	24,500	В	-1,500	Yes
Adams Avenue	Brookhurst St	Pinecreek Dr	6	44,000	С	6	40,000	С	-4,000	Yes
Adams Avenue	Pinecreek Dr	Fairview Rd	5	29,000	В	5	27,000	Α	-2,000	Yes
Brookhurst Street	Adams Ave	Talbert Ave	6	47,000	D	6	43,800	С	-3,200	Yes
Ward Street	Talbert Ave	Garfield Ave	4	16,000	В	4	9,000	Α	-7,000	Yes
Harbor Boulevard	Adams Ave	Baker St	7	66,000	F	7	56,000	D	-10,000	Yes
Harbor Boulevard	Baker St	Gisler Ave	8	67,500	D	8	60,000	С	-7,500	Yes
Harbor Boulevard	Gisler Ave	I-405 SB ramps	7	66,000	F	7	59,000	D	-7,000	Yes
Harbor Boulevard	I-405 SB ramps	South Coast Dr	8	61,000	D	8	61,000	D	0	Yes
Harbor Boulevard	South Coast Dr	Sunflower Ave	7	62,000	E	7	52,000	С	-10,000	Yes
Harbor Boulevard	Sunflower Ave	MacArthur Blvd	6	50,000	D	6	46,000	D	-4,000	Yes



### **DISCUSSION AND CONCLUSIONS**

A comparison of the 2025 OCTAM 5.1 forecasts with the original from the 2006 study (OCTAM 3.2) revealed that congestion has either remained the same or improved on all facilities near the Garfield-Gisler ROW reserve. The reduction in congestion is a trend that occurred through much of Orange County and is the result of numerous changes in the underlying data and assumptions between model versions.

An important change to highlight is the downward trend in forecasted population growth, as reflected in the OCP demographic data integrated into newer model versions. OCP 2004 projected Orange County's to reach 3.6 million by 2030, whereas OCP 2022 forecasts a population of 3.3 million by 2050. The slowing population growth in Orange County aligns with a broader trend observed across California. Part of this change in growth includes the removal of the previously proposed Banning Ranch housing development discussed earlier in the report.

Based on the fact that forecast congestion has not increased in the study area reviewed in this analysis, there is no indication of a need for further in-depth study of the MPAH status of the Garfield-Gisler ROW reserve. It is recommended that the facility be fully removed from the MPAH without significant impacts on traffic or congestion in the area.

#### **MEMORANDUM OF UNDERSTANDING C-6-0834**

#### **AMONG**

### CITIES OF COSTA MESA, FOUNTAIN VALLEY AND HUNTINGTON BEACH

#### AND

# THE ORANGE COUNTY TRANSPORTATION AUTHORITY REGARDING

# AGENCY RESPONSIBILITIES FOR IMPLEMENTING THE CONSENSUS RECOMMENDATION FOR THE

#### GARFIELD-GISLER BRIDGE CROSSING OVER THE SANTA ANA RIVER

This Memorandum of Understanding (MOU) is entered into among the Orange County Transportation Authority, hereinafter referred to as the OCTA, and the Cities of Fountain Valley, Costa Mesa and Huntington Beach, hereinafter referred to as Cities.

Consistent with the Garfield-Gisler ad-hoc Policy Advisory Committee's consensus recommendation on June 15, 2006, each of the parties to this MOU agrees to support the designation of the Garfield-Gisler Bridge as a "Right-of-Way Reserve1" corridor on the Orange County Master Plan of Arterial Highways (MPAH) and, within their respective General Plans/Long Range Plans, implement the Smart Street and Bridge Widening Strategy A (Strategy A) improvements within their jurisdictions and ensure that buildout of the Garfield-Gisler Bridge is not assumed for land use planning or traffic analysis purposes. This MOU describes the specific duties and responsibilities of each party with respect to supporting these actions.

This document establishes obligations on all parties and constitutes an exchange of promises.

<sup>&</sup>lt;sup>1</sup> The Right-of-Way Reserve classification allows local jurisdictions considering deletion of a planned MPAH facility to request OCTA to re-designate the adopted facility as a "Right of Way Reserve" corridor for a specific length of time in order to assess the actual need for it. If OCTA agrees to re-designate the subject facility as a "Right-of-Way Reserve" corridor on the MPAH, then all appropriate City General Plan Circulation Elements shall be revised to reflect such re-designation. During the "reserve" period, the right-of-way shall be preserved however, the planned street shall not be considered as mitigation for development planning purposes. At the end of the designated period, a final decision shall be made regarding reinstatement or deletion of the street on the MPAH.

#### Recital

The parties acknowledge that this MOU requires that certain actions be taken with regard to amending the general plans and capital improvement programs of the parties hereto and that the parties hereto cannot predetermine those actions that are the subject of public hearings. Nevertheless, the parties agree that the benefits of this MOU are dependent on such actions and therefore commit to conducting said hearings within 6 months of the effective date of this agreement. If such action is not taken within said time line, the benefits of this agreement shall not be available to the parties unless all parties consent to an extension or other arrangement.

### Section 1. MPAH and General Plan/Long Range Plan Designations

#### 1.1 OCTA Responsibilities

#### 1.1.1 Amend Master Plan of Arterial Highways

After the cities have amended their General Plans, OCTA shall amend the MPAH to re-designate the Garfield-Gisler Bridge, and the eastbound and westbound approaches thereto, as a "Right-of-Way Reserve" corridor. Consistent with the MPAH's original concept for the Garfield-Gisler Bridge, the right-of-way reservation shall be for a secondary arterial highway in Costa Mesa and a primary arterial in Fountain Valley and Huntington Beach.

# 1.1.2 Amend Orange County Long Range Transportation Plan

After the MPAH has been amended and during the next update to the Orange County Long Range Transportation Plan (LRTP), OCTA shall ensure that the Garfield-Gisler Bridge, and the eastbound and westbound approaches thereto, are reflected as a "Right-of-Way Reserve" corridor in the LRTP.

# 1.2 Cities' Responsibilities

# 1.2.1 Amend General Plans

The Cities shall pursue amendment of their General Plan Circulation Elements to reflect that the Garfield-Gisler Bridge and the eastbound and westbound approaches thereto have been designated as a "Right-of-Way Reserve" corridor in the MPAH. Consistent with the MPAH's original concept for the Garfield-Gisler Bridge, the City of Costa Mesa's General Plan shall reserve right-of-way for a secondary

arterial highway within the Garfield-Gisler corridor and the Fountain Valley and Huntington Beach General Plans shall reserve right-of-way for a primary arterial highway within the Garfield-Gisler corridor. Cities shall endeavor to complete the General Plan amendment process within 6 months of final adoption of this MOU.

#### Section 2. Reasonable Progress Toward Implementing Strategy A Improvements

#### 2.1 OCTA Responsibilities

#### 2.1.1 OCTA Responsibilities for Strategy A Improvements

To ensure reasonable progress toward implementation of Strategy A improvements, OCTA shall:

- a. Make funding for implementation of the Strategy A improvements, as defined in the Circulation Feasibility Study and Cost Estimate for the Garfield-Gisler Crossing Over the Santa Ana River (LSA, June 2006), available to the Cities through the Combined Transportation Funding Programs (CTFP). A list of the improvements included in Strategy A is provided as Attachment A hereto.
- b. Utilize the renewed Measure M Signal Synchronization Program and other CTFP programs as funding sources for implementation of the roadway improvements included in Strategy A.

#### 2.2 Cities' Responsibilities

#### 2.2.1 Cities' Responsibilities for Strategy A Improvements

To ensure reasonable progress toward implementation of Strategy A improvements, the Cities shall:

a. Include Strategy A improvements, as defined in the *Circulation Feasibility Study and Cost Estimate for the Garfield-Gisler Crossing Over the Santa Ana River* (LSA, June 2006), in their Capital Improvement Programs. All projects that emanate from Strategy A shall be considered multi-jurisdictional projects and shall, therefore, be eligible for additional points in OCTA's project prioritization process under the CTFP. A list of the improvements included in Strategy A is provided as Attachment A hereto.

- b. Make applications to OCTA for CTFP funding to implement Strategy A improvements. Such applications shall be supported by local match commitments consistent with the requirements of the CTFP programs from which funds are being requested.
  - Cities agree to make Strategy A projects a priority for available GMA or other interregional funding programs.
- c. Implement Strategy A improvements as expeditiously as possible.
  - Cities agree to initiate Smart Street improvements on Harbor, Brookhurst, Adams and Fairview by the end of calendar year 2010. For purposes of this MOU, Smart Street improvements are defined as synchronization of traffic signals, removal of on-street parking and re-striping within existing right-of-way.
  - 2. Cities agree to make reasonable progress on the Capital Projects by 2015, subject to funding availability. "Reasonable progress" shall be defined as inclusion of noted projects in Capital Improvement Programs (CIPs), preparation of preliminary plans, environmental studies, etc. For the purposes of this MOU, Capital Projects are defined as construction of bus turnouts, consolidation of driveways, construction of turn-pockets, street widening or bridge widening.
  - 3. Cities agree that all Strategy A improvements shall be completed by 2020. If the Cities of Costa Mesa and Huntington Beach do not complete their portions of Strategy A improvements by end of calendar year 2020, then the Garfield-Gisler Bridge will automatically be re-instated on the MPAH as a planned facility. If the City of Fountain Valley has not completed the Strategy A improvements in their city, the Garfield-Gisler Bridge will remain designated "Right of Way Reserve" corridor until all improvements are completed.

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#### Section 3. Land Use and Transportation Planning and Traffic Analysis

#### 3.1 OCTA Responsibilities

#### 3.1.1 OCTA Responsibilities with Respect to Transportation Planning and Traffic Analysis

- a. OCTA shall ensure that buildout of the Garfield-Gisler Bridge, and the eastbound and westbound approaches thereto, is not assumed in any of its transportation planning or traffic modeling activities.
- b. OCTA shall ensure that implementation of the Strategy A program of projects is assumed in its transportation planning, modeling, and analysis activities.

#### 3.2 Cities' Responsibilities

#### 3.2.1 Land Use Planning

The Cities shall ensure that buildout of the Garfield-Gisler Bridge, and the eastbound and westbound approaches thereto, is not assumed in any of its land use planning activities.

#### 3.2.2 Transportation Planning and Traffic Analysis

The Cities shall ensure that buildout of the Garfield-Gisler Bridge, and the eastbound and westbound approaches thereto, is not assumed in any of its transportation planning, traffic modeling, or traffic analysis activities.

#### Section 4. Compliance Monitoring and Reporting

#### 4.1 OCTA Responsibilities

#### 4.1.1 OCTA Responsibilities for Monitoring & Reporting City Compliance

a. OCTA shall monitor the Cities' compliance with the provisions of this MOU every two years through the MPAH Certification Review Process to ensure that the Cities are complying fully with the provisions of this agreement and making reasonable progress toward implementation of the Strategy A improvements. Progress reports shall be presented to the OCTA Board of Directors and the Cities every two years, at the conclusion of the review process.

Page 5 of 11

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b. Upon completion of all the Strategy A improvements, and consistent with OCTA guidance for MPAH Right-of-Way Reserve corridors, OCTA in coordination with the cities shall re-evaluate traffic levels of service in the project study area to determine whether to delete, continue the reserve, or re-instate the Garfield-Gisler Bridge onto the MPAH as a planned facility.

#### 4.2 Cities' Responsibilities

#### 4.2.1 Cities Responsibilities for Reporting Compliance

The Cities shall provide progress reports to OCTA every two years through the MPAH Certification Review Process as a means of communicating that the provisions included herein are being implemented fully and expeditiously and that reasonable progress is being made toward implementation of the Strategy A improvements.

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Page 6 of 11
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# Section 5. Amendment

#### 5.1 Amendment

This MOU may be amended by the written consent of all four parties which are signatories hereto.

THE ORANGE COUNTY TRANSPORTATION AUTHORITY	/2-/2-06 (Date)
MAYOR, CITY OF COSTA MESA	/2-4-06 (Date)
MAYOR, CITY OF FOUNTAIN VALLEY	/2 · 5 · 2006 Date)
Dan Sullivan	11-30-06

Date)

MAYOR, CITY OF HUNTINGTON BEACH

#### Introduction

Through its General Plan Circulation Element, each of the cities within the Garfield/Gisler Bridge Crossing Study Area has established traffic level of service (LOS) D or better as representative of acceptable operating conditions on roadways within its jurisdiction. The Garfield/Gisler Study Area currently experiences significant traffic delay at several locations. In addition, the OCTAM model predicts that several intersections in the project study area will operate below LOS D in the Year 2030 if no improvements are made. To help the cities achieve and/or maintain LOS D operations, where feasible, throughout the project study area, Smart Street and Bridge Widening Strategy A includes a list of improvements to offset the traffic impacts associated with projected growth in traffic volumes. That program of projects is presented below.

One of the key concepts included in the "Consensus MOU<sup>2</sup>" is that each of the cities within the Garfield/Gisler Bridge Crossing Study Area will make "reasonable progress" toward implementing the improvements included in Smart Street and Bridge Widening Strategy A. The intent of this concept is that the cities will, individually and collectively, make reasonable efforts to implement the proposed improvement(s) before traffic levels of service fall below the cities' LOS D standard at any of the locations included in the Smart Street and Bridge Widening Strategy A program of projects.

It should be noted that although the Smart Street and Bridge Widening Strategy A program of projects is specific, it is not meant to be prescriptive. If a city is able to identify an alternative traffic flow improvement which meets the overall objective of achieving and/or maintaining LOS D at any location within the study area, then that improvement shall be considered an acceptable alternative and shall be implemented as a substitute solution to the original recommendation.

<sup>&</sup>lt;sup>2</sup> *i.e.*, the "Memorandum of Understanding among Cities of Costa Mesa, Fountain Valley and Huntington Beach and the Orange County Transportation Authority Regarding Agency Responsibilities for Implementing the Consensus Recommendation for the Garfield/Gisler Bridge Crossing Over the Santa Ana River", October 27, 2006.

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- CM-1 Implement and maintain synchronized traffic signals along Harbor Boulevard between I-405 and Adams Ave.
- CM-2 Implement and maintain synchronized traffic signals along Fairview Road between I-405 and Adams Avenue.
- CM-3 Implement and maintain synchronized traffic signals along Adams Avenue between the Santa Ana River and Fairview Road; coordinate cross-jurisdictional traffic synchronization with the City of Huntington Beach.
- CM-4 Install a bus turnout at the existing bus stop at northbound Harbor Boulevard at Adams Avenue.
- CM-5 Install a bus turnout at the existing bus stop at northbound Harbor Boulevard at MacArthur Boulevard.
- CM-6 Consolidate driveways on the northbound side of Harbor Boulevard at Adams Avenue.
- CM-7 Modify the existing traffic signal at W. Mesa Verde Drive/Adams Avenue to provide a northbound right-turn overlap with the westbound left-turn phase.
- CM-8 Maintain the existing northbound and southbound split phase at Hyland Avenue/ MacArthur Boulevard. Re-stripe the northbound approach to provide dual left-turn lanes, one shared left-through lane, and one right-turn lane.
- CM-9 Add a fourth through lane in the northbound approach Harbor Boulevard/Gisler Avenue.<sup>3</sup>
- CM-10 Add a third northbound left-turn lane at Harbor Boulevard/Adams Avenue, creating triple 200-foot northbound turn lanes with a 120-foot bay taper. Add a southbound right-turn lane for 150 feet with a 90-foot bay taper. Convert the fourth southbound through lane into a shared through-right lane. Add a third eastbound left-turn lane, creating triple 350-foot eastbound left-turn lanes with a 120-foot bay taper.

ATTACHMENT A

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Modify the existing traffic signal at Fairview Road/Baker Avenue to provide a northbound CM-11 right-turn overlap with the westbound left-turn phase.

#### City of Fountain Valley

- Implement and maintain synchronized traffic signals along Brookhurst Street between Ellis FV-1 Avenue and Garfield Avenue; coordinate cross-jurisdictional traffic synchronization with the City of Huntington Beach.
- Under the lead of the County of Orange or the Orange County Transportation Authority and FV-2 in coordination with the cities of Costa Mesa and Santa Ana, widen the Talbert Avenue/MacArthur Boulevard Bridge over the Santa Ana River from four to six lanes.
- FV-3 Remove on-street parking on northbound Brookhurst Street between Ellis Avenue and Garfield Avenue.
- Modify the existing traffic signal at Ward Street/Talbert Avenue to provide a northbound FV-4 right-turn overlap with the westbound left-turn phase.
- Under the lead of Caltrans or the Orange County Transportation Authority, reconstruct the FV-5 westbound right-turn lane at I-405 Southbound Ramp/Ellis Avenue as a channelized free right-turn lane onto the I-405 southbound on-ramp. Eliminate the eastbound left-turn movements by constructing a dedicated eastbound through lane that becomes a slip onramp to southbound I-405.4
- Reconstruct the northbound right-turn lane on Newhope Street as a channelized free right-FV-6 turn lane from to eastbound Talbert Avenue (or a City-defined alternative which would achieve LOS D or better in the year 2030).

<sup>&</sup>lt;sup>3</sup> Improvements to this intersection are already planned and funded.

These improvements will be most effective with associated ramp and mainline improvements as part of a separate effort to improve traffic flow along I-405.

#### **MEMORANDUM OF UNDERSTANDING C-6-0834**

ATTACHMENT A

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City of Huntington Beach

HB-1	Implement and maintain synchronized traffic signals along Brookhurst Street between
	Garfield Avenue and Adams Avenue; coordinate cross-jurisdictional traffic synchronization
	with the City of Fountain Valley.

- HB-2 Implement and maintain synchronized traffic signals along Adams Avenue between Brookhurst Street and the Santa Ana River; coordinate cross-jurisdictional traffic synchronization with the City of Costa Mesa.
- HB-3 Remove on-street parking on northbound Brookhurst Street between Garfield Avenue and Adams Avenue.
- HB-4 Install a bus turnout at the existing bus stop at northbound Brookhurst Street at Adams Avenue.
- HB-5 Install a bus turnout at the existing bus stop at southbound Brookhurst Street at Adams Avenue.
- HB-6 Consolidate driveways on the northbound and southbound sides of Brookhurst Street at Adams Avenue.
- HB-7 Add a fourth through lane in the north, south, east, and westbound approaches at Brookhurst Street/Adams Avenue. Add dedicated right-turn lanes in the north and southbound approaches.
- HB-8 Add a second southbound left-turn lane at Bushard Street/Adams Avenue, creating dual 200-foot southbound left-turn lanes with a 120-bay taper.

APPENDIX 2 – 2020 AMENDMENT TO THE 2006 MOU	

#### **AMENDMENT NO. 1 TO**

#### **MEMORANDUM OF UNDERSTANDING C-6-0834**

#### **AMONG**

# CITIES OF COSTA MESA, FOUNTAIN VALLEY AND HUNTINGTON BEACH

#### AND

#### **ORANGE COUNTY TRANSPORTATION AUTHORITY**

#### REGARDING

# AGENCY RESPONSIBILITIES FOR IMPLEMENTING THE CONSENSUS RECOMMENDATION FOR THE

#### GARFIELD-GISLER BRIDGE CROSSING OVER THE SANTA ANA RIVER

THIS AMENDMENT NO. 1 to the Memorandum of Understanding (MOU) is effective this 22nd day of April 2020 (Effective Date), entered into among the Orange County Transportation Authority ("OCTA"), and the cities of Fountain Valley, Costa Mesa and Huntington Beach, ("Cities").

#### WITNESSETH:

WHEREAS, by MOU C-6-0834 executed on December 12, 2006, OCTA and Cities entered into a contract describing the specific duties and responsibilities of each party with respect to supporting the actions consistent with the Garfield-Gisler ad-hoc Policy Advisory Committee's consensus recommendation on June 15, 2006, and each of the parties to the MOU agreed to support the designation of the Garfield-Gisler Bridge as a "Right-of-Way Reserve" corridor on the Orange County Master Plan of Arterial Highways (MPAH) and, within their respective General Plans/Long Range Plans, implement the Smart Street and Bridge Widening Strategy A (Strategy A) improvements within their jurisdictions and ensure that buildout of the Garfield-Gisler Bridge is not assumed for land use planning or traffic analysis purposes; and

WHEREAS, OCTA and Cities agree to extend the deadline for completion of the Strategy A improvements and to clarify Subsection 4.1.1 relating to OCTA's responsibilities for monitoring and

reporting city compliance;

NOW, THEREFORE, it is mutually understood and agreed by OCTA and Cities that MOU C-6-0834 is hereby amended in the following particulars only:

- 1. Amend Subsection 2.2.1, <u>Cities' Responsibilities for Strategy A Improvements</u>, page 4 of 11, Item c, Subitem 3, to delete in its entirety and replace with the following:
- "3. Cities agree that all Strategy A Improvements shall be completed by 2025 consistent with the approach and goals identified in Attachment A of the MOU. If the cities of Costa Mesa and Huntington Beach do not complete their portions of Strategy A improvements by end of calendar year 2025, then the Garfield-Gisler Bridge will automatically be re-instated on the MPAH as a planned facility. If the City of Fountain Valley has not completed the Strategy A improvements in their city, the Garfield-Gisler Bridge will remain designated "Right of Way Reserve" corridor until all improvements are completed."
- 2. Amend Subsection, 4.1.1, <u>OCTA Responsibilities for Monitoring & Reporting City</u>

  <u>Compliance</u>, Item b, line 1, page 6 of 11, to delete "Upon completion of all the Strategy A improvements" and in lieu thereof replace with "By the end of calendar year 2026".

The balance of MOU C-6-0834 remains unchanged.

Page 2 of 3

IN WITNESS WHEREOF, the parties hereto have caused this Amendment No. 1 to MOU C-6-0834 to be executed as of the date of the last signature below. Darrell E. Johnson, Chief Executive Officer (Date) ORANGE COUNTY TRANSPORTATION AUTHORITY James M. Donich, General Counsel (Date) ORANGE COUNTY TRANSPORTATION AUTHORITY Katrina Foley, Mayor CITY OF COSTA MESA Cheryl Brothers, Mayor (Date) CITY OF FOUNTAIN VALLEY Lyn Semeta, Mayor (Date) CITY OF HUNTINGTON BEACH Approved as to form:

Page 3 of 3

Michael Gates

Attorney for Huntington Beach

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Attorney for Fountain Valley

Colin Burns

Kimberly Hall Barlow

Attorney for Costa Mesa

1	APPROVAL RECOMMENDED:
2	By: Kir Mataguri
3	Kia Mortazavi Executive Director, Planning
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5	Dated: 4/20/20
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FINAL Peer Review – Garfield-Gisler Santa Ana River Crossing

Technical Review

Moffatt & Nichol/Orange County Transportation Authority

Peer Review by:

Febr

February 28, 2025

Ted Huynh, P.E., T.E. Senior Manager

Iteris, Inc. 1700 Carnegie Avenue, Suite 100 Santa Ana, CA 92705 (949) 270-9513 thuynh@iteris.com



Exp. 9/30/26

February 28, 2025

Submitted to:



25-12782 | Prepared by Iteris, Inc.



# **DOCUMENT VERSION CONTROL**

DOCUMENT NAME	SUBMITTAL DATE	VERSION NO.		
Draft Memorandum	February 20, 2025	1.0		
Draft Memorandum	February 28, 2025	1.1		
Final Memorandum	February 28, 2025	2.0		



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# 1 INTRODUCTION

Iteris has reviewed the Garfield-Gisler Santa Ana River Crossing Technical Review (Report) prepared by the Orange County Transportation Authority (OCTA), which was provided to Iteris on February 12, 2025.

The Report summarizes a traffic and transportation assessment comparing daily arterial segment volumes and Levels of Service (LOS) using two different versions of the Orange County Transportation Analysis Model (OCTAM) without the inclusion of the Garfield Avenue-Gisler Avenue Master Plan of Arterial Highways (MPAH) river crossing improvement. The model versions used in the Report are the original OCTAM 3.2 used in the 2006 Garfield-Gisler Circulation Feasibility Study and Cost Estimate (CFS & CE) and the most current version of OCTAM 5.1.

Iteris' role is to identify and provide technical feedback and/or concurrence with the findings presented in the analysis. The results of the review are described in this memorandum as comments referenced to each section of the revised report.

### 2 REPORT FINDINGS

Below are the peer review findings, which are organized by the headings within the Report.

#### General

• The cover page has no date or version number.

# Background (Pages 1-3)

- This section provides a thorough and comprehensive background to the history of the Santa Ana River crossings from 1991 before OCTA took over managing the Master Plan of Arterial Highways (MPAH) to current day.
- Since 2006, party agencies have been working to implement the 25 mitigation measures in the Cities of Costa Mesa, Huntington Beach, and Fountain Valley, identified in the "Smart Street and Bridge Widening Alternative A Improvements" (Alternative A) scenario from the 2006 Memorandum of Understanding (MOU) developed at that time. Twenty-one (21) of those mitigation measures are either completed or have not triggered the LOS for improvement. Additionally, the I-405 Express Lanes, which were not identified as part of the 2006 MOU, have also been implemented since that time, providing additional roadway capacity across the Santa Ana River, over and above what was assumed in the future year forecasts in the 2006 study.
- The "bridge widening" from the Alternative A scenario refers to the widening of MacArthur Boulevard bridge over the Santa Ana River (actually restriping from four to six lanes within the existing bridge structure). This roadway capacity improvement was completed by 2012. This bridge widening is one of the 25 mitigation measures identified in the 2006 MOU (Fountain Valley FV2) and provides additional east-west capacity over the Santa Ana River.

Summary: This section provides a good general background for a reader unfamiliar with the project.



# Overview of 2025 SARX Review (Pages 4-5)

- The premise of this section is that the 2006 CFS & CE study identified a list of 25 mitigation measures
  that, when implemented, would provide additional roadway throughput in the vicinity of the
  Garfield-Gisler area, thus eliminating the need for this river crossing. OCTA has tracked these 25
  mitigation measures since 2006, and they have either been implemented or are no longer desired or
  considered necessary. OCTA staff indicated that the relevant enhancements are included in the 2050
  OCTAM model networks.
- The methodology states that if future congestion levels are not forecast to be above those in the 2006 study, then the conclusions of the 2006 study will remain valid, and no additional detailed traffic study is necessary. Iteris concurs with this overall methodology.
- This approach is reasonable and is consistent with the approach taken on other projects in the region
  where older traffic forecasts overstated the most recent traffic volume forecasts, mainly due to
  significant downward revision of population forecasts throughout the region and state. For example,
  Caltrans District 8 and the SCAG Transportation Conformity Working Group (TCWG) approved a
  study with a similar methodology for the future SR-60 Potrero Interchange in the City of Beaumont in
  December 2024.

**Summary**: The general approach of the study is reasonable and has recently been utilized in other infrastructure projects in the region.

# Model Versions (Page 6)

- This section outlines the differences between the two versions of OCTA's in-house traffic model OCTAM. Namely, OCTAM 3.2, which was used to forecast future Year 2030 traffic volumes in the 2006 traffic study, and the most current version, OCTAM 5.1 with a forecast year of 2050. Notable differences include:
  - Updated modeling software;
  - Updated population and employment forecasts;
  - Updated transportation networks and transit services (including the I-405 Express Lanes project); and
  - o Updated model parameters to reflect the latest observed trend in travel behavior.

#### **Demographic Forecasts**

- A key difference between the demographic forecasts used in the two studies is that since the 2006 study future population forecasts have reduced significantly. The future population and employment forecasts used as inputs to OCTAM are determined by the Orange County Projections (OCP) forecasts from Cal-State Fullerton's Center for Demographic Research (CDR), who provide the official population forecast for Orange County. Table 1 in the Report indicates that the 2004 OCP used in the 2006 study forecasts show a forecasted Orange County population of 3.6 million by 2030, while the current projections for 2050 estimate a population of 3.3 million. These projections were reviewed and verified against the OCP website at the CDR.
  - OCP 2004 (Forecast year 2030) population of 3,552,724 (3.6 million) https://www.fullerton.edu/cdr/ resources/pdf/profiles/profilesv9n2.pdf



 OCP 2022 (Forecast year 2050) population of 3,327,124 (3.3 million) https://www.fullerton.edu/cdr/ resources/pdf/ocff.pdf

**Figure 1** shows details of the OCP 2022 projections in five-year increments, showing Orange County's population peaking around 2040.

**Table 1** compares OCP projections for the three Cities adjacent to the Garfield-Gisler study area (Huntington Beach, Costa Mesa, and Fountain Valley). The reduction in population in the three Cities between the two OCP forecasts is 8% compared to 6% for Orange County as a whole. Also, the reduction in population in the three Cities between 2020 and 2024, according to the US Census, is 4% compared to a 2% reduction for the County a whole.

OCP-2022

Figure 1: OCP 2022 Projections - Demographic Data by Year

**Estimate Projections** 2019 2025 2030 2035 2040 2045 2050 **Employment** 1,805,476 1,843,470 1,897,773 1,941,915 1,976,791 1,997,885 2,018,954 Housing Units 1,124,849 1,176,165 1,220,390 1,252,783 1,271,438 1,290,931 1,311,738 Population  $3,239,474 \quad 3,287,447 \quad 3,327,150 \quad 3,345,665 \quad 3,343,718 \quad 3,327,124$ 3,196,231

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2000 2005 2010 2015 2019 2025 2030 2035 2040 2045 2050

Table 1: OCP Projections and Census Data in Cities around Garfield-Gisler Bridge Study Area

	OCP 2004	OCP 2022	ОСР	Census		
City	2030	2050	2050 vs 2030	2020	2024	2024 vs 2020
Huntington Beach	223,992	190,719	-15%	198,405	190,037	-4%
Costa Mesa	129,098	129,864	1%	111,918	107,211	-4%
Fountain Valley	66,107	66,213	0%	57,047	54,966	-4%
Three Cities Combined	419,197	386,796	-8%	369,390	354,238	-4%
Orange County	3,552,724	3,327,124	-6%	3,198,050	3,142,009	-2%

• The reduction in the OCP demographic forecasts is consistent with Statewide population forecasts declining over time. In 2007, the California Department of Finance (DOF) forecasted a statewide population of 59.7 million by 2050, which was revised to 49.8 million in 2014. The most current DOF population estimates show a projected statewide population of 41.7 million in 2050, representing only a six (6) percent increase from 2024.



#### (See https://dof.ca.gov/forecasting/demographics/projections/)

 Figure 2 shows the DOF maximum population forecasts for Orange County also declining over time between 2013 and 2023. The current DOF forecast shows Orange County's population peaking in 2046, then slowly declining.

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Figure 2: Orange County Population Forecasts over Time (California Department of Finance)

https://www.mwdoc.com/wp-content/uploads/2023/11/2024.02.05 CDR OCP MWDOC rev.pdf

Another difference between the two versions of OCTAM is the population composition. In 2050, there will be a higher percentage of retired people aged over 65 compared to the 2030 forecasts. That means fewer total trips per capita with a lower percentage of home-to-work trips, which tend to be longer than the average trip length and more likely to occur in the peak hours. In the 2050 forecasts, future trips per person will be fewer, shorter, and less concentrated in the peak hours compared to the 2030 forecasts and, therefore, less likely to exacerbate peak hour congestion.

**Summary:** Reductions in forecast population increases have been ongoing throughout the state and region for the last 20 years, meaning current traffic volumes forecasts will generally be lower compared to comparable older studies. In addition, the aging population overall will also contribute towards lower future traffic volumes compared to the 2006 study.

# Findings (Pages 7-9)

- This section lays out the segment LOS analysis comparing current forecasts against the 2030 forecast performed in 2006 (OCP 2004). The LOS calculations are consistent with the approach in OCTA's MPAH Amendment guidelines (https://www.octa.net/pdf/mpah\_guidlines.pdf).
- Tables 2 and 3 from the Report indicate the volumes have either declined in the 2050 OCTAM 5.1
  model when compared to the 2030 OCTAM 3.2 model, and can be attributed to model changes. In
  the case of the MacArthur Boulevard bridge, additional capacity was provided for this facility,



resulting in additional volumes being reassigned to use this facility with the increased capacity provided.

- Table 4 within the Report summarizes the daily segment LOS results, although daily capacity for each roadway segment and Volume/Capacity (V/C) ratios are not shown in the table. OCTA provided the original spreadsheet data for Iteris' review, which includes the daily segment capacity, V/C ratios, and existing average daily traffic (ADT) counts. The daily capacities were checked against capacity assumptions from Table A-4-1 of the MPAH Guidelines and against the most current MPAH map on the OCTA website. Table 2 below compares the MPAH classification in the OCTA spreadsheet, the OCTA MPAH Map, and the capacity used for the 2030 and 2050 V/C and LOS calculations. There was one location where additional clarification regarding the daily capacity change was provided by OCTA.
  - #16 Ward Street between Talbert Ave and Garfield Ave was noted in the OCTA spreadsheet as having an increase in capacity since 2006. The Ward Street bridge roadway over I-405 was widened from two (2) lanes to four (4) lanes as part of the I-405 Express Lanes project in 2023. This widening converted Ward Street into a divided arterial with a striped median. A review of Google Street View and aerial maps confirm this change was made in 2023, with applicable capacity increase provided as a result. This change in capacity and functional conversion is reflected as going from a secondary arterial in OCTAM 3.2 to a primary arterial in OCTAM 5.1 following the actual I-405 Express Lanes project improvement at this location.



Table 2: Comparison of MPAH Arterial Segment Classifications and Assumed Daily Capacity (vehicles)

ID	Arterial Segment	From	То	Classification per OCTA spreadsheet	MPAH Map Classification	OCTAM 3.2 2030 Classification	2030 Capacity	OCTAM 5.1 2050 Classification	2050 Capacity	2050 Capacity OK?
1	Talbert Ave	Brookhurst St	Ward Street	Primary**	Primary	Primary	37,500	Major	56,300	Yes
2	Talbert Ave	Ward St	Newhope St	Primary*	Major	Major	56,300	Major	56,300	Yes
3	Talbert Ave	Newhope St	Mt. Washington St	Primary*	Major	Major	65,700	Major	65,700	Yes
4	MacArthur Blvd	Mt. Washington St	Hyland Ave	Primary**	Major	Primary	37,500	Major	56,300	Yes
5	MacArthur Blvd	Hyland Ave	Fairview Rd	Major	Major	Major	56,300	Major	56,300	Yes
6	Ellis Ave	Brookhurst St	I-405 SB ramps	Secondary*	Secondary	Primary	37,500	Primary	37,500	Yes
7	Euclid St	I-405 underpass	Talbert Ave	Primary*	Primary	Major	56,300	Major	56,300	Yes
8	Garfield Ave	Brookhurst St	Ward Street	Primary	Primary	Primary	37,500	Primary	37,500	Yes
9	Gisler Ave	Country Club Dr	Harbor Blvd	Secondary	Secondary	Secondary	22,000	Secondary	22,000	Yes
10	Baker St	Mesa Verde Dr	Royal Palm Dr	Secondary	Secondary	Collector	12,500	Collector	12,500	Yes
11	Baker St	Royal Palm Dr	Harbor Blvd	Secondary	Secondary	Secondary	25,000	Secondary	25,000	Yes
12	Baker St	Harbor Blvd	Fairview Rd	Primary	Primary	Primary	37,500	Primary	37,500	Yes
13	Adams Ave	Brookhurst St	Pinecreek Dr	Major	Major	Major	56,300	Major	56,300	Yes
14	Adams Ave	Pinecreek Dr	Fairview Rd	Major	Major	Major	46,900	Major	46,900	Yes
15	Brookhurst St	Adams Ave	Talbert Ave	Major	Major	Major	56,300	Major	56,300	Yes
16	Ward St	Talbert Ave	Garfield Ave	Secondary**	Secondary	Secondary	25,000	Primary	37,500	Yes
17	Harbor Blvd	Adams Ave	Baker St	Major	Major	Major	65,700	Major	65,700	Yes
18	Harbor Blvd	Baker St	Gisler Ave	Major	Major	Major	75,000	Major	75,000	Yes
19	Harbor Blvd	Gisler Ave	I-405 SB ramps	Major	Major	Major	65,700	Major	65,700	Yes
20	Harbor Blvd	I-405 SB ramps	South Coast Dr	Major	Major	Major	75,000	Major	75,000	Yes
21	Harbor Blvd	South Coast Dr	Sunflower Ave	Major	Major	Major	65,700	Major	65,700	Yes
22	Harbor Blvd	Sunflower Ave	MacArthur Blvd	Major	Major	Major	56,300	Major	56,300	Yes

#### \*Notes (from OCTA spreadsheet):

<sup>•</sup> Capacity used in analysis may be different than MPAH designation due to current road configuration

<sup>••</sup> Roadway widened in current version of model per construction that was completed since 2006



- There were two other roadway segments which were noted as increasing in capacity between the 2006 study and the current forecasts.
  - #1 Talbert Avenue between Brookhurst Street and Ward Street. This location is the bridge over I-405 which was widened from four (4) to six (6) lanes as part of the I-405 Express Lanes project.
  - #4 MacArthur Boulevard between Mt. Washington Street and Hyland Avenue is the restriping of the bridge over the Santa Ana River trail from four (4) to six (6) lanes, and one of the 25 mitigation measures in the 2006 MOU.
- The Report correctly notes that the only locations where traffic volumes actually increased between the two studies are where throughput improvements were implemented, and where traffic is then reassigned to take advantage of the increased capacity. As OCTA wrote, all other segments experienced decreases in daily traffic volume in the current model compared to the 2006 study.

  Table 3 shows the total study area roadway segment volumes are reduced by 11%, while the average V/C ratio correspondingly is reduced by 15% to 17%, depending on the calculation methodology. This indicates that the future forecast model traffic volumes and V/C are both substantially lower throughout the study area than in the 2006 study.

Table 3: Comparison of 2030 and 2050 Daily Segment Volume and V/C Ratios

Metric	OCTAM 3.2 (2030)	OCTAM 5.1 (2050)	2050 vs 2030		
Total Volume	806,000	718,300	-11%		
Average V/C (simple average)	0.74	0.61	-17%		
Average V/C (weighted average)	0.75	0.64	-15%		

• Table 4 shows the change in daily LOS for the 22 link segments in the report. In the current analysis there are no segments forecast to operate at LOS E or F compared to five (5) segments in the 2006 study.

**Table 4: Summary of Daily Link Segment LOS** 

LOS	OCTAM 3.2 (2030)	OCTAM 5.1 (2050)				
Α	5	10				
В	6	2				
С	2	6				
D	4	4				
Е	3	-				
F	2	-				
Total	22	22				

It is noted that four (4) segments are forecast to operate LOS D along Harbor Boulevard in 2050 in OCTAM 5.1:

- o #17 Harbor Boulevard between Adams Avenue and Baker Street
- #19 Harbor Boulevard between Gisler Avenue and the I-405 SB Ramps



- o #20 Harbor Boulevard between the I-405 SB Ramps and South Coast Drive
- #22 Harbor Boulevard between Sunflower Avenue and MacArthur Boulevard

Appendix C of the MPAH Guidelines recommends the acceptable standard for link segment LOS as LOS C. However, the 2006 MOU states that LOS D is acceptable for operating conditions on roadways within each jurisdiction, as shown in **Figure 3**. Therefore, the four segments along Harbor Boulevard estimated to operate at LOS D in 2050 meet the acceptable standard established in the MOU, along with the other 18 segments expected to operate LOS C or better.

Figure 3: Level of Service Standards from the 2006 MOU

Introduction
Through its General Plan Circulation Element, each of the cities within the Garfield/Gisler Bridge
Crossing Study Area has established traffic level of service (LOS) D or better as representative of
acceptable operating conditions on roadways within its jurisdiction. The Garfield/Gisler Study Area

**Summary:** Overall forecast traffic volumes and level of service are significantly lower in the 2050 forecasts compared to the older 2030 forecasts. All adjacent roadway segments meet the LOS D acceptable standard per the adjacent City's General Plan Guidelines and the 2006 MOU. It is suggested that Table 4 in the OCTA report provide additional notes to explain changes in capacity from the original MPAH designation where appropriate and where model volumes have increased, since they correspond to throughput increases and subsequent traffic demand reassignment, not due to increased traffic itself.

# Discussion and Conclusions (Page 10)

- This section of the Report states that the current 2050 traffic forecasts and operational analysis show reduced projections in traffic volumes and reduced congestion compared to the 2030 forecasts in the 2006 study, largely as a result of reduced population forecasts within the study area and throughout Orange County. Part of the reduction is the recent elimination of the proposed Banning Ranch housing development approximately three miles south of the Garfield-Gisler area. This area is in the process of being converted to a public park and the future housing previously included in OCTAM TAZ 1276 has been therefore removed from OCTAM 5.1.
- The Report's conclusion is that since current forecast future traffic volumes are lower than the 2006 study and forecast congestion is significantly lower, there is no need for further in-depth study on the MPAH status of the Garfield-Gisler river crossing and the facility can by fully removed from the MPAH without significant impacts on traffic volumes or congestion in the surrounding area.

**Summary:** The analysis in the Report clearly reviews and shows that forecasted traffic volumes in the 2050 forecast year scenario in OCTAM 5.1 are significantly lower than when compared to the forecast 2030 volumes from the 2006 traffic study and its use of OCTAM 3.2. The cities of Fountain Valley, Costa Mesa, and Huntington Beach agreed to the Alternative A scenario improvements based on the 2006 study results, and the OCTAM 5.1 results provided in the report indicate that these mitigation measures have limited or reduced nearby future forecast roadway segment traffic volumes and corresponding V/C



and LOS. The results in this Report are also based on the 2050 forecast year, an additional 20 years beyond the original 2006 study. The findings from the Report show that declining forecasts in future population have correlated to a reduction in forecast traffic volumes and V/C ratios in the Garfield-Gisler study area, as discussed in the Model Versions section. Furthermore, all roadway segments in 2050 continue to satisfy the LOS D standard established in the 2006 MOU agreed to by the three cities.

Iteris therefore concurs with and supports OCTA's conclusion that there is no need to further study the MPAH status of the Garfield-Gisler river crossing. The Report's overall conclusion and findings are technically sound and are supported by the overall comparison of OCTAM 3.2's year 2030 forecast from 2006, and the current OCTAM 5.1's year 2050 forecast, in terms of projected traffic volumes and corresponding LOS.



# CITY OF COSTA MESA

CALIFORNIA 92628-1200

P.O. Box 1200

FROM THE OFFICE OF THE PUBLIC WORKS DIRECTOR

March 13, 2025

Rose Casey, PE Executive Director, Planning Orange County Transportation Authority 550 South Main Street Orange, CA 92868

Subject:

Master Plan of Arterial Highways - Concurrence with the Garfield-Gisler

Santa Ana River Crossing Technical Review

Dear Ms. Casey:

In response to the transmittal dated March 4, 2025, the City of Costa Mesa (City) acknowledges receipt of the Garfield-Gisler Santa Ana River Crossing Technical Review (Technical Review), as prepared by the Orange County Transportation Authority (OCTA) and peer reviewed by Iteris Inc, and which includes the 2006 Memorandum of Understanding (MOU) and Amendment 1 to the MOU signed in 2020.

The Technical Review assesses whether network improvements near the planned Garfield-Gisler bridge—including the implemented Smart Street and Bridge Widening Strategy A (Strategy A) improvements from the MOU—can maintain or enhance the performance forecasted in the 2006 Garfield-Gisler Circulation Feasibility Study. Therefore, the 2006 results, which used the Orange County Transportation Analysis Model (OCTAM) 3.2, were compared with results from the latest model, OCTAM 5.1. Key differences in the model versions include updated demographic forecasts, addition of the 405 Express Lanes, and use of more advanced modeling software.

Based on the Technical Review and coordination with the MOU parties, the City finds that:

- The methodology used by OCTA was appropriate for this analysis, and the findings and conclusions of the Technical Review are sufficient and do not indicate a need for further analysis.
- All parties have fulfilled their obligations as specified in the MOU, as amended in 2020, and all necessary Strategy A improvements have been successfully implemented/fulfilled to ensure acceptable traffic operations.
- 3. The City fully supports amending the Master Plan of Arterial Highways to remove the Garfield-Gisler bridge with no need for any mitigation measures.

If you require any additional information or clarification, please feel free to contact me at (714) 754-5343 or by e-mail at raja.sethuraman@costamesaca.gov.

Sincerely,

Raja Sethuraman Public Works Director



#### CITY OF FOUNTAIN VALLEY

www.fountainvalley.org

10200 SLATER AVENUE • FOUNTAIN VALLEY, CA 92708-4736 • (714) 593-4400, FAX: (714) 593-4498

March 11, 2025

Rose Casey, PE Executive Director, Planning Orange County Transportation Authority 550 South Main Street Orange, CA 92868

Subject:

Master Plan of Arterial Highways - Concurrence with the Garfield-Gisler Santa

Ana River Crossing Technical Review

Dear Ms. Casey:

In response to the transmittal dated March 4, 2025, the City of Fountain Valley (City) acknowledges receipt of the Garfield-Gisler Santa Ana River Crossing Technical Review (Technical Review), as prepared by the Orange County Transportation Authority (OCTA) and peer reviewed by Iteris Inc. (Ted Huynh, P.E., Senior Manager), and which includes the 2006 Memorandum of Understanding (MOU) and Amendment 1 to the MOU signed in 2020.

The Technical Review assesses whether network improvements near the planned Garfield-Gisler bridge—including the implemented Smart Street and Bridge Widening Strategy A (Strategy A) improvements from the MOU—can maintain or enhance the performance forecasted in the 2006 Garfield-Gisler Circulation Feasibility Study. Therefore, the 2006 results, which used the Orange County Transportation Analysis Model (OCTAM) 3.2, were compared with results from the latest model, OCTAM 5.1. Key differences in the model versions include updated demographic forecasts, addition of the 405 Express Lanes, and use of more advanced modeling software.

Based on the Technical Review and coordination with the MOU parties, the City concurs with Iteris' and OCTA's findings that:

- 1. The methodology used by OCTA was appropriate for this analysis, and the findings and conclusions of the Technical Review appear sufficient, indicating there is no need for further analysis.
- 2. All parties have reasonably fulfilled their obligations as specified in the MOU, as amended in 2020, and all necessary Strategy A improvements have been successfully implemented/fulfilled to ensure acceptable traffic operations.
- The City does not object to amending the Master Plan of Arterial Highways to remove the Garfield-Gisler bridge, denoting there is no need for respective mitigation measures.

If you require any additional information or clarification, please feel free to contact me at (714) 593-4435 or scott.smith@fountainvally.gov.

Sincerely,

Scott Smith P.E., P.L.S., T.E. Public Works Director



# CITY OF **HUNTINGTON BEACH**

Chau Vu | Director of Public Works

March 17, 2025

Rose Casey, PE Executive Director, Planning Orange County Transportation Authority 550 South Main Street Orange, CA 92868

Subject:

Master Plan of Arterial Highways – Concurrence with the Garfield-Gisler

Santa Ana River Crossing Technical Review

Dear Ms. Casey:

In response to the transmittal dated March 4, 2025, the City of Huntington Beach (City) acknowledges receipt of the Garfield-Gisler Santa Ana River Crossing Technical Review (Technical Review), as prepared by the Orange County Transportation Authority (OCTA) and peer reviewed by Iteris Inc. and which includes the 2006 Memorandum of Understanding (MOU) and Amendment 1 to the MOU signed in 2020.

The Technical Review assesses whether network improvements near the planned Garfield-Gisler bridge—including the implemented Smart Street and Bridge Widening Strategy A (Strategy A) improvements from the MOU—can maintain or enhance the performance forecasted in the 2006 Garfield-Gisler Circulation Feasibility Study. Therefore, the 2006 results, which used the Orange County Transportation Analysis Model (OCTAM) 3.2, were compared with results from the latest model, OCTAM 5.1. Key differences in the model versions include updated demographic forecasts, addition of the 405 Express Lanes, and use of more advanced modeling software.

Based on the Technical Review and coordination with the MOU parties, the City finds that:

- 1. The methodology used by OCTA was appropriate for this analysis, and the findings and conclusions of the Technical Review are sufficient and do not indicate a need for further analysis.
- All parties have fulfilled their obligations as specified in the MOU, as amended in 2. 2020, and all necessary Strategy A improvements have been successfully implemented/fulfilled to ensure acceptable traffic operations.
- The City fully supports amending the Master Plan of Arterial Highways to remove 3. the Garfield-Gisler bridge with no need for any mitigation measures.

If you require any additional information or clarification, please feel free to contact Bob Stachelski at (714) 536-5523 or bstachelski@surfcity-hb.org.

Sincerely

For Chau Vu

Director of Public Works

# City of Anaheim

### DEPARTMENT OF PUBLIC WORKS



February 4, 2025

Ms. Rose Casey Orange County Transportation Authority 550 S. Main Street Orange, CA 92868

RE:

City of Anaheim Master Plan of Arterial Highways Amendment Request – 2025 General Plan Update

Dear Ms. Casey:

The City of Anaheim (City) would like to request initiation of the Orange County Transportation Authority's (OCTA) Master Plan of Arterial Highways (MPAH) amendment process to implement proposed Circulation Element changes which have been identified as part of the City's 2025 General Plan Update.

More specifically, the City would like to request OCTA's approval of the following proposed MPAH change.

• Remove the Weir Canyon Extension (from Blue Sky Road to State Route 241).

Based upon the attached traffic modeling results, which were developed for the 2025 General Plan Update, these proposed MPAH modification will not result in negative impacts to the MPAH system or the City's Circulation network.

Therefore, the City would like to respectfully request that OCTA initiate the MPAH amendment process for this change. Thank you for your assistance with this matter. We look forward to working with OCTA on processing this important MPAH change in support of the City's General Plan Update efforts.

Should you have any questions regarding this MPAH amendment request, please feel free to contact Rafael Cobian, City Traffic Engineer, at (714) 765-4991.

Sincerely,

Rudy Emami, P.E.

Director of Public Works

c. Rafael Cobian, City Traffic Engineer

Attachment

Laterna II	Existing (2021)		2004 GP		CE Update		
Intersection		V/C	LOS	V/C	LOS	V/C	LOS
209	Lakeview Ave / SR-91 EB Off Ramp	0.390	Α	0.58	Α	0.477	Α
210	Meats Ave / Nohl Ranch Rd	0.305	Α	0.29	Α	0.463	Α
211	Kellogg Dr / Orangethorpe Ave (E)	0.519	Α	0.58	Α	0.445	Α
212	Kellogg Dr / Orangethorpe Ave (W)	0.371	Α	0.67	В	0.385	Α
213	Kellogg Dr / La Palma Ave	0.364	Α	0.50	Α	0.349	Α
214	Royal Oak Rd/Pinney Dr / Santa Ana Canyon Rd	0.562	Α	0.60	Α	0.429	Α
215	Royal Oak Rd / Nohl Ranch Rd	0.311	Α	0.36	Α	0.358	Α
216	Wescom Center / La Palma Ave	0.348	Α	0.37	Α	0.393	Α
217	Cinema City / La Palma Ave	0.493	Α	0.57	Α	0.593	Α
218	Avd Margarita / Santa Ana Canyon Rd	0.434	Α	0.63	В	0.409	Α
219	SR-90 Connector / Orangethorpe Ave	0.402	Α	0.94	Е	0.347	Α
220	Imperial Hwy / La Palma Ave	0.747	С	0.95	Е	0.929	Е
221	Imperial Hwy / SR-91 WB Ramps	0.572	Α	0.72	С	0.559	Α
222	Imperial Hwy / SR-91 EB Ramps	0.637	В	0.76	С	0.625	В
223	Imperial Hwy / Santa Ana Canyon Rd	0.745	С	1.01	F	0.707	С
224	Imperial Hwy / Ave Bernardo N	0.491	Α	0.49	Α	0.460	Α
225	Imperial Hwy / Nohl Ranch Rd	0.627	В	0.95	Е	0.694	В
226	Imperial Hwy / Big Sky Ln/River Valley Trail	0.406	Α	0.49	Α	0.375	Α
227	Chrisden St / La Palma Ave	0.559	Α	0.54	Α	0.580	Α
228	Via Cortez / Santa Ana Canyon Rd	0.681	В	0.67	В	0.653	В
229	Fairmont Blvd / La Palma Ave	0.494	Α	0.58	Α	0.383	Α
230	Anaheim Hills Rd / Santa Ana Canyon Rd	0.779	С	0.76	С	0.764	С
231	Anaheim Hills Rd / Nohl Ranch Rd	0.452	Α	0.66	В	0.473	Α
232	Canyon Rim Rd / Nohl Ranch Rd	0.480	Α	0.56	Α	0.554	Α
233	Fairmont Blvd / Santa Ana Canyon Rd	0.636	В	0.57	Α	0.620	В
234	Mohler Dr / Santa Ana Canyon Rd	0.635	В	0.51	Α	0.591	Α
235	Festival Dr / Santa Ana Canyon Rd	0.365	Α	0.43	Α	0.349	Α
236	Roosevelt Rd / Santa Ana Canyon Rd	0.532	Α	0.53	Α	0.466	Α
237	Yorba Linda Blvd / La Palma Ave	0.725	С	0.84	D	0.709	С
238	Weir Canyon Rd / SR-91 WB Ramps	0.618	В	0.78	С	0.595	Α
239	Weir Canyon Rd / SR-91 EB Ramps	0.496	Α	0.92	Е	0.483	Α
240	Weir Canyon Rd / Santa Ana Canyon Rd	0.686	В	0.96	Е	0.633	В
241	Weir Canyon Rd / Monte Vista Rd	0.502	Α	0.75	С	0.509	Α
242	Weir Canyon Rd / Serrano Ave	0.631	В	0.73	С	0.666	В
243	Weir Canyon Rd / Oak Canyon Dr	0.125	Α	0.36	Α	0.126	Α
244	Serrano Ave / Oak Canyon Dr	0.411	Α	0.58	A	0.414	Α
245	Serrano Ave / Canyon Rim Rd	0.437	Α	0.45	Α	0.485	Α
246	Serrano Ave / Nohl Ranch Rd	0.437	Α	0.33	Α	0.504	Α
247	Placentia Ave / Orangethorpe Ave	0.474	Α	0.66	В	0.575	Α
248	Anaheim Shores Dr / Fairview St / La Palma Ave	0.549	Α	0.50	Α	0.517	Α
249	Loara St / Ball Rd	0.555	Α	0.33	Α	0.489	Α
250	9th St / Katella Ave	0.530	Α	0.39	Α	0.665	В



# CITY OF COSTA MESA

CALIFORNIA 92628-1200

P.O. BOX 1200

FROM THE OFFICE OF THE DIRECTOR, DEPARTMENT OF PUBLIC SERVICES

November 18, 2024

Gregory Nord Section Manager III Orange County Transportation Authority 550 S Main St. Orange, CA 92863

RE: MASTER PLAN OF ARTERIAL HIGHWAYS (MPAH) AMENDMENT REQUEST – MERRIMAC WAY, CITY OF COSTA MESA, FOCUSED TRAFFIC STUDY

Dear Mr. Nord:

On February 1, 2024, the City submitted a traffic monitoring report for Merrimac Way pursuant to your letter dated December 6, 2023. Per the original letter agreement with OCTA dated February 2020, the City is responsible for monitoring and evaluating traffic conditions on Merrimac Way every three years until the MPAH is amended to reflect the configuration of a two lane, divided facility with Class II and Class IV bicycle lanes. This letter serves as the City's official request for an MPAH Amendment for Merrimac Way within the City of Costa Mesa to change its Primary Collector classification.

Per the MPAH guidelines, a traffic study was prepared for Merrimac Way. The traffic study is attached as **Appendix A** and was prepared using new traffic counts taken in February 2024 to account for school traffic. The study shows that Merrimac Way is anticipated to operate at an acceptable level of service for both current year 2024 and future year 2050. If OCTA concurs and the amendment is approved, the City will adjust the classification of Merrimac Way during the next update of the City's General Plan Circulation Element.

If you have any questions or require further clarification, please contact me at (714) 754-5343.

Respectfully,

Raja Sethuraman
Public Works Director

c Ramin Nikoui, Senior Engineer
Brett Atencio Thomas, Active Transportation Coordinator
Ivy Hang, Senior Transportation Analyst, OCTA

Appendix A: Focused Traffic Study, Merrimac Way Master Plan Arterial Highway Amendment

# **Focused Traffic Study**

# Merrimac Way Master Plan Arterial Highway Amendment

# Submitted to



# **City of Costa Mesa**

77 Fair Drive, Costa Mesa City Hall, CA 92626

November 4, 2024

Submitted by





November 4, 2024

Ramin Nikoui
Senior Engineer – Transportation Service Division
City of Costa Mesa
77 Fair Drive
Costa Mesa, CA 92626

RE: Proposed Amendment to OCTA MPAH – Merrimac Way

Dear Nikoui,

Pursuant to City of Costa Mesa's request, AGA Engineers has conducted a focused traffic study to evaluate potential traffic impacts along Merrimac Way resulting from the proposed amendment to the Orange County Master Plan of Arterial Highways (MPAH) to reduce the number of lanes. Between Harbor Boulevard and Fairview Road, Merrimac Way has been reduced from four lanes with a raised median to two lanes with a raised median and Class II and Class IV bike lanes.

This traffic analysis is to assess the reduction of lanes on Merrimac way and if it will have a significant impact on the traffic conditions.

Should you have any questions regarding this study, please do not hesitate to contact Greg Wong or Vannessa Pedroza at (714) 992-4592.

Respectfully submitted,

AGA ENGINEERS, INC.

Greg Wong, P.E.

Vice President

PROFESSIONAL

REG WORK

No. 64349

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No. 64349

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CIVIL TRUE

CALIFORNIA

Vannessa Pedroza

Associate Transportation Engineer



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### **List of Attachments**

- A Year 2024 Average Daily Traffic
- B Year 2024 Turning Movement Counts
- C Year 2024 Intersection Capacity Utilization (ICU) Analysis
- D OCTAM Model Data
- E Year 2050 Intersection Capacity Utilization (ICU) Analysis





#### **Project Objective and Purpose**

The purpose of this study is to evaluate the proposed change in roadway classification of Merrimac Way between Harbor Boulevard and Fairview Road from a Four-Lane Primary Arterial to a Two-Lane Collector Arterial, and to determine any impacts due to the proposed modification. The City of Costa Mesa will be requesting the Master Plan of Arterial Highway (MPAH) Amendment with the Orange County Transportation Authority (OCTA) for the proposed modification.

#### **Project Study Area**

Typically, an MPAH Amendment is conducted prior to the change of a roadway to determine if there would be any impacts from the proposed change. For the purposes of this MPAH report, it was assumed that the proposed change has not taken place. Therefore, the "current configuration" was evaluated as the Four-Lane configuration, and the "proposed configuration" was evaluated as the Two-Lane configuration.

Merrimac Way is a Four-Lane Arterial between Harbor Boulevard and Fairview Road with a raised median, located south of Orange Coast College, and is classified as a Primary Arterial. With the proposed lane modifications, the arterial is proposed to be classified as a Two-Lane Divided Collector Arterial with Class II and Class IV bike lanes. The study segment on Merrimac Way between Harbor Boulevard and Fairview Road were analyzed. A total of two intersections were analyzed in this study

Boulevard/Merrimac area, Harbor Way and Fairview Road/Merrimac Way, both of which are signalized intersections controlled by the City of Costa Mesa. A project vicinity map is shown on Figure 1A and the study area is identified on Figure 1B and listed below. While lane modifications are to be applied on Merrimac Way, the curb-to-curb street width will remain unchanged. At the intersection of Harbor Boulevard/Merrimac Way, the lane configuration changes for the westbound approach, from having the middle lane as a shared through/right turn lane to a through only lane. There are no proposed changes to the of Fairview intersection Road/ Merrimac Way.



Figure 1A. Vicinity Map





#### Study Arterial

Merrimac Way: Harbor Boulevard – Fairview Road

#### **Study Intersections**

- Harbor Boulevard/Merrimac Way
- Fairview Road/Merrimac Way

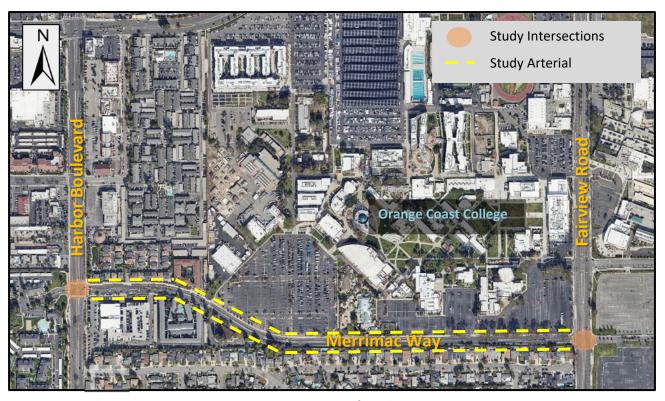


Figure 1B. Study Area

#### Level of Service (LOS) Analysis and Methodology

#### **Arterial LOS Analysis**

For arterial Level of Service (LOS) analysis, OCTA utilizes LOS C for acceptable LOS. For the current configuration of the Four-Lane divided Primary Arterial, the arterial capacity for LOS C is 30,000 (vpd). For the proposed configuration of the Two-Lane Divided Collector Arterial, the arterial capacity for LOS C is 15,000 (vpd). If the existing or future traffic volumes on Merrimac Way exceed LOS C capacity for the proposed configuration, then the current configuration of four lanes divided roadway should





remain on Merrimac Way. The Arterial Highway Master Plan of Arterial Highways (MPAH) capacity values are shown below on **Table 1.** 

**Table 1. Arterial Highway MPAH Capacity Values** 

Configuration	Type of Arterial		Le	evel of Servic	e	
Configuration	Type of Arterial	Α	В	С	D	E
Current	Four-lane divided	22,500	26,300	30,000	33,800	37,500
Proposed	Two-lane divided	9,000	12,000	15.000	20,000	22,000

#### Intersection LOS Analysis

The intersection LOS analysis for the two study intersections was determined using the Intersection Capacity Utilization (ICU) Methodology per the Orange County Transportation Authority Congestion Management Program (OCTA CMP) guidelines. The ICU methodology is a simple demand-over-capacity assessment of key intersection movements. This methodology assigns LOS rankings from LOS A to LOS F based on the ratio of vehicles utilizing the intersection to the overall intersection capacity, which is also known as the volume-to-capacity (V/C) ratio (see **Table 2**). The saturation flow rate, or lane capacity, is 1700 vehicles per hour per lane and used for the left, through and right turn lanes. This rate was derived from historical research performed on intersections in Orange County, during peak periods.

Table 2. Level-of-Service by Capacity

Volume/Capacity Ratio (V/C)	LOS
0.00 to 0.60	Α
0.61 to 0.70	В
0.71 to 0.80	С
0.81 to 0.90	D
0.91 to 1.00	E
Greater than 1.00	F

#### Intersection Significant Impact Criteria

Per the OCTA guidelines, traffic impacts for a given intersection are identified as significant if the proposed project results in a downgrade of LOS from an acceptable LOS D (or better) to LOS E/F, or a downgrade from LOS E "without project" to LOS F "with project". Additionally, for an intersection that already operates at LOS E/F "without project", a change in ICU value of 0.01 or more will result in a significant impact for that intersection.





#### **Study Scenarios**

LOS analyses were conducted for the following Project Year 2024 and Project Year 2050 scenarios for both the arterial LOS and intersection LOS as shown below:

- Year 2024
  - Current Configuration Four-Lane, Divided Primary Arterial
  - Proposed Configuration Two-Lane, Divided Collector Arterial
- Year 2050
  - o Current Configuration Four-Lane, Divided Primary Arterial
  - o Proposed Configuration Two-Lane, Divided Collector Arterial

Lane configurations for Harbor Boulevard and Fairview Road are shown on Figures 2A and 2B for existing conditions and Figures 3A and 3B for proposed conditions.

#### **Year 2024 LOS Analysis**

#### **Arterial LOS Analysis**

Weekday 24-hour traffic counts were taken in order to assess the LOS for Merrimac Way for both configurations. The traffic counts were taken on Merrimac Way on Thursday February 15, 2024 between Harbor Boulevard and Fairview Road and showed a total of 6,514 vehicles per day (see **Table 3**), which is well under the arterial LOS C capacity. The analysis show that Merrimac Way operates at a LOS A for both a Four-Lane Divided Primary Arterial and a Two-Lane Divided Collector Arterial. Detailed 24-hour traffic counts are included in **Attachments A**.

Table 3. Average Daily Traffic on Merrimac Way for Year 2024

	ADT for Merrimac Way		S A Capacity (vpd)	LOS for
Year	(vpd)	Current Configuration for Primary Divided Arterial (four-lanes)	Proposed Configuration for Divided Collector Arterial (two-lanes)	Merrimac Way
2024	6,514	22,500	9,000	A

#### **Intersection LOS Analysis**

Lane configurations for Harbor Boulevard at Merrimac Way and Fairview Road at Merrimac Way are shown on Figures 2A and 2B for existing conditions and Figures 3A and 3B for proposed conditions.





The lane configuration change for Harbor Boulevard/Merrimac Way from existing to proposed is only for the westbound approach, where the shared through and right turn lane will be striped as a through lane only. The lane configuration change for Fairview Road/Merrimac Way from existing to proposed is only for the eastbound approach, where a bike lane is implemented.

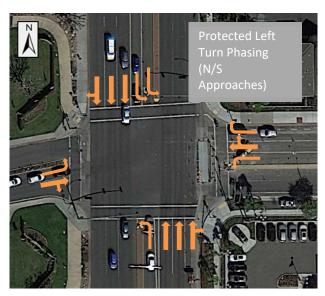


Figure 2A. Existing Lane Configuration on Harbor Boulevard/Merrimac Way

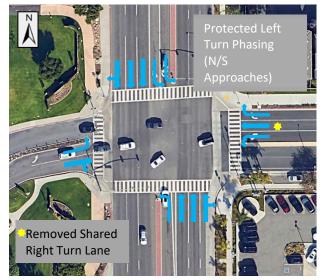


Figure 3A. Proposed Lane Configuration on Harbor Boulevard/Merrimac Way

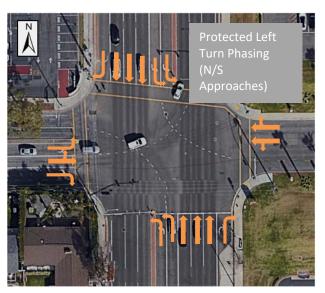


Figure 2B. Existing Lane Configuration on Fairview Road/Merrimac Way

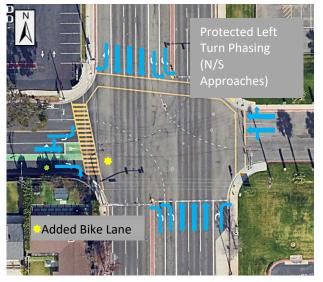


Figure 3B. Proposed Lane Configuration on Fairview Road/Merrimac Way





For the intersection LOS analysis, peak period turning movement counts were taken on Thursday February 15, 2024. The AM and PM peak hour traffic volumes are shown in **Figures 4A and 4B**, respectively. Detailed peak hour turning movement counts are included in **Attachment B.** For low vehicle volumes a minimum of 10 vehicles per hour was used.

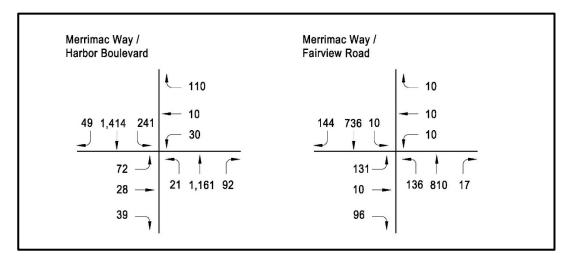


Figure 4A. Year 2024 AM Peak Hour Turning Movement Counts

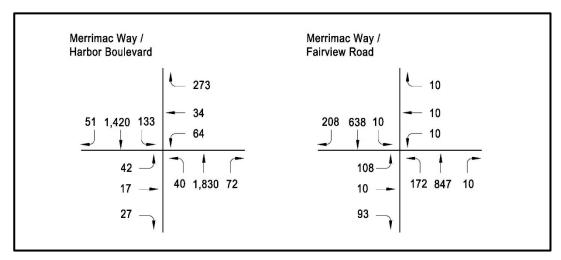


Figure 4B. Year 2024 PM Peak Hour Turning Movement Counts

For this Current Configuration scenario, Fairview Road/Merrimac Way operates at a LOS A for both peak hours, while Harbor Boulevard/Merrimac Way operates at LOS A for both peak hours as well. For Proposed Configuration scenario, the LOS remained the same as the current configuration for





both intersections. Intersection LOS analysis for the current configuration and proposed configuration scenarios are summarized in **Table 4.** The intersection LOS analysis ICU worksheets are provided in **Attachment C**.

Table 4. Intersection Level of Service Analysis for Year 2024

			Year 2024					
	No.	Location	AM Pea	k Hour	PM Peak Hour			
			ICU	LOS	ICU	LOS		
Current	1	Merrimac Way/Harbor Boulevard	0.42	А	0.56	А		
Configuration	2	Merrimac Way/Fairview Road	0.29	А	0.28	А		
Proposed	1	Merrimac Way/Harbor Boulevard	0.42	А	0.61	В		
Configuration	2	Merrimac Way/Fairview Road	0.29	А	0.28	А		

#### **Year 2050 LOS Analysis**

Data from the Orange County Transportation Analysis Model (OCTAM) was utilized to determine the projected future growth rate from Base Year 2019 to Future Year 2050. Based on the data (see **Attachment D**), there was no significant increase except for northbound approach in the AM peak hour and the southbound approach in the PM peak hour for Harbor Boulevard, with a growth of 32% and 14%, respectively. All other movements had a 5% growth or less. Therefore, the projected growth provided by OCTAM was used only for the AM northbound approach and PM southbound approach, at Harbor Boulevard. In order to account for other ambient growth in the study area and for a conservative analysis, a 10% increase was used for all other approaches. For the northbound approach at Harbor Boulevard, during the AM peak hour, extrapolating the growth of 32% from Year 2019 to Year 2050 equates to approximately 1% growth, per year. Therefore, from Year 2024 to Year 2050, the northbound approach is expected to have a growth rate total of 26%. For the southbound approach at Harbor Boulevard, during the PM peak hour, extrapolating the growth of 14% from Year 2019 to Year 2050 equates to approximately 0.5% growth per year. Therefore, from Year 2024 to Year 2050, the southbound approach is expected to have a growth rate total of 13%. The growth rates are summarized below.

- OCTAM Year 2019 Year 2050, Weekday AM Peak Period Growth
  - o Harbor Boulevard, Northbound 32% growth, Equates to approximately 1% per year
    - Year 2024 to Year 2050 = 26% total growth
- OCTAM Year 2019 Year 2050, Weekday PM Peak Period Growth





- o Harbor Boulevard, Southbound 14% growth, Equates to approximately 0.5% per year
  - Year 2024 to Year 2050 = 13% total growth
- All other movements, 10% total growth

#### **Arterial LOS Analysis**

Year 2050 traffic reflects the 2024 traffic volumes plus a projected growth rate for the daily traffic. The projected 10% growth was applied to the 2024 daily traffic volumes on Merrimac Way to develop Year 2050 traffic volumes. The traffic volumes increased to 7,166 vehicles per day for the Year 2050 using the 10% growth as shown in **Table 5.** Based on the projected 2050 traffic volumes on Merrimac Way, the arterial is expected to continue to operate at LOS A under both the Four-Lane Divided Primary Arterial and the Two-Lane Divided Collector Arterial scenarios.

MPAH Arterial LOS A Capacity (vpd) LOS for 10% Growth Count **ADT for Merrimac Way** Merrimac **Current Configuration for Primary Proposed Configuration for Divided** Year (vpd) Way **Divided Arterial (four-lanes) Collector Arterial (two-lanes)** 22,500 9,000 Α 2024 7,166

Table 5. Average Daily Traffic on Merrimac Way for Year 2050

#### **Intersection LOS Analysis**

The growth rates were applied to the 2024 turning movement counts to develop the 2050 intersection traffic volumes. The 10% growth rate was applied to all movements except for the AM northbound and PM southbound at Harbor Boulevard. These movements were increased by 26% for the AM peak hour and 13% for the PM peak hour. Year 2050 for AM and PM peak hour turning movement traffic volumes are shown in **Figures 5A and 5B**, respectively.

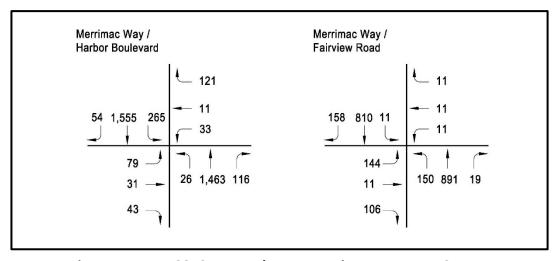


Figure 5A: Year 2050 AM Peak Hour Turning Movement Counts





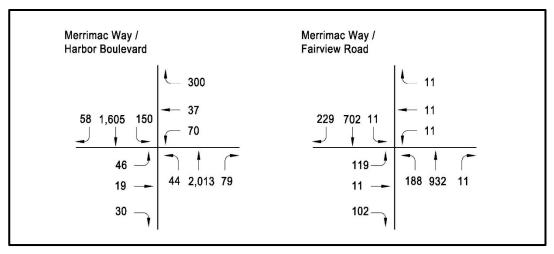


Figure 5B: Year 2050 PM Peak Hour Turning Movement Counts

For the Current Configuration scenario, Harbor Boulevard/Merrimac Way intersection is expected to operate at a LOS A for the AM peak hour and LOS B for the PM peak hour. The Fairview Road/Merrimac Way intersection is expected to operate at a LOS A for both the AM peak hour and the PM peak hour. For Proposed Configuration scenario, the LOS for both intersections remain the same as the current configuration. Intersection LOS analysis for the current configuration and proposed configuration Year 2050 scenarios are summarized in **Table 6**, and intersection LOS analysis worksheets are provided in **Attachment E**.

**Table 6. Intersection Level of Service Analysis for Year 2050** 

				Year	2050		
	No.	Location	AM Pea	k Hour	PM Peak Hour		
			ICU	LOS	ICU	LOS	
Current	1	Merrimac Way/Harbor Boulevard	0.50	А	0.61	В	
Configuration	2	Merrimac Way/Fairview Road	0.32	А	0.30	А	
Proposed	1	Merrimac Way/Harbor Boulevard	0.50	А	0.66	В	
Configuration	2	Merrimac Way/Fairview Road	0.32	А	0.30	А	





#### Conclusion

This traffic study evaluated Merrimac Way between Harbor Boulevard and Fairview Road from a Four-Lane Primary Arterial to a Two-Lane Collector Arterial and to determine any impacts due to the proposed modification.

After analyzing the current conditions for Merrimac Way between Harbor Boulevard and Fairview Road for Year 2024, the proposed configuration of two-lanes and with Class II and Class IV bike lanes will have no significant impact on traffic conditions. The arterial LOS analysis for Merrimac Way, showed a LOS A for the current and proposed configurations. Intersection LOS was conducted for two intersections on Merrimac Way at Harbor Boulevard and at Fairview Road. The intersection LOS analysis determined that both intersections will operate at an acceptable LOS B or better with the proposed configuration. Using the OCTAM model for the Year 2050 analysis, growth rates were determined and applied to the 2024 traffic volumes to develop 2050 traffic conditions. The roadway segment LOS analysis conducted for Year 2050, determined that Merrimac Way is expected to operate at LOS A for the current and proposed configurations. The intersection LOS analysis for Year 2050, determined that neither of the two intersections on Merrimac Way – at Harbor Boulevard and at Fairview Road will be significantly impacted by the proposed configuration. Both study intersections are expected to operate at an acceptable LOS B or better with the proposed configuration.

Merrimac Way, between Harbor Boulevard and Fairview Road, and the intersections of Harbor Boulevard/Merrimac Way and Fairview Road/Merrimac Way, are expected to operate at an acceptable LOS for the proposed configuration for both Current Year 2024 and Future Year 2050. Therefore, it is recommended to reclassify Merrimac Way from a Four-Lane Divided Primary Arterial to a Two-Lane Divided Collector Arterial.



Merrimac Way MPAH Amendment Year 2024 Average Daily Traffic



Suhsduhg#e|#DlpWG#OOF##who1#:47#586#:;;;

AM Period	EB		WB				PM Period	EB		WB			
0:00	3		4				12:00	80		73			_
0:15	0		3				12:15	49		61			
0:30	0		2				12:30	106		86			
0:45	2	5	1	10		15	12:45	72	307	82	302		609
1:00	1		1				13:00	37		49			
1:15	0		0				13:15	38		45			
1:30	0		1				13:30	39		61			
1:45	2	3	3	5		8	13:45	52	166	49	204		370
2:00	2		2				14:00	69		87			
2:15	0		0				14:15	70		61			
2:30	0		0				14:30	37		46			
2:45	0	2	0	2		4	14:45	49	225	55	249		474
3:00	0		0				15:00	56		69			
3:15	1		0				15:15	66		55			
3:30	0		0				15:30	66		70			
3:45	1	2	0	0		2	15:45	85	273	86	280		553
4:00	0		1				16:00	49		65			
4:15	1		1				16:15	51		86			
4:30	1		1				16:30	51		73			
4:45	1	3	2	5		8	16:45		181	96	320		501
5:00	2		0				17:00	52		112			
5:15	4		3				17:15	61		100			
5:30	3		15				17:30	58		126			
5:45	16	25	10	28		53	17:45	61	232	98	436		668
6:00	5		4				18:00	52		71			
6:15	5		5				18:15	39		68			
6:30	7		7				18:30	29		50			
6:45	17	34	17	33		67	18:45		148	52	241		389
7:00	17		14				19:00	26		44			
7:15	35		21				19:15	27		40			
7:30	42		35				19:30	22		29			
7:45		164		137		301	19:45	24	99	23	136		235
8:00	77		61				20:00	24		27			
8:15	80		62				20:15	30		52			
8:30	92		67				20:30	21		23			
8:45	63	312		241		553	20:45		129		125		254
9:00	60	012	48			555	21:00	138		28	120		201
9:15	52		42				21:15	40		20			
9:30	49		38				21:30	38		14			
9:45	20	181		159		340	21:45		249	7	69		318
10:00	30		26			210	22:00	22		9			310
10:00	28		29				22:00	12		9 17			
10:15	31		34				22:30	3		12			
10:30	28	117		116		233	22:45	2	39	6	44		83
11:00	75		53				23:00	2		7			
11:00	75 39		42				23:00	2		3			
11:15	39 72		56				23:15	1		5 5			
11:45		234		215		449	23:45		7	5	20		27
Total Vol.		1082		951		2033			2055		2426		4481
									ED		WD	Daily Totals	Cambinat
								-	EB		WB		Combined
									3137		3377		6514
C!!! 0/	*****			44.0	AM	24 207			4E 004		T 4 4 0 /	PM	60.007
Split %		53.2%		46.8%		31.2%			45.9%		54.1%		68.8%
<b>Peak Hour</b>		7:45		11:45		7:45			12:00		17:00		17:00
Volume		319		284		576			307		436		668
P.H.F.		0.87		0.83		0.91			0.80		0.87		0.91
					cs@aimtd.com			Toll	714 25	2 7000			

Merrimac Way MPAH Amendment Year 2024 Turning Movement Counts



#### **INTERSECTION TURNING MOVEMENT COUNTS**

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE: Thu, Feb 15, 24

Costa Mesa Harbor Blvd LOCATION: PROJECT #: NORTH & SOUTH: EAST & WEST:

NOTES:

Merrimac Way

SC4414 LOCATION #: CONTROL: 1 SIGNAL

Ν **⋖**W E► S

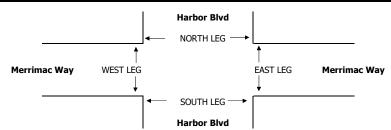
		NO	ORTHBOL	JND	S	OUTHBOU	JND	Е	ASTBOU	ND	W	/ESTBOUI	ND		ĺ
			Harbor Blvd			Harbor Blvd			Merrimac Wa			Merrimac Wa			
		NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL	N
	LANES:	1	3	0	2	3	0	1	1	0	1	1	1		0
Г	7:00 AM	3	154	5	11	196	9	18	2	11	3	1	6	419	2
	7:15 AM	2	186	5	28	235	0	15	2	9	2	4	4	492	1
	7:30 AM	4	223	12	30	286	5	17	6	10	1	4	16	614	1
	7:45 AM	2	323	17	52	373	25	20	8	9	8	3	22	862	1
	8:00 AM	9	258	26	51	346	8	26	6	15	10	1	35	791	0
	8:15 AM	6	298	33	64	342	9	13	9	9	5	4	27	819	0
	8:30 AM	3	282	16	62	353	7	13	5	6	7	2	26	782	0
Α	8:45 AM	3	247	16	73	374	7	11	6	6	4	2	33	782	1
۱₹	VOLUMES	32	1,971	130	371	2,505	70	133	44	75	40	21	169	5,585	6
	APPROACH %	1%	92%	6%	13%	85%	2%	53%	17%	30%	17%	9%	73%		
	APP/DEPART	2,139	- /	2,291	2,964	/	2,626	252	/	545	230	/	123	0	1
	BEGIN PEAK HR		7:45 AM	1											
	VOLUMES	20	1,161	92	229	1,414	49	72	28	39	30	10	110	3,267	
	APPROACH %	2%	91%	7%	13%	83%	3%	52%	20%	28%	20%	7%	73%		
	PEAK HR FACTOR		0.929			0.934			0.739			0.815		0.940	
	APP/DEPART	1,274		1,355	1,704	/	1,484	139	/	349	150	/	79	0	
	4:00 PM	9	461	10	18	318	16	21	4	8	13	9	81	968	2
	4:15 PM	6	412	10	21	367	15	11	2	9	16	8	65	942	2
	4:30 PM	11	463	12	24	318	15	10	3	10	12	11	69	958	1
	4:45 PM	10	444	14	17	343	10	17	0	1	13	10	46	925	1
	5:00 PM	10	447	11	23	385	9	9	5	5	16	10	76	1,006	3
	5:15 PM	8	474	23	23	333	10	15	5	9	12	8	62	982	2
	5:30 PM	8	435	19	34	320	21	11	4	6	16	9	70	953	1
Σ	5:45 PM	8	474	19	38	382	11	7	3	7	15	7	65	1,036	0
۵	VOLUMES	70	3,610	118	198	2,766	107	101	26	55	113	72	534	7,824	12
	APPROACH %	2%	95%	3%	6%	89%	3%	55%	14%	30%	16%	10%	73%		
	APP/DEPART	3,810		4,279	3,105		2,946	182		350	727		249	0	
	BEGIN PEAK HR		5:00 PM												
	VOLUMES	34	1,830	72	118	1,420	51	42	17	27	59	34	273	4,003	
	APPROACH %	2%	94%	4%	7%	89%	3%	49%	20%	31%	16%	9%	74%		
	PEAK HR FACTOR		0.958			0.918			0.741			0.900		0.960	
	APP/DEPART	1,942	7	2,160	1,604		1,512	86		212	371		119	0	

0     0     0     0       2     0     0     0     0       1     1     0     0     2       1     1     0     0     2       1     6     0     0     7       0     1     0     0     1	U-TURNS										
1     1     0     0     2       1     1     0     0     2       1     6     0     0     7       0     1     0     0     1	ΓL										
1 1 0 0 2 1 6 0 0 7 0 1 0 0	2										
1 6 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0											
0 1 0 0											
- 1 - 1 - 1 - 1	,										
0 0 0											
0 3 0 0 3	}										
0 2 0 0 2											
1 4 0 0	;										
6 18 0 0 2	4										

 12	U	U

2	3	0	0	5
2	5	0	1	8
1	6	0	1	8
1	5	0	1	7
3	3	0	1	7
2	3	0	2	7
1	3	0	2	6
0	6	0	0	6
12	34	0	8	54

6	15	0	5



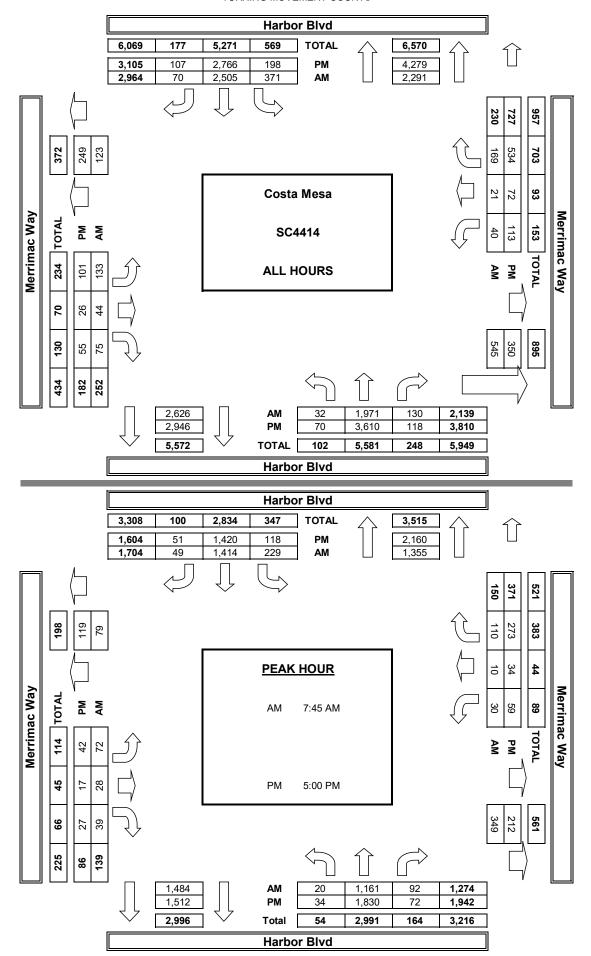
	7:00 AM
	7:15 AM
	7:30 AM
_	7:45 AM
ΑM	8:00 AM
	8:15 AM
	8:30 AM
	8:45 AM
	TOTAL
	BEGIN PEAK HR
	4:00 PM
	4:15 PM
	4:30 PM
_	4:45 PM
PΜ	5:00 PM
	5:15 PM
	5:30 PM
	5:45 PM
	TOTAL
	BEGIN PEAK HR

Α	ALL PED + BIKE & SCOOTER					
N LEG	S LEG	E LEG	W LEG	TOTAL		
1	3	3	4	11		
0	5	3	2	10		
4	0	2	11	17		
10	2	1	7	20		
3	2	1	5	11		
5	3	2	7	17		
3	4	4	7	18		
2	1	3	1	7		
28	20	19	44	111		
		7:45 AM				
3	4	4	9	20		
6	1	4	8	19		
2	0	2	9	13		
3	0	2	11	16		
2	0	2	6	10		
2	0	4	5	11		
4	2	1	8	15		
3	2	1	3	9		
25	9	20	59	113		
		5:00 PM	•			

	PEDESTRIAN CROSSINGS				
N LEG	S LEG	E LEG	W LEG	TOTAL	
1	1	1	1	4	
0	4	2	1	7	
3	0	1	2	6	
6	2	1	2	11	
1	0	0	0	1	
2	0	1	2	5	
2	3	2	6	13	
1	0	2	0	3	
16	10	10	14	50	
11	5	4	10	30	
1	2	3	4	10	
4	1	3	2	10	
0	0	0	7	7	
0	0	1	3	4	
2	0	1	2	5	
1	0	3	1	5	
3	2	0	2	7	
1	1	0	1	3	
12	6	11	22	51	
7	3	4	6	20	

<b>BICYCLE &amp; SCOOTER CROSSINGS</b>						
NL	SL	EL	WL	TOTAL		
0	2	2	3	7		
0	1	1	1	3		
1	0	1	9	11		
4	0	0	5	9		
2	2	1	5	10		
3	3	1	5	12		
1	1	2	1	5		
1	1	1	1	4		
12	10	9	30	61		
	-					
2	2	1	5	10		
2	0	1	6	9		
2	0	2	2	6		
	0	1	8	12		
0	0	1	4	5		
1	0	1	4	6		
1	0	1	6	8		
2	1	1	2	6		
13	3	9	37	62		

AimTD LLC
TURNING MOVEMENT COUNTS



#### **INTERSECTION TURNING MOVEMENT COUNTS**

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE: Thu, Feb 15, 24

NOTES:

LOCATION:

Costa Mesa Fairview Rd Merrimac Way

PROJECT #: SC4414 LOCATION #: CONTROL:

NORTH & SOUTH: EAST & WEST:

SIGNAL

AM		<b>A</b>	
PM		N	
MD	<b>⋖</b> W		E►
OTHER		S	
OTHER		▼	

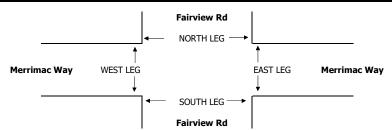
		NC	DRTHBOU	ND	SC	DUTHBOL	JND	E/	astboun	ND .	W	ESTBOUN	ND .	
			Fairview Rd			Fairview Rd			Merrimac Way	/		Merrimac Wa	у	
		NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
	LANES:	2	3	1	2	3	1	1,5	0,5	1	0	1	0	
	7:00 AM	15	68	2	0	60	12	0	0	13	0	0	0	170
	7:15 AM	16	122	0	0	100	15	13	1	11	0	0	0	278
	7:30 AM	20	146	4	0	131	20	19	0	13	1	0	0	354
	7:45 AM	23	197	1	0	156	29	26	0	26	0	0	0	458
	8:00 AM	25	257	4	0	182	34	39	0	17	0	0	0	558
	8:15 AM	42	246	9	1	213	43	47	0	18	0	1	3	623
	8:30 AM	45	110	3	1	185	38	19	1	35	0	1	0	438
Α	8:45 AM	54	130	7	3	121	70	16	2	21	0	0	2	426
₹	VOLUMES	240	1,276	30	5	1,148	261	179	4	154	1	2	5	3,307
	APPROACH %	16%	82%	2%	0%	81%	18%	53%	1%	46%	13%	25%	63%	
	APP/DEPART	1,547	- /	1,461	1,415	/	1,304	337	1	39	8	/	503	0
	BEGIN PEAK HR		7:45 AM											
	VOLUMES	135	810	17	2	736	144	131	1	96	0	2	3	2,079
	APPROACH %	14%	84%	2%	0%	83%	16%	57%	0%	42%	0%	40%	60%	
	PEAK HR FACTOR		0.811			0.856			0.877			0.313		0.833
	APP/DEPART	963		945	883	/	833	228	/	20	5	/	281	0
	4:00 PM	35	162	0	0	155	46	36	0	24	0	0	0	458
	11.00111		102		U	133					_		-	
	4:15 PM	34	178	0	0	137	31	31	0	18	0	0	0	429
		34 33	178 184	0		137 151	31 30	31 24		1	0			429 446
	4:15 PM	34 33 35	178	0	0	137	31	31	0	18		0	0	
	4:15 PM 4:30 PM 4:45 PM 5:00 PM	34 33 35 45	178 184 220 199	0 1 0 0	0	137 151 154 156	31 30 39 40	31 24 20 30	0	18 22 13 17	0	0	0	446 481 487
	4:15 PM 4:30 PM 4:45 PM 5:00 PM 5:15 PM	34 33 35 45 36	178 184 220 199 211	0 1 0	0 0 0	137 151 154 156 156	31 30 39 40 57	31 24 20 30 28	0 0	18 22 13 17 20	0	0 1 0	0 0 0	446 481 487 508
	4:15 PM 4:30 PM 4:45 PM 5:00 PM 5:15 PM 5:30 PM	34 33 35 45 36 49	178 184 220 199 211 189	0 1 0 0 0	0 0 0 0	137 151 154 156 156 168	31 30 39 40 57 45	31 24 20 30 28 26	0 0 0 0	18 22 13 17 20 30	0 0 0	0 1 0 0	0 0 0	446 481 487 508 507
Σ	4:15 PM 4:30 PM 4:45 PM 5:00 PM 5:15 PM 5:30 PM 5:45 PM	34 33 35 45 36 49 41	178 184 220 199 211 189 248	0 1 0 0 0 0	0 0 0 0	137 151 154 156 156 168 158	31 30 39 40 57 45 66	31 24 20 30 28 26 23	0 0 0 0 0 0	18 22 13 17 20 30 26	0 0 0 0 0	0 1 0 0	0 0 0 0	446 481 487 508
PM	4:15 PM 4:30 PM 4:45 PM 5:00 PM 5:15 PM 5:30 PM 5:45 PM VOLUMES	34 33 35 45 36 49 41 308	178 184 220 199 211 189 248 1,591	0 1 0 0 0 0 0 1 2	0 0 0 0 0 0 0	137 151 154 156 156 168 158 1,235	31 30 39 40 57 45 66 354	31 24 20 30 28 26 23 218	0 0 0 0 0 0	18 22 13 17 20 30 26 170	0 0 0 0 0 0	0 1 0 0 0 0 0	0 0 0 0 0 0 0	446 481 487 508 507
PM	4:15 PM 4:30 PM 4:45 PM 5:00 PM 5:15 PM 5:30 PM 5:45 PM VOLUMES APPROACH %	34 33 35 45 36 49 41 308 16%	178 184 220 199 211 189 248	0 1 0 0 0 0 1 2	0 0 0 0 0 0 0 0	137 151 154 156 156 168 158	31 30 39 40 57 45 66 354 22%	31 24 20 30 28 26 23 218 56%	0 0 0 0 0 0	18 22 13 17 20 30 26 170 44%	0 0 0 0 0 0 0	0 1 0 0 0 0	0 0 0 0 0 0 0 1 1 50%	446 481 487 508 507 564 3,884
PM	4:15 PM 4:30 PM 4:45 PM 5:00 PM 5:15 PM 5:30 PM 5:45 PM VOLUMES APPROACH % APP/DEPART	34 33 35 45 36 49 41 308	178 184 220 199 211 189 248 1,591 84%	0 1 0 0 0 0 0 1 2 0% 1,812	0 0 0 0 0 0 0	137 151 154 156 156 168 158 1,235	31 30 39 40 57 45 66 354	31 24 20 30 28 26 23 218	0 0 0 0 0 0	18 22 13 17 20 30 26 170	0 0 0 0 0 0	0 1 0 0 0 0 0	0 0 0 0 0 0 0	446 481 487 508 507 564
PM	4:15 PM 4:30 PM 4:45 PM 5:00 PM 5:15 PM 5:30 PM 5:45 PM VOLUMES APPROACH % APP/DEPART BEGIN PEAK HR	34 33 35 45 36 49 41 308 16% 1,902	178 184 220 199 211 189 248 1,591 84% /	0 1 0 0 0 0 1 2 0% 1,812	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	137 151 154 156 156 168 158 1,235 78%	31 30 39 40 57 45 66 354 22% 1,406	31 24 20 30 28 26 23 218 56% 389	0 0 0 0 0 0	18 22 13 17 20 30 26 170 44% 2	0 0 0 0 0 0 0 0 0 0 0 0 2	0 1 0 0 0 0 0	0 0 0 0 0 0 0 1 1 50%	446 481 487 508 507 564 3,884
M	4:15 PM 4:30 PM 4:45 PM 5:00 PM 5:15 PM 5:30 PM 5:45 PM VOLUMES APPROACH % APP/DEPART BEGIN PEAK HR VOLUMES	34 33 35 45 36 49 41 308 16% 1,902	178 184 220 199 211 189 248 1,591 84% / 5:00 PM	0 1 0 0 0 0 1 2 0% 1,812	0 0 0 0 0 0 0 0 0 0 0 0 0 0,0 0 0,0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	137 151 154 156 156 168 158 1,235 78% /	31 30 39 40 57 45 66 354 22% 1,406	31 24 20 30 28 26 23 218 56% 389	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 7	18 22 13 17 20 30 26 170 44% 2	0 0 0 0 0 0 0 0 0 0 0 0 0 2	0 1 0 0 0 0 0 0 0 1 50%	0 0 0 0 0 0 0 1 1 50% 664	446 481 487 508 507 564 3,884
M	4:15 PM 4:30 PM 4:45 PM 5:00 PM 5:15 PM 5:30 PM 5:45 PM VOLUMES APPROACH % APP/DEPART BEGIN PEAK HR VOLUMES APPROACH %	34 33 35 45 36 49 41 308 16% 1,902	178 184 220 199 211 189 248 1,591 84% / 5:00 PM 847 83%	0 1 0 0 0 0 1 2 0% 1,812	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	137 151 154 156 156 168 158 1,235 78% /	31 30 39 40 57 45 66 354 22% 1,406	31 24 20 30 28 26 23 218 56% 389	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	18 22 13 17 20 30 26 170 44% 2	0 0 0 0 0 0 0 0 0 0 0 0 2	0 1 0 0 0 0 0 0 0 1 50%	0 0 0 0 0 0 0 1 1 50%	446 481 487 508 507 564 3,884 0
Md	4:15 PM 4:30 PM 4:45 PM 5:00 PM 5:15 PM 5:30 PM 5:45 PM VOLUMES APPROACH % APP/DEPART BEGIN PEAK HR VOLUMES	34 33 35 45 36 49 41 308 16% 1,902	178 184 220 199 211 189 248 1,591 84% / 5:00 PM	0 1 0 0 0 0 1 2 0% 1,812	0 0 0 0 0 0 0 0 0 0 0 0 0 0,0 0 0,0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	137 151 154 156 156 168 158 1,235 78% /	31 30 39 40 57 45 66 354 22% 1,406	31 24 20 30 28 26 23 218 56% 389	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 7	18 22 13 17 20 30 26 170 44% 2	0 0 0 0 0 0 0 0 0 0 0 0 0 2	0 1 0 0 0 0 0 0 0 1 50%	0 0 0 0 0 0 0 1 1 50% 664	446 481 487 508 507 564 3,884

U-TURNS					
NB 0	SB 0	EB 0	WB 0	TTL	
0	0	0	0	0	
0	0	0	0	0	
0	0	0	0	0	
0	0	0	0	0	
1	0	0	0	1	
0	1	0	0	1	
0	0	0	0	0	
0	0	0	0	0	
1	1	0	0	2	
•			•	•	

1	1	0	0

0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	1	0	0	1
0	1	0	0	1
1	0	1	0	2
1	2	1	0	4

1	2	1	0



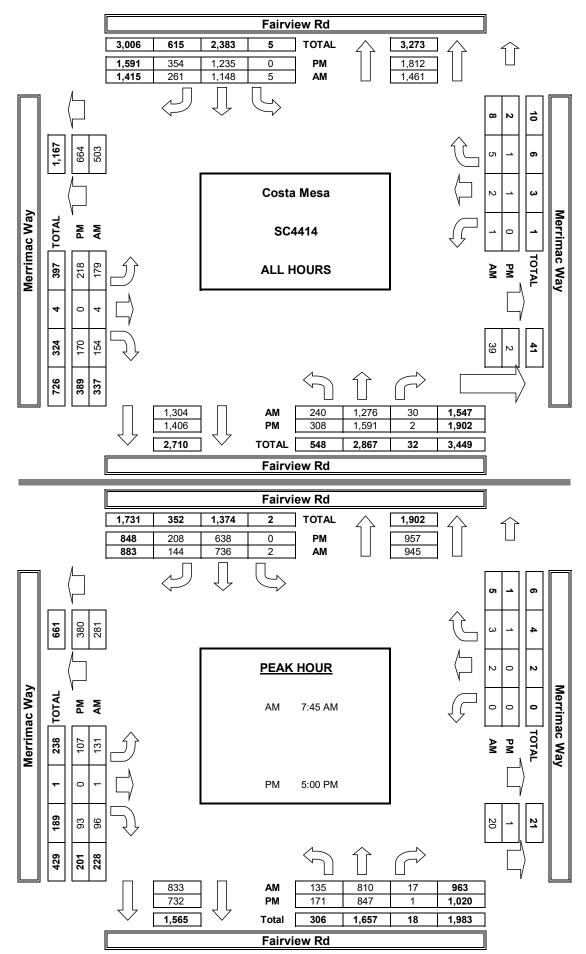
	7:00 AM
	7:15 AM
	7:30 AM
l_	7:45 AM
¥	8:00 AM
	8:15 AM
	8:30 AM
	8:45 AM
	TOTAL
	BEGIN PEAK HR
	4:00 PM
	4:15 PM
	4:30 PM
l_	4:45 PM
Σ	5:00 PM
	5:15 PM
	5:30 PM
	5:45 PM
	TOTAL
	BEGIN PEAK HR

Α	ALL PED + BIKE & SCOOTER							
N LEG	S LEG	E LEG	W LEG	TOTAL				
0	1	2	1	4				
1	0	1	1	3				
2	0	2	1	5				
2	0	5	3	10				
2	1	7	5	15				
0	1	11	7	19				
0	0	3	2	5				
5	0	3	3	11				
12	3	34	23	72				
		7:45 AM						
0	0	0	3	3				
0	0	4	3	7				
3	0	3	6	12				
1	0	3	3	7				
0	0	4	2	6				
1	0	3	2	6				
0	0	2	2	4				
1	2	8	4	15				
6	2	27	25	60				
		5:00 PM		·				

	PEDESTRIAN CROSSINGS							
N LEG	S LEG	E LEG	W LEG	TOTAL				
0	0	1	0	1				
0	0	0	1	1				
1	0	0	0	1				
1	0	3	2	6				
2	0	3	2	7				
0	0	6	5	11				
0	0	1	0	1				
<u>1</u> 5	0	2	2	5				
	0	16	12	33				
3	0	13	9	25				
0	0	0	0	0				
0	0	2	0	2				
3	0	1	4	8				
0	0	2	0	2				
0	0	2	0	2				
1	0	1	1	3				
0	0	0	0	0				
0	0	0	3	3				
4	0	8	8	20				
1	0	3	4	8				

BICYC	<b>BICYCLE &amp; SCOOTER CROSSINGS</b>						
NL	SL	EL	WL	TOTAL			
0	1	1	1	3			
1	0	1	0	2			
1	0	2	1	4			
1	0	2	1	4			
0	1	4	3	8			
0	1	5	2	8			
0	0	2	2	4			
4	0	1	1	6			
7	3	18	11	39			
	un u						
0	0	0	3	3			
0	0	2	3	5			
0	0	2	2	4			
1	0	1	3	5			
0	0	2	2	4			
0	0	2	1	3			
0	0	2	2	4			
1	2	8	1	12			
2	2	19	17	40			

AimTD LLC
TURNING MOVEMENT COUNTS



Merrimac Way MPAH Amendment Year 2024 Intersection Capacity Utilization (ICU) Analysis



Intersection: Harbor Blvd & Merrimac Way

Scenario: Year 2024 Current Peak Hr: AM Peak
Analyst: AGA Engineers, Inc. Agency: City of Costa Mesa

		No. of				Critical	
Movement	Volume	Lanes	Capacity*	V/C Ratio		V/C	Total
NB Left	21	1	1,700	21/1,700=	0.012		
NB Thru	1,161	3	5,100	1,253/5,100=	0.246	<==	
NB Right	92	0	0				
SB Left	241	2	3,400	241/3,400=	0.071	<==	
SB Thru	1,414	3	5,100	1,463/5,100=	0.287		
SB Right	49	0	0				
							0.317
EB Left	72	1	1,700	72/1,700=	0.042		
EB Thru	28	1	1,700	67/1,700=	0.039	<==	
EB Right	39	0	0				
WB Left	30	1	1,700	30/1,700=	0.018	<==	
WB Thru	10	0.5	850	10/850=	0.012		
WB Right **	110	1.5	2550	110/2,550=	0.043		
		<u>-</u>					0.057
Sum of Critical V/O	C Ratios				<u> </u>		0.374
Adjustment for Los	t Time						0.050
Intersection Capaci	ty Utilization	n (ICU)					0.424
Level of Service (LOS) - Refer to table below						A	

		Maximum
* NOTES	LOS	V/C
Per-lane Capacity = 1,700 vehicles/hour	A	0.600
Dual left turn lane capacity = 3,400 vph	В	0.700
Shared lane capacity = $1,700 \text{ vph/2} = 850 \text{ vph}$	C	0.800
** WBR can clear with SBL movement; therefore,	D	0.900
WBL is used as critical movement	E	1.000
	F	N/A

Intersection: Harbor Blvd & Merrimac Way

Scenario: Year 2024 Current Peak Hr: PM Peak
Analyst: AGA Engineers, Inc. Agency: City of Costa Mesa

		No. of				Critical	
Movement	Volume	Lanes	Capacity*	V/C Ratio		V/C	Total
NB Left	40	1	1,700	40/1,700=	0.024		
NB Thru	1,830	3	5,100	1,902/5,100=	0.373	<==	
NB Right	72	0	0				
SB Left	133	2	3,400	133/3,400=	0.039	<==	
SB Thru	1,420	3	5,100	1,471/5,100=	0.288		
SB Right	51	0	0				
							0.412
EB Left	42	1	1,700	42/1,700=	0.025	<==	
EB Thru	17	1	1,700	44/1,700=	0.026		
EB Right	27	0	0				
WB Left	64	1	1,700	64/1,700=	0.038		
WB Thru	34	0.5	850	34/850=	0.040		
WB Right **	273	1.5	2550	273/2,550=	0.107	<==	
							0.093
Sum of Critical V/O	C Ratios	-			-		0.505
Adjustment for Los	Adjustment for Lost Time						0.050
Intersection Capaci	Intersection Capacity Utilization (ICU)						0.555
Level of Service (LOS) - Refer to table below							A

		Maximum
* NOTES	LOS	V/C
Per-lane Capacity = 1,700 vehicles/hour	A	0.600
Dual left turn lane capacity = 3,400 vph	В	0.700
Shared lane capacity = $1,700 \text{ vph/}2 = 850 \text{ vph}$	C	0.800
** WBR partially clears w/SBL movement (.107039=.068); WBR	D	0.900
still remains as critical movement over WBT movement. Use 0.068	E	1.000
as Critical V/C for WB movement.	F	N/A

Intersection: Harbor Blvd & Merrimac Way

Scenario: Year 2024 Proposed Peak Hr: AM Peak
Analyst: AGA Engineers, Inc. Agency: City of Costa Mesa

		No. of				Critical	
Movement	Volume	Lanes	Capacity*	V/C Ratio		V/C	Total
NB Left	21	1	1,700	21/1,700=	0.012		
NB Thru	1,161	3	5,100	1,253/5,100=	0.246	<==	
NB Right	92	0	0				
SB Left	241	2	3,400	241/3,400=	0.071	<===	
SB Thru	1,414	3	5,100	1,463/5,100=	0.287		
SB Right	49	0	0				
							0.317
EB Left	72	1	1,700	72/1,700=	0.042		
EB Thru	28	1	1,700	67/1,700=	0.039	<==	
EB Right	39	0	0				
WB Left	30	1	1,700	30/1,700=	0.018	<===	
WB Thru	10	1	1,700	10/1,700=	0.006		
WB Right **	110	1	1,700	110/1,700=	0.065		
							0.057
Sum of Critical V/O	C Ratios						0.374
Adjustment for Los	t Time						0.050
Intersection Capaci	ty Utilization	n (ICU)					0.424
Level of Service (LOS) - Refer to table below						A	

		Maximum
* NOTES	LOS	V/C
Per-lane Capacity = 1,700 vehicles/hour	A	0.600
Dual left turn lane capacity = 3,400 vph	В	0.700
** WBR can clear with SBL movement; therefore,	C	0.800
WBL is used as critical movement	D	0.900
	E	1.000
	F	N/A

Intersection: Harbor Blvd & Merrimac Way

Scenario: Year 2024 Proposed Peak Hr: PM Peak
Analyst: AGA Engineers, Inc. Agency: City of Costa Mesa

		No. of				Critical	
Movement	Volume	Lanes	Capacity*	V/C Ratio		V/C	Total
NB Left	40	1	1,700	40/1,700=	0.024		
NB Thru	1,830	3	5,100	1,902/5,100=	0.373	<==	
NB Right	72	0	0				
SB Left	133	2	3,400	133/3,400=	0.039	<==	
SB Thru	1,420	3	5,100	1,471/5,100=	0.288		
SB Right	51	0	0				
							0.412
EB Left	42	1	1,700	42/1,700=	0.025	<==	
EB Thru	17	1	1,700	44/1,700=	0.026		
EB Right	27	0	0				
WB Left	64	1	1,700	64/1,700=	0.038		
WB Thru	34	1	1,700	34/1,700=	0.020		
WB Right **	273	1	1,700	273/1,700=	0.161	<==	
							0.147
Sum of Critical V/0	Sum of Critical V/C Ratios						0.559
Adjustment for Los	Adjustment for Lost Time						0.050
Intersection Capaci	Intersection Capacity Utilization (ICU)						0.609
Level of Service (LOS) - Refer to table below							В

		Maxımum
* NOTES	LOS	V/C
Per-lane Capacity = 1,700 vehicles/hour	A	0.600
Dual left turn lane capacity = 3,400 vph	В	0.700
** WBR partially clears w/SBL movement (.161039=.122); WBR	C	0.800
still remains as critical movement over WBT movement. Use 0.122	D	0.900
as Critical V/C for WB movement.	E	1.000
	F	N/A

Intersection: Fairview Rd & Merrimac Way

Scenario: Year 2024 Current/Proposed Peak Hr: AM Peak
Analyst: AGA Engineers, Inc. Agency: City of Costa Mesa

		No. of				Critical	
Movement	Volume	Lanes	Capacity*	V/C Ratio		V/C	Total
NB Left	136	2	3,400	136/3,400=	0.040	<==	
NB Thru	810	3	5,100	810/5,100=	0.159		
NB Right	17	1	1,700	17/1,700=	0.010		
SB Left	10	2	3,400	10/3,400=	0.003		
SB Thru	736	3	5,100	736/5,100=	0.144	<==	
SB Right	144	1	1,700	144/1,700=	0.085		
							0.184
EB Left	131	1.5	2550	131/2,550=	0.051	<==	
EB Thru	10	0.5	850	10/850=	0.012		
EB Right **	96	1	1,700	96/1,700=	0.056		
WB Left	10	0	0				
WB Thru	10	2	3,400	30/3,400=	0.009	<==	
WB Right	10	0	0				
							0.060
Sum of Critical V/O	CRatios						0.244
Adjustment for Los	t Time						0.050
Intersection Capaci	ty Utilization	n (ICU)	_				0.294
Level of Service (LOS) - Refer to table below							A

		Maximum
* NOTES	LOS	V/C
Per-lane Capacity = 1,700 vehicles/hour	A	0.600
Dual left turn lane capacity = 3,400 vph	В	0.700
For low volumes a minimum of 10 vph is used	C	0.800
** EBR partially clears w/NBL movement (.05604=.016); therefore,	D	0.900
EBL is the higher critical movement	E	1.000
	F	N/A

Intersection: Fairview Rd & Merrimac Way

Scenario: Year 2024 Current/Proposed Peak Hr: PM Peak
Analyst: AGA Engineers, Inc. Agency: City of Costa Mesa

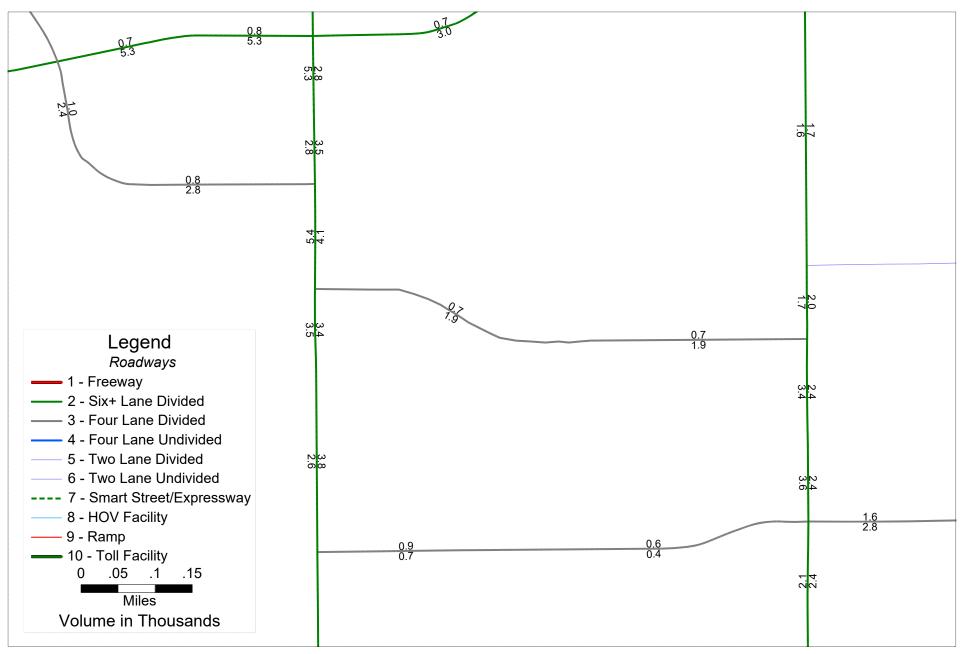
		No. of				Critical	
Movement	Volume	Lanes	Capacity*	V/C Ratio		V/C	Total
NB Left	172	2	3,400	172/3,400=	0.051	<==	
NB Thru	847	3	5,100	847/5,100=	0.166		
NB Right	10	1	1,700	10/1,700=	0.006		
SB Left	10	2	3,400	10/3,400=	0.003		
SB Thru	638	3	5,100	638/5,100=	0.125	<==	
SB Right	208	1	1,700	208/1,700=	0.122		
							0.176
EB Left	108	1.5	2,550	108/2,550=	0.042	<==	
EB Thru	10	0.5	850	10/850=	0.012		
EB Right **	93	1	1,700	93/1,700=	0.055		
WB Left	10	0	0				
WB Thru	10	2	3,400	30/3,400=	0.009	<==	
WB Right	10	0	0				
							0.051
Sum of Critical V/C Ratios							0.227
Adjustment for Lost Time							0.050
Intersection Capacity Utilization (ICU)						0.277	
Level of Service (LOS) - Refer to table below					A		

		Maximum
* NOTES	LOS	V/C
Per-lane Capacity = 1,700 vehicles/hour	A	0.600
Dual left turn lane capacity = 3,400 vph	В	0.700
For low volumes a minimum of 10 vph is used	C	0.800
** EBR partially clears w/NBL movement (.055051=.004);	D	0.900
therefore, EBL is the higher critical movement	E	1.000
	F	N/A

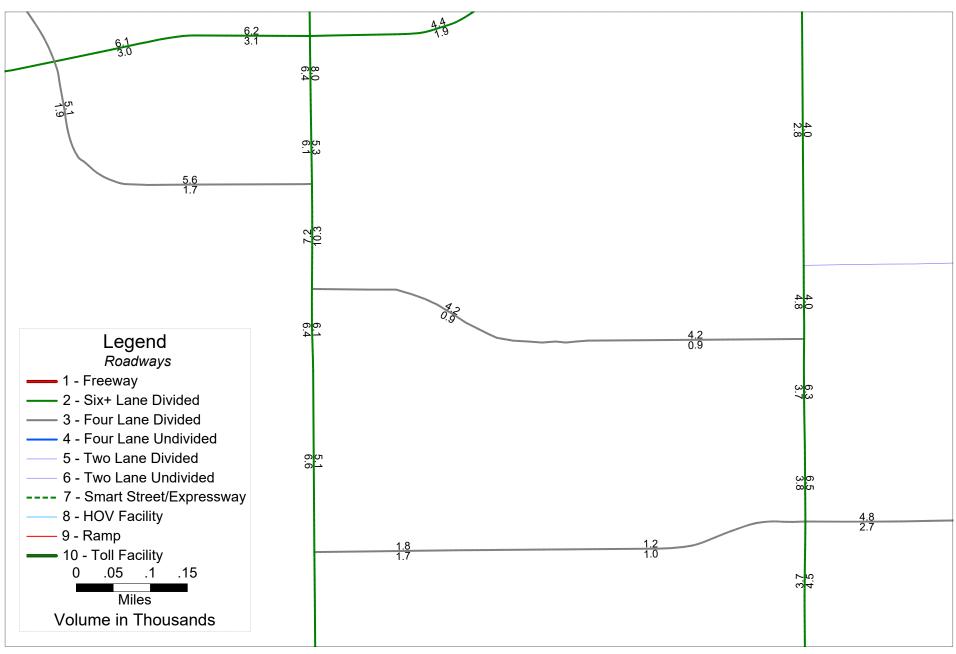
### Merrimac Way MPAH Amendment OCTAM Model Data



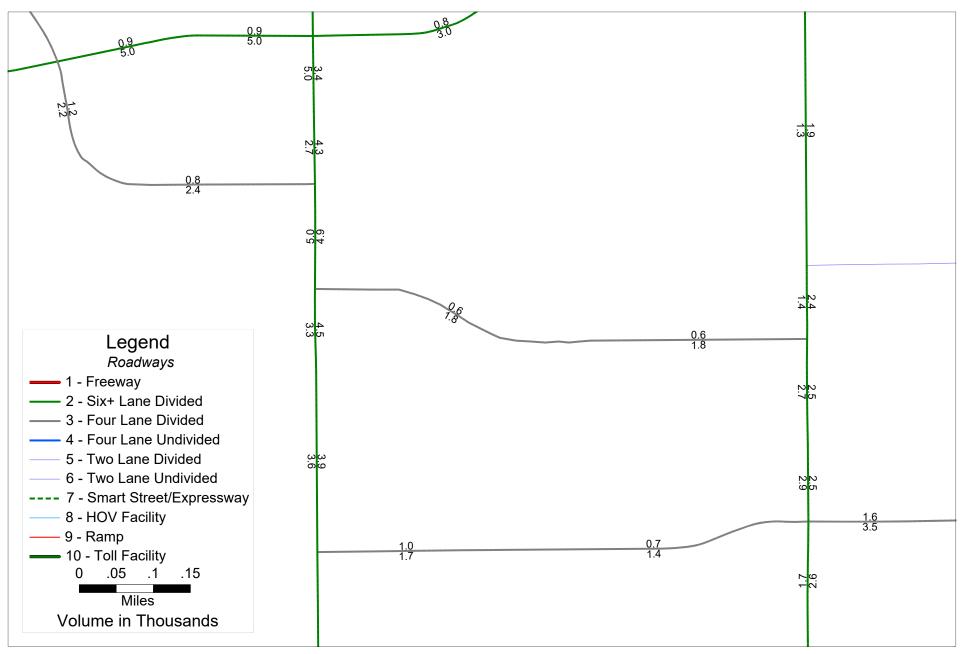
# OCTAM 5.1 Year 2019 AM Peak Forecasts Volumes in Thousands Raw volumes - DO NOT DISTRIBUTE



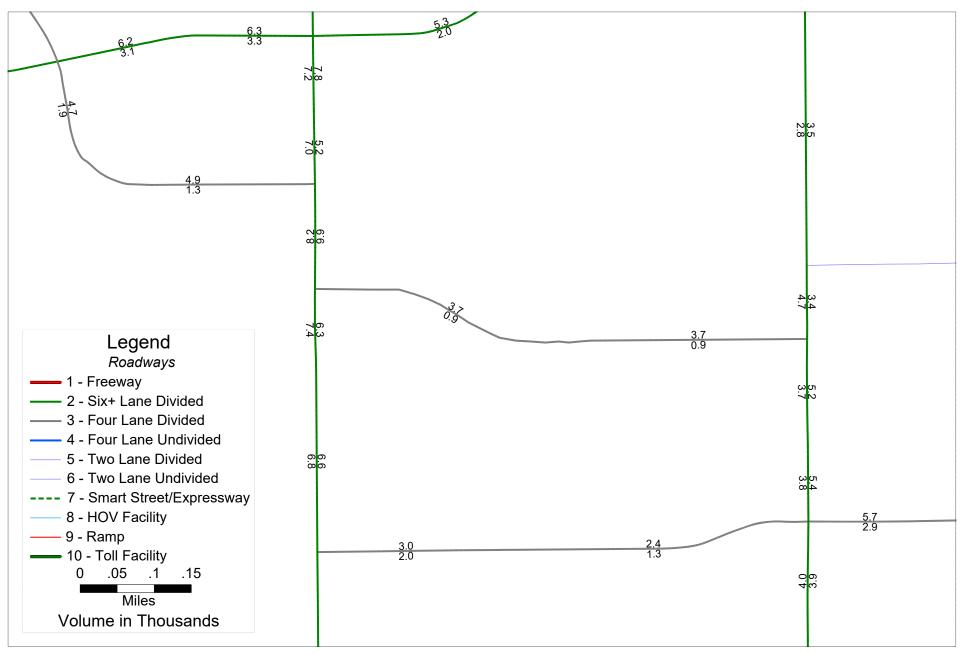
# OCTAM 5.1 Year 2019 PM Peak Forecasts Volumes in Thousands Raw volumes - DO NOT DISTRIBUTE



## OCTAM 5.1 Year 2050 AM Peak Forecasts Volumes in Thousands Raw volumes - DO NOT DISTRIBUTE



## OCTAM 5.1 Year 2050 PM Peak Forecasts Volumes in Thousands Raw volumes - DO NOT DISTRIBUTE



Merrimac Way MPAH Amendment
Year 2050 Intersection Capacity Utilization (ICU)
Analysis



Intersection: Harbor Blvd & Merrimac Way

Scenario: Year 2050 Current Peak Hr: AM Peak
Analyst: AGA Engineers, Inc. Agency: City of Costa Mesa

		No. of				Critical	
Movement	Volume	Lanes	Capacity*	V/C Ratio		V/C	Total
NB Left	26	1	1,700	26/1,700=	0.015		
NB Thru	1,463	3	5,100	1,579/5,100=	0.310	<==	
NB Right	116	0	0				
SB Left	265	2	3,400	265/3,400=	0.078	<==	
SB Thru	1,555	3	5,100	1,609/5,100=	0.315		
SB Right	54	0	0				
							0.388
EB Left	79	1	1,700	79/1,700=	0.046		
EB Thru	31	1	1,700	74/1,700=	0.044	<==	
EB Right	43	0	0				
WB Left	33	1	1,700	33/1,700=	0.019	<==	
WB Thru	11	0.5	850	11/850=	0.013		
WB Right **	121	1.5	2550	121/2,550=	0.047		
							0.063
Sum of Critical V/C	C Ratios						0.451
Adjustment for Lost Time					0.050		
Intersection Capacity Utilization (ICU)					0.501		
Level of Service (LOS) - Refer to table below					A		

		Maximum
* NOTES	LOS	V/C
Per-lane Capacity = 1,700 vehicles/hour	A	0.600
Dual left turn lane capacity = $3,400 \text{ vph}$	В	0.700
Shared lane capacity = $1,700 \text{ vph/2} = 850 \text{ vph}$	C	0.800
** WBR can clear with SBL movement; therefore,	D	0.900
WBL is used as critical movement	E	1.000
	F	N/A

Intersection: Harbor Blvd & Merrimac Way

Scenario: Year 2050 Current Peak Hr: PM Peak
Analyst: AGA Engineers, Inc. Agency: City of Costa Mesa

		No. of				Critical	
Movement	Volume	Lanes	Capacity*	V/C Ratio		V/C	Total
NB Left	44	1	1,700	44/1,700=	0.026		
NB Thru	2,013	3	5,100	2,092/5,100=	0.410	<==	
NB Right	79	0	0				
SB Left	150	2	3,400	150/3,400=	0.044	<==	
SB Thru	1,605	3	5,100	1663/5,100=	0.326		
SB Right	58	0	0				
							0.454
EB Left	46	1	1,700	46/1,700=	0.027	<==	
EB Thru	19	1	1,700	49/1,700=	0.029		
EB Right	30	0	0				
WB Left	70	1	1,700	70/1,700=	0.041		
WB Thru	37	0.5	850	37/850=	0.044		
WB Right **	300	1.5	2550	300/2,550=	0.118	<==	
							0.101
Sum of Critical V/C Ratios						0.555	
Adjustment for Lost Time						0.050	
Intersection Capacity Utilization (ICU) 0.					0.605		
Level of Service (LOS) - Refer to table below						В	

		Maximum
* NOTES	LOS	V/C
Per-lane Capacity = 1,700 vehicles/hour	A	0.600
Dual left turn lane capacity = 3,400 vph	В	0.700
Shared lane capacity = $1,700 \text{ vph/2} = 850 \text{ vph}$	C	0.800
** WBR partially clears w/SBL movement (.118044=.074); WBR	D	0.900
still remains as critical movement over WBT movement. Use 0.074	E	1.000
as Critical V/C for WB movement	F	N/A

Intersection: Harbor Blvd & Merrimac Way

Scenario: Year 2050 Proposed Peak Hr: AM Peak
Analyst: AGA Engineers, Inc. Agency: City of Costa Mesa

		No. of				Critical	
Movement	Volume	Lanes	Capacity*	V/C Ratio		V/C	Total
NB Left	26	1	1,700	26/1,700=	0.015		
NB Thru	1,463	3	5,100	1,579/5,100=	0.310	<==	
NB Right	116	0	0				
SB Left	265	2	3,400	265/3,400=	0.078	<==	
SB Thru	1,555	3	5,100	1,609/5,100=	0.315		
SB Right	54	0	0				
							0.388
EB Left	79	1	1,700	79/1,700=	0.046		
EB Thru	31	1	1,700	74/1,700=	0.044	<==	
EB Right	43	0	0				
WB Left	33	1	1,700	33/1,700=	0.019	<==	
WB Thru	11	1	1,700	11/1,700=	0.006		
WB Right **	121	1	1,700	121/1,700=	0.071		
							0.063
Sum of Critical V/O	C Ratios						0.451
Adjustment for Lost Time					0.050		
Intersection Capacity Utilization (ICU)					0.501		
Level of Service (LOS) - Refer to table below					A		

		Maximum
* NOTES	LOS	V/C
Per-lane Capacity = 1,700 vehicles/hour	A	0.600
Dual left turn lane capacity = 3,400 vph	В	0.700
** WBR can clear with SBL movement; therefore,	C	0.800
WBL is used as critical movement	D	0.900
	E	1.000
	F	N/A

#### INTERSECTION CAPACITY UTILIZATION

Intersection: Harbor Blvd & Merrimac Way

Scenario: Year 2050 Proposed Peak Hr: PM Peak
Analyst: AGA Engineers, Inc. Agency: City of Costa Mesa

		No. of				Critical		
Movement	Volume	Lanes	Capacity*	V/C Ratio		V/C	Total	
NB Left	44	1	1,700	44/1,700=	0.026			
NB Thru	2,013	3	5,100	2,092/5,100=	0.410	<==		
NB Right	79	0	0					
SB Left	150	2	3,400	150/3,400=	0.044	<==		
SB Thru	1,605	3	5,100	1,663/5,100=	0.326			
SB Right	58	0	0					
							0.454	
EB Left	46	1	1,700	46/1,700=	0.027	<==		
EB Thru	19	1	1,700	49/1,700=	0.029			
EB Right	30	0	0					
						1		
WB Left	70	1	1,700	70/1,700=	0.041			
WB Thru	37	1	1,700	37/1,700=	0.022			
WB Right **	300	1	1,700	300/1,700=	0.176	<==		
							0.159	
Sum of Critical V/C Ratios								
Adjustment for Lost Time								
Intersection Capacity Utilization (ICU)								
Level of Service (LOS) - Refer to table below								

		Maximum
* NOTES	LOS	V/C
Per-lane Capacity = 1,700 vehicles/hour	A	0.600
Dual left turn lane capacity = 3,400 vph	В	0.700
** WBR partially clears w/SBL movement (.176044=.132); WBR	C	0.800
still remains as critical movement over WBT movement. Use 0.132	D	0.900
as critical V/C for WB movement	E	1.000
	F	N/A

#### INTERSECTION CAPACITY UTILIZATION

Intersection: Fairview Rd & Merrimac Way

Scenario: Year 2050 Current/Proposed Peak Hr: AM Peak
Analyst: AGA Engineers, Inc. Agency: City of Costa Mesa

		No. of				Critical			
Movement	Volume	Lanes	Capacity*	V/C Ratio		V/C	Total		
NB Left	150	2	3,400	150/3,400=	0.044	<==			
NB Thru	891	3	5,100	891/5,100=	0.175				
NB Right	19	1	1,700	19/1,700=	0.011				
SB Left	11	2	3,400	11/3,400=	0.003				
SB Thru	810	3	5,100	810/5,100=	0.159	<==			
SB Right	158	1	1,700	158/1,700=	0.093				
							0.203		
EB Left	144	1.5	2550	144/2,550=	0.056	<==			
EB Thru	11	0.5	850	11/850=	0.013				
EB Right **	106	1	1,700	106/1,700=	0.062				
WB Left	11	0	0						
WB Thru	11	2	3,400	33/3,400=	0.010	<==			
WB Right	11	0	0						
		0.066							
Sum of Critical V/C Ratios									
Adjustment for Lost Time 0									
Intersection Capaci	Intersection Capacity Utilization (ICU) 0.3								
Level of Service (LOS) - Refer to table below  A									

		Maximum
* NOTES	LOS	V/C
Per-lane Capacity = 1,700 vehicles/hour	A	0.600
Dual left turn lane capacity = 3,400 vph	В	0.700
For low volumes a minimum of 10 vph is used	C	0.800
** EBR partially clears w/NBL movement (.062044=.018);	D	0.900
therefore, EBL is the higher critical movement	E	1.000
	F	N/A

#### INTERSECTION CAPACITY UTILIZATION

Intersection: Fairview Rd & Merrimac Way

Scenario: Year 2050 Current/Proposed Peak Hr: PM Peak
Analyst: AGA Engineers, Inc. Agency: City of Costa Mesa

		No. of				Critical		
Movement	Volume	Lanes	Capacity*	V/C Ratio		V/C	Total	
NB Left	189	2	3,400	189/3,400=	0.056	<==		
NB Thru	932	3	5,100	932/5,100=	0.183			
NB Right	11	1	1,700	11/1,700=	0.006			
SB Left	11	2	3,400	11/3,400=	0.003			
SB Thru	702	3	5,100	702/5,100=	0.138	<==		
SB Right	229	1	1,700	229/1,700=	0.135			
							0.194	
EB Left	119	1.5	2,550	119/2,550=	0.047	<==		
EB Thru	11	0.5	850	11/850=	0.013			
EB Right **	102	1	1,700	102/1,700=	0.060			
WB Left	11	0	0					
WB Thru	11	2	3,400	33/3,400=	0.010	<==		
WB Right	11	0	0					
							0.057	
Sum of Critical V/C Ratios								
Adjustment for Lost Time								
Intersection Capacity Utilization (ICU)								
Level of Service (LOS) - Refer to table below								

		Maximum
* NOTES	LOS	V/C
Per-lane Capacity = 1,700 vehicles/hour	A	0.600
Dual left turn lane capacity = 3,400 vph	В	0.700
For low volumes a minimum of 10 vph is used	C	0.800
** EBR partially clears w/NBL movement (.060056=.004);	D	0.900
therefore, EBL is the higher critical movement	E	1.000
	F	N/A



### Public Works & Sustainability

cityofirvine.org

1 Civic Center Plaza, P.O. Box 19575, Irvine, California 92623-9575

949-724-7365

October 7, 2024

Kia Mortazavi Executive Director, Planning Orange County Transportation Authority 550 South Main Street Orange, CA 92863-1584

# RE: Master Plan of Arterial Highways (MPAH) Amendment Request – Yale Avenue between Michelson Drive and University Drive

Dear Mr. Mortazavi,

The City of Irvine is requesting an amendment of the MPAH for Yale Avenue between Michelson Drive and University Drive to change the segment from Secondary Arterial to Commuter Arterial. This designation would include one through lane in each direction and a left-turn lane at intersections.

The segment of Yale Avenue between Michelson Drive and University Drive is currently a two-lane (one lane each direction) Commuter arterial roadway. In the Orange County MPAH, this segment is identified as a four-lane (two lanes each direction) Secondary arterial roadway. Currently, the segment of Yale Avenue north of Michelson is connected to a bike and pedestrian only bridge over I-405. The segment of Yale Avenue between Michelson Drive and Yale Loop including the bridge over I-405 is classified as a two-lane (one lane each direction) Commuter arterial roadway in the MPAH network.

The current configuration of Yale Avenue between Michelson Drive and University Drive includes a 24-foot-wide travel lane and an 8-foot-wide Class II bike lane in each direction. After analysis and community engagement, the City is planning to maintain the existing number of travel lanes, but reduce the wider than necessary lane widths and reallocate a portion of the roadway width to better serve the community by adding a Class IV bikeway (refer to Attachment 1 for location map). The implementation will address concerns along the existing roadway, such as speeding, wrong way riding of bicycles, and conflicts between bicyclists and pedestrians on sidewalks. It is also intended to accommodate the increasing use of bicycles by students going to and from the middle school in the project area and the high school to the south. The project will also enhance bicycling facilities and provide additional opportunities for low stress and multimodal travel within the City.

The Class IV bikeway will be added to the two-lane configuration within the existing roadway. The proposed roadway configuration is depicted in Attachment 2 and consists of the following:

- An 11-foot travel lane in each direction
- A cycle track for dedicated bicycle travel, separated by either a landscaped buffer (7-14 feet wide) or raised concrete buffer (3-7 feet wide) where appropriate

Master Plan of Arterial Highways Amendment Request – Yale Avenue between Michelson Drive and University Drive Page 2 of 2

The project will also include improved crosswalks and signal enhancements for bicyclists and pedestrians and provide support for circulation to the adjacent Middle School, providing significant benefits including improved safety for all roadway users and enhanced quality of life.

The daily traffic volumes on this segment of Yale Avenue range from 1,230 to 1,770 vehicles per day based on traffic counts collected in November 2022. The City's traffic model forecasts the buildout volumes to be between 6,300 and 6,800 for the two-lane arterial configuration with the I-405 Vehicular overcrossing. The MPAH roadway capacity values indicate that a two-lane undivided arterial can accommodate 13,000 vehicles per day while still maintaining favorable performance conditions. In addition, a traffic analysis (Attachment 3) was conducted and showed that this segment of Yale Avenue is forecast to operate at Level of Service (LOS) C or better in the buildout scenarios. Therefore, the proposed MPAH amendment can support existing and forecast traffic volumes per adopted performance criteria.

Thank you for your consideration regarding this request. If you have any questions, please feel free to contact Wendy Wang, Supervising Transportation Analyst at 949-724-7438 or <a href="https://www.ng@cityofirvine.org">www.ng@cityofirvine.org</a>.

Sincerely,

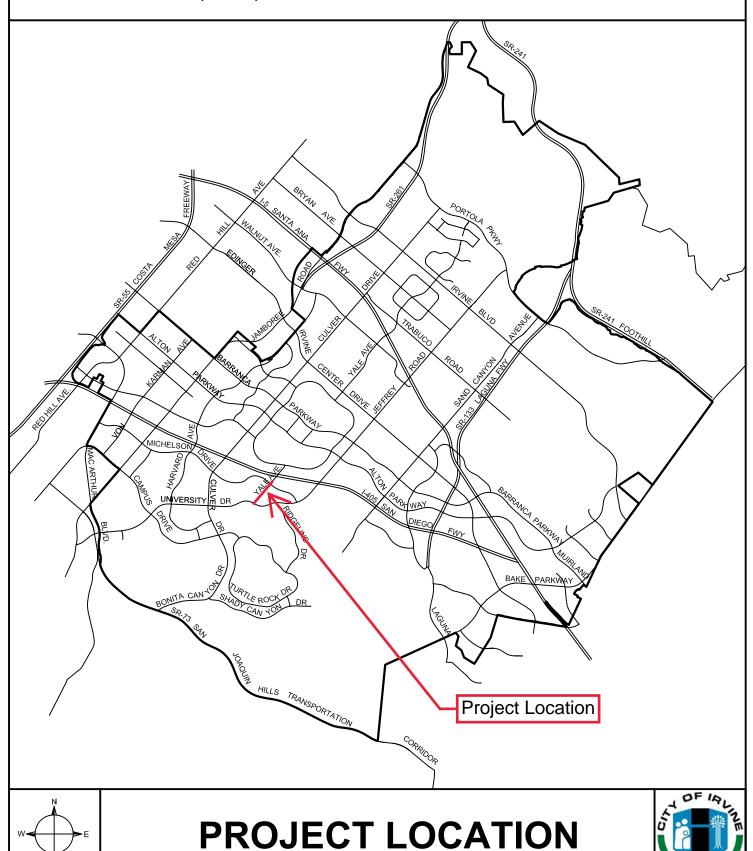
# Sean Crumby

Sean Crumby
Director
Public Works & Sustainability Department

#### Attachments:

- 1. Location Map
- 2. Yale Avenue Class IV Concept Plans
- 3. South Yale Corridor Improvement Project Report

# IRVINE CITYWIDE CATCH BASIN CONNECTOR PIPE SCREEN (CPS) INSTALLATION PHASE 4 PROJECT



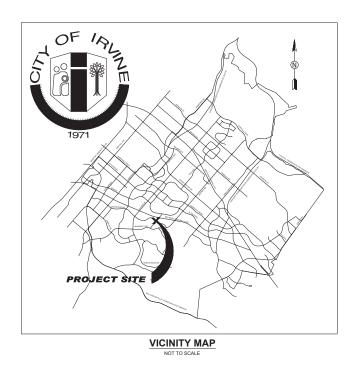
# CONSTRUCTION PLANS FOR THE IMPROVEMENT OF

# SOUTH YALE CORRIDOR IMPROVEMENTS

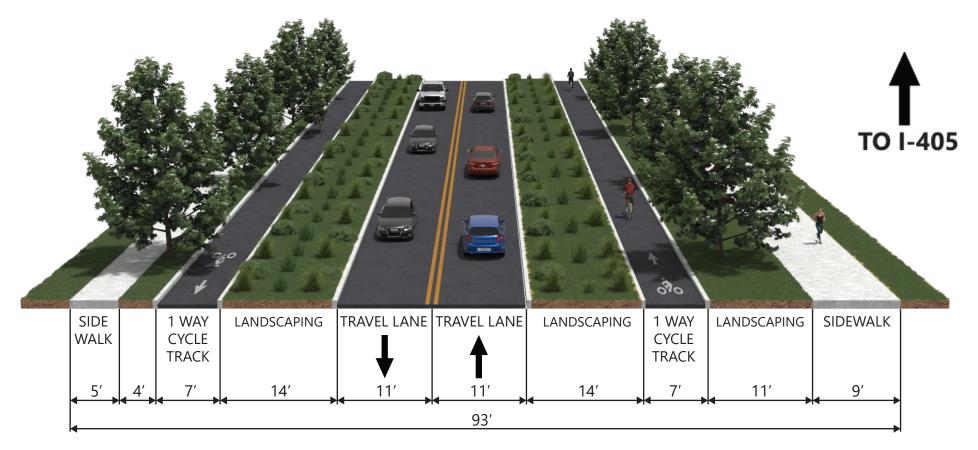
CIP# 312204

#### INDEX OF DRAWINGS

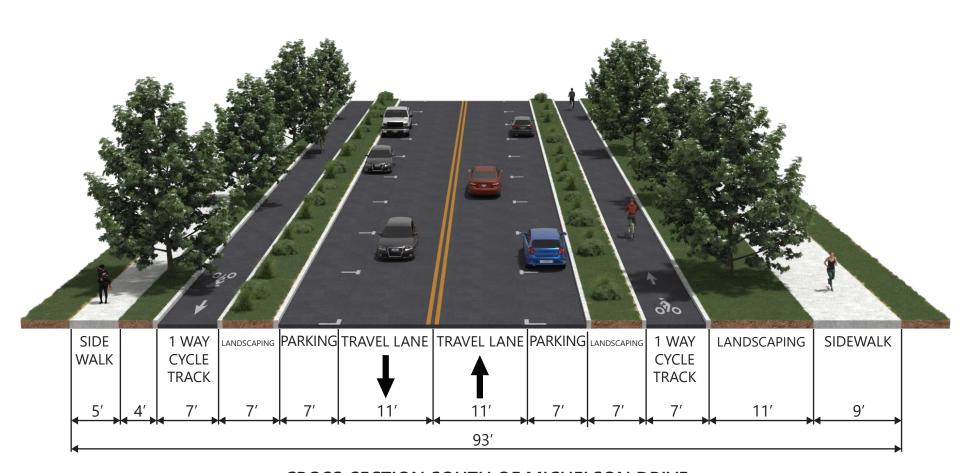
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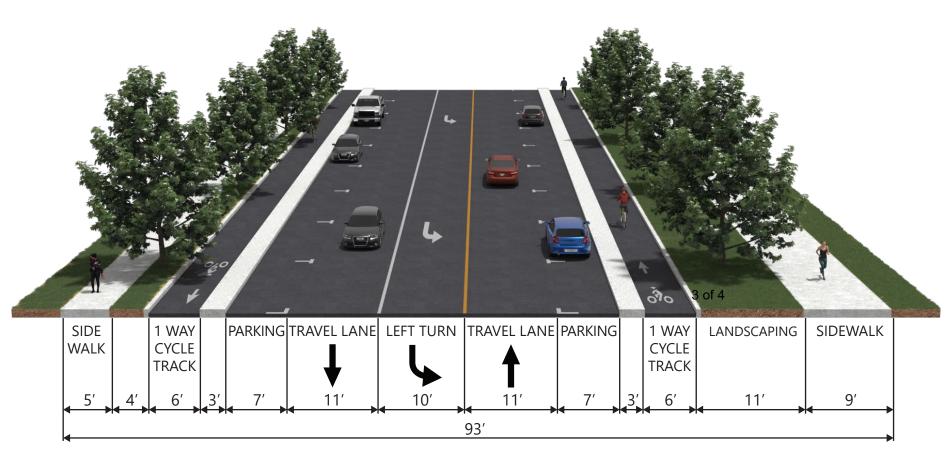




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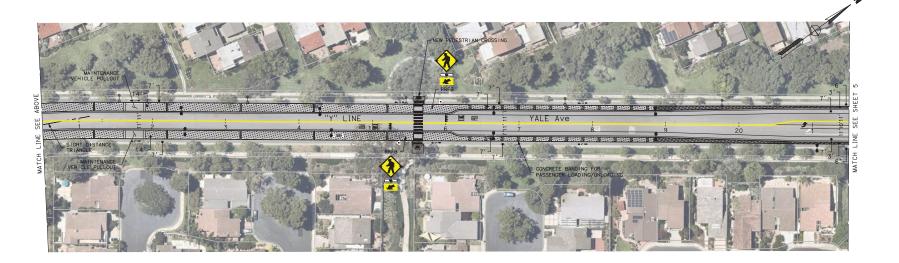
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PLW PREPARED OF:

A THOMAS

MARK THOMAS

ACCOMPANY
2121 ALTON PARKWAY, SUITE 210

IRVINE, CA 32606

DESIGN ENGINEER R.C.E. No.

SOUTH YALE CORRIDOR IMPROVEMENTS LAYOUT

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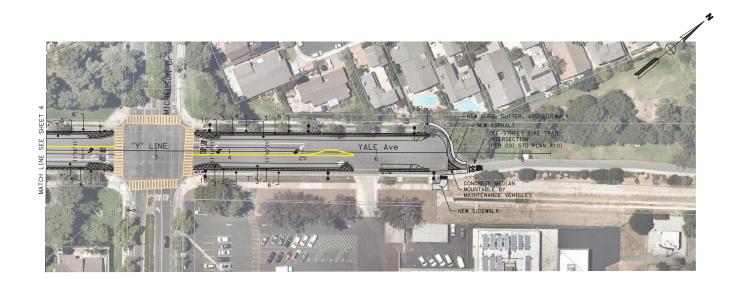
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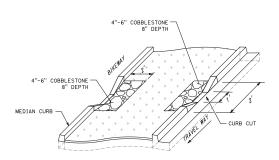
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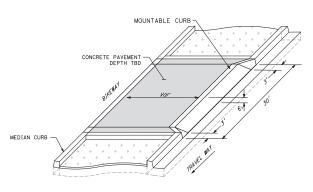
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PLANTER MEDIAN CURB CUT AND COBBLESTONE DETAIL

NO SCALE



MAINTENANCE VEHICLE PULLOUT

NO SCALE

**30% CONCEPT PLANS** 



PAN PREPARED OF:

MARK

THOMAS

MARK THOMAS & COMPANY
2121 ALTON PARKWAY, SUITE 210

INVINE, CA 25606

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SOUTH YALE CORRIDOR IMPROVEMENTS LAYOUT

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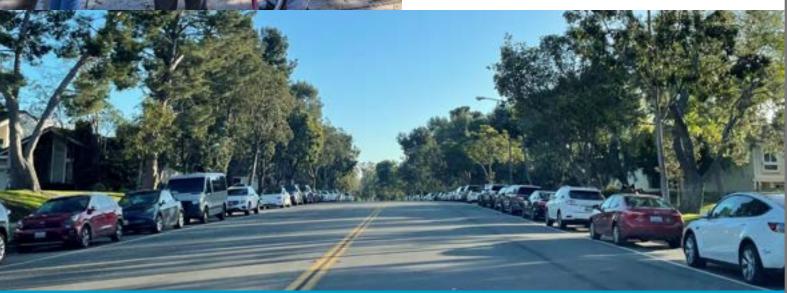
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CIP NO.

312204









# SOUTH YALE CORRIDOR IMPROVEMENTS PROJECT

Project Report

April 2024
CIP No. 312204

prepared for:







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Attachment F – Yale Avenue and University Drive Bike and Pedestrian Traffic Analysis



# I. Introduction

The South Yale Corridor Improvements Project (Project) is located in the City of Irvine (City) along Yale Avenue between Interstate 405 (I-405) and University Drive. Originally identified in the City's 2020 Strategic Active Transportation Plan, the Project recommends improvements to multi-modal mobility and access along Yale Avenue to address City goals of reducing greenhouse gas emissions, diversifying mobility options, and improving safety. The Project study corridor is within the University Park community, adjacent to Rancho San Joaquin Middle School (RSJMS), and connects to the University Trail off-street multi-use path within the OC Parks managed William R. Mason Regional Park.

The Project boundaries are approximately 350-feet north of Michelson Drive to the north and University Drive to the south, which covers a distance of 2,700-feet. The segment of Yale Avenue that's located in the study area currently includes landscaped parkways, sidewalks, onstreet bike lanes (Class II bikeways), and two travel lanes. Marked crosswalks exist at the Yale Avenue and University Drive intersection and the Yale Avenue and Michelson Drive intersection. The 64-feet wide roadway is considered for redesign to improve current mobility and traffic operation. Potential Project benefits include but are not limited to:

- Improved safety for all roadway users;
- Diversified travel options; enhanced connections to the City's off-street trail network;
- Reduced air, noise, and stormwater pollution; and
- Community-building and increased quality of life with recreational opportunities.

Through agency review and significant community engagement activities, a roadway cross-section concept was approved and advanced to conceptual engineering design and environmental review. The Project improvements include modifications at three (3) intersections and a designated pedestrian crossing located approximately 715-feet south of Michelson Drive.

The proposed roadway cross-section recommends the following:

- One-way cycletracks (Class IV bikeway) in each direction,
- raised buffer,
- some on-street motor vehicle parking, and
- one motor vehicle travel lane in each direction.

Time restricted parking will be allowed north and south of Michelson for approximately 700 feet, then a wider raised landscaped buffer will be provided. The Project modifications are planned to occur within the existing curb-to-curb width. The Project recommends signage,



pavement markings, and intersection modifications at the Yale Avenue/Michelson Drive intersection and signage, pavement markings, and traffic signal modifications at the Yale Avenue/University Drive intersection. Additional recommendations include pedestrian crossing enhancements such as improved signing and striping, and reduced crossing distance as a result of the cycletracks' raised buffers.

Construction is anticipated to have a duration of approximately one (1) year.

# II. Background

# A. Project History

The South Yale Avenue corridor was originally identified in the City's 2020 Strategic Active Transportation Plan (SATP) as an opportunity to implement enhanced bicycle facilities, with the SATP recommending buffered Class II bicycle lanes or a Class IV separated cycletrack. In the recently adopted 2024 Sustainable Mobility Plan (SMP), Class IV separated bikeway (cycletrack) is also proposed along Yale Avenue south of I-405. Yale Avenue currently is striped for two (2) travel lanes while the roadway width can accommodate four (4) travel lanes. In the adopted General Plan Circulation Element, Yale Avenue is classified as a secondary highway between University Drive and Michelson Drive. North of Michelson Drive, Yale Avenue is classified as a commuter highway with a planned vehicular overcrossing over I-405.

# **B. Previous Community Interaction**

The Project was a recommendation of the City's SATP and SMP, both of which incorporated robust community engagement in their development. Engagement methods included social media posts (i.e. Facebook, Twitter, Nextdoor), email communication, online mapping, surveys, and other in person events. The online mapper and online survey allowed community members to provide anecdotal feedback on a geo-coded map that highlighted the community's areas of interest.

# III. Existing Facility

As shown in Figure 1, the Project is located along Yale Avenue and entirely within the Cityowned ROW. The curb-to-curb width for the entire Project limit is 64-feet. The Project distance measures at approximately 2,700 feet in length, with the north extent starting 300 feet north of Michelson Drive and extending south to University Drive. The posted speed limit along Yale Avenue is 40 miles per hour between University Drive and Royce Road and is 45 miles per hour between Royce Road and Michelson Drive.

The Project connects to existing bicycle and pedestrian facilities on both ends. To the north, the Project connects to a Class I path that provides connectivity to the pedestrian and bicycle



bridge over I-405. To the south, the Project provides access to the University Trail off-street multi-use path via the Yale Avenue and University Drive intersection crosswalk's western leg. Sidewalks exist on both sides of Yale Avenue. The east side of the roadway provides a wider 9-foot width whereas the west sidewalk is 5-feet wide. Marked crosswalks exist at the Yale Avenue intersections with University Drive and Michelson Drive. The intersection at University Drive provides crosswalks on the west and north intersection legs only. A community paseo connects to the sidewalks on both the east and west sides of Yale Avenue approximately 700-feet south of Michelson Drive. The mid-block paseo south of Michelson Drive does not include a marked crosswalk, pedestrian curb ramp, or other pedestrian crossing features.

# **Existing Adjoining Land Uses and Facilities**

#### 1. Land Uses

The Project is adjacent to several land use types that impact its functionality, including low and medium density residential, the RSJMS educational facility, and the William M. Mason Park recreational area. On the west side of Yale Avenue between Royce Road and University Drive and Michelson Drive and the I-405, there is zoning for low-density residential (0-5 units per acre). On the east side of the Project area and west side between Royce Road and Michelson Drive, the land is zoned for medium-density residential (0-10 units per acre). The only non-residential land use within the Project area is at RSJMS. Nearby land uses include parks and medium high density residential (0-25 units per acre). Figure 2 identifies land uses and key destinations within the study area.

The Project is primarily surrounded by residential land uses to the east and west, with no residential units fronting Yale Avenue. Permanent on-street parking within the project limit is currently prohibited. Temporary parking occurs on special occasions through special permits during RSJMS school events. As seen in Section IV. Traffic Data, the majority of average daily traffic along the corridor occurs in the morning peak period reflecting an overlap in morning commutes and school drop-off times.

RSJMS is located adjacent to the northern study limits and directly influences Yale Avenue traffic, especially during the school year from August to June. Traffic and parking are particularly affected during morning drop-off, afternoon pick-up, and school special events. Although the school driveway along Michelson Drive is the designated drop-off location, a considerable number of students are dropped off along Yale Avenue. Additionally, many students walk and bicycle to school along the existing sidewalks along Yale Avenue.

William R. Mason Park is located at the southern end of the study area and provides bicycle and pedestrian connectivity to land uses adjacent to the Project location. Adjacent to the



intersection of Yale Avenue and University Drive in William R. Mason Park is environmentally sensitive OC Parks land that limits development.

Yale Avenue is located within 2-miles of various pedestrian generators including parks, multiuse paths, trails, schools, hospitals and health care facilities, senior centers, recreation centers, libraries, transit stations, retail, places of worship, office facilities, and bus stops. The closest destinations and trip generators near the Project area include University Community Park and the Adventure Playground, University Elementary School, OC Library- University Park, Parkview Shopping Center, and University Park Shopping Center, which can be accessed via Michelson Drive and University Drive. Other nearby destinations include the University of California Irvine, Concordia University Irvine, South Lake Middle School, Rancho Senior Center, Woodbridge Community Park, Hoag Hospital, and Kaiser Permanente Medical Center.

#### 2. Facilities

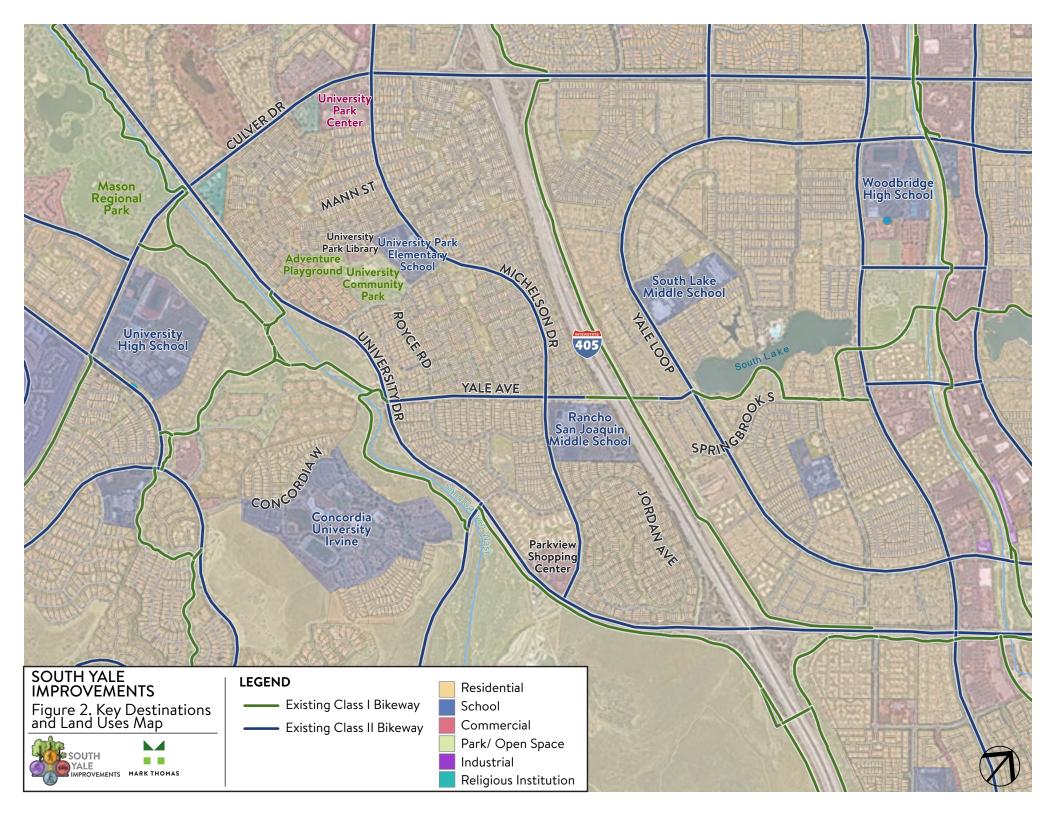
The Project intersects or connects to several facilities including I-405 pedestrian and bicycle bridge, Michelson Drive, Royce Road, University Drive and University Trail. The I-405 pedestrian and bicycle bridge is located north of the study area and provides a connection between the Project area and the Class II bike lanes on Yale Avenue and Yale Loop north of the freeway.

Michelson Drive is an east-west commuter roadway that intersects Yale Avenue south of the Project's northern terminus and the I-405 pedestrian and bicycle bridge. The two-lane Michelson Drive features Class II bike lanes on both sides and includes a landscaped center median. The posted speed limit along Michelson Drive is 35 MPH. The stop-controlled intersection with Yale Avenue provides high-visibility crosswalks, curb ramps, and tactile bumps at each leg of the intersection.

Royce Road is an east-west residential street that intersects with Yale Avenue south of the Michelson Drive intersection. The Yale Avenue and Royce Road intersection does not feature marked crossings but does provide curb ramps with tactile bumps at each leg of the intersection.

Located at the southern Project limits, University Drive is a four-lane Primary roadway with Class II bike lanes on both sides. The posted speed limit on University Drive is 50 MPH east of Yale Avenue and 55 MPH west of Yale Avenue. The signalized intersection at University Drive and Yale Avenue features crosswalks on the west and north legs along with curb ramps and tactile bumps. Pedestrian crossing is prohibited on the east leg. The University Trail multi-use path is located south of the Project limits and can be accessed via the western leg crosswalk of the Yale Avenue and University Drive intersection. University Trail connects to several trails that provide access to destinations including William R. Mason Park, University High School and Concordia University.







# IV. Traffic Data

# **A. Existing Traffic Conditions**

Traffic counts were performed on Tuesday 15th and Wednesday 16th of November 2022. Morning peak period (AM) and afternoon peak period (PM) traffic counts were collected between 7:00 AM to 9:00 AM and 2:30 PM to 6:00 PM, respectively, along with roadway average daily traffic (ADT) counts. Table 1 summarizes the motor vehicle traffic count data. Generally, the highest traffic volumes were observed during the morning peak period, aligning with morning commutes and the RSJMS drop-off time. Almost half of the observed daily traffic along Yale Avenue north of Michelson Drive occurred during the morning peak period. Yale Avenue south of Royce Road had higher traffic volumes than north of Royce Road.

**Table 1 - Daily and Peak Period Traffic Summary** 

Location	ADT	AM Peak	PM School Peak	PM Evening	AM Peak %	PM School Peak%	PM Evening%
Yale Avenue north of Michelson Drive	540	250	135	8	46%	25%	1%
Yale Avenue north of Royce Road	1,230	253	188	89	21%	15%	7%
Yale Avenue south of Royce Road	1,770	295	217	133	17%	12%	8%

The Yale Avenue intersection movement counts are shown in Table 2 for the two days of collected counts. Traffic volumes at the three intersections show higher volumes at the Yale Avenue and University Drive intersection reflecting the higher volumes along University Drive.



**Table 2 - Yale Avenue Intersection Movement Counts by Period** 

Intersection	Date	Peak	Hour Starting	TOTAL
		AM	7:45 AM	710
	Tue, Nov 15, 2022	PM	2:30 PM	581
		PM	4:45 PM	597
		AM	7:45 AM	753
Yale/Michelson	Wed, Nov 16, 2022	PM	2:30 PM	604
		PM	4:45 PM	575
		AM	7:45 AM	732
	Average	PM	2:30 PM	593
		PM	4:45 PM	586
		AM	7:45 AM	380
	Tue, Nov 15, 2022	PM	2:15 PM	285
		PM	4:45 PM	214
		AM	7:45 AM	385
Yale/Royce	Wed, Nov 16, 2022	PM	2:15 PM	291
		PM	4:45 PM	177
		AM	7:45 AM	383
	Average	PM	2:15 PM	288
		PM	4:45 PM	196
		AM	7:45 AM	2,393
	Tue, Nov 15, 2022	PM	2:30 PM	1,578
		PM	4:45 PM	2,556
		AM	8:00 AM	2,373
Yale/University	Wed, Nov 16, 2022	PM	2:30 PM	1,651
		PM	4:45 PM	2,544
		AM	8:00 AM	2,383
	Average	PM	2:30 PM	1,615
		PM	4:45 PM	2,550



Intersection Level of Service (LOS) analysis was prepared during the AM, PM, and school peak hours for Existing conditions and results are shown in Table 3. Under Existing conditions, the study intersections are operating at acceptable LOS (LOS C or better) during both AM and PM peak periods.

**Table 3 - Existing Conditions Intersection Peak Hour LOS** 

		Methodology	Existing					
#	Intersection		AM		Evening PM		School PM	
			V/C	LOS	V/C	LOS	V/C	LOS
			Delay		Delay		Delay	
1	Yale Ave and Michelson Dr	HCM <sup>1</sup> 4-WSC <sup>2</sup>	17.7	С	14.0	В	13.3	В
2	Yale Ave and Royce Rd	HCM 2-WSC <sup>3</sup>	17.9	С	10.6	В	10.6	В
3	Yale Ave and University Dr	ICU⁴	0.53	Α	0.48	Α	0.32	Α

As shown in Table 4, the roadway segment analysis illustrates Yale Avenue operations at LOS A for Existing conditions.

**Table 4 - Existing Conditions Roadway Study Segment LOS** 

#	Commont	Existing					
	Segment	Туре	<b>Total Capacity</b>	ADT	V/C	LOS	
Α	Yale Ave North of Michelson Dr	Commuter	13,000	540	0.04	Α	
В	Yale Avenue between Michelson Drive and Royce Road	Commuter	13,000	1,230	0.09	А	
С	Yale Avenue between Royce Road and University Drive	Commuter	13,000	1,770	0.14	А	

Table 5 and Figure 3 show the total active transportation movement counts during AM (7AM-9AM) and PM (2PM-6PM) periods (six hours) at the study intersections and at I-405 overcrossing by mode. The highest pedestrian movement is at Yale Avenue and Michelson Drive directly adjacent RSJMS. Bicycle counts show more even distribution throughout the study area, suggesting bicyclists traverse the entire study corridor while pedestrians are either walking to nearby homes or loading by automobile along adjacent streets. This observation was supported by field observations. Scooters and skateboards were observed as a less common travel mode, with a total of 53 and 10 observed respectively.

<sup>&</sup>lt;sup>1</sup> Highway Capacity Manual 6<sup>th</sup> Edition

<sup>&</sup>lt;sup>2</sup> Four-way stop controlled

<sup>&</sup>lt;sup>3</sup> Two-way stop controlled

<sup>&</sup>lt;sup>4</sup> Intersection Capacity Utilization



**Table 5 - November 2022 AM and PM Periods Active Transportation Counts** 

Mode	I-405 Overcrossing	Yale/Michelson	Yale/Royce	Yale/University	Total by Mode
Pedestrians	107	397	150	82	735
Bicyclists	88	194	160	192	634
Scooter	6	20	10	18	53
Skateboard	1	5	2	2	10
Total by Segment	201	616	321	294	1431

Total Active Transportation Counts 6 Hour (7-9 AM + 2-6 PM)

Peds Bikes Scooter Skateboard

I-405 Michelson Royce University

#### **B. Buildout Conditions**

In the adopted General Plan Circulation Element, Yale Avenue is classified as a secondary highway between University Drive and Michelson Drive. North of Michelson Drive, Yale Avenue is classified as a commuter highway with a planned vehicular overcrossing over I-405. The City has coordinated with OCTA regarding implementation of the Project and the Project does not intend to formally change the OCTA managed Master Plan of Arterial Highways (MPAH) classification of Yale Avenue.

Since the City General Plan identifies the potential future construction of Yale Avenue over I-405 to serve car traffic, additional traffic scenarios were analysis with and without the roadway crossing. Therefore, the following four (4) buildout conditions are evaluated for traffic analysis considering the possibility of a vehicular overcrossing and the number of vehicle travel lanes on Yale Avenue:



- I-405 Vehicular Overcrossing (OC) with Four-Lane Yale Avenue
- I-405 Vehicular OC with Two-Lane Yale Avenue
- No I-405 Vehicular OC with Four-Lane Yale Avenue
- No I-405 Vehicular OC With Two-lane Yale Avenue

The study intersection forecast LOS analysis was prepared during the AM and PM peak periods as shown in Table 6.

Table 6 - Forecast Buildout Conditions Study Intersection Peak Hour LOS

			Buildout Year I-405 Buildout Year Vehicular OC I-405 Vehicular OC With Four-Lane Yale Ave Yale Ave		Buildout Year No I-405 Vehicular OC With Four-Lane Yale Ave		Buildout Year No I-405 Vehicular OC With Two-Lane Yale Ave			
#	Intersection	Methodology	AM	PM	AM	PM	AM	PM	AM	PM
			LOS	LOS	LOS	LOS	LOS	LOS	LOS	LOS
1	Yale Avenue and Michelson Drive	HCM <sup>5</sup> 4-WSC <sup>6</sup>	F	F	F	F	С	С	С	С
2	Yale Avenue and Royce Road	HCM 2-WSC <sup>7</sup>	E	С	E	С	С	В	С	В
3	Yale Avenue and University Drive	ICU <sup>8</sup>	В	Α	В	Α	В	Α	В	Α

N/A = Not Applicable

The following intersections under buildout year I-405 vehicular OC with four-lane Yale Avenue are expected to operate at LOS E or worse during either AM or PM peak hours:

- Yale Avenue and Michelson Drive (AM LOS F | PM LOS F for four-way stop-controlled operation)
- Yale Avenue and Royce Road (AM LOS E for two-way stop-controlled operation)

The following intersections under buildout year I-405 vehicular OC with two-lane Yale Avenue are expected to operate at LOS E or worse during either AM or PM peak hours:

- Yale Avenue and Michelson Drive (AM LOS F | PM LOS F for four-way stop-controlled operation)
- Yale Avenue and Royce Road (AM LOS E for two two-way stop-controlled operation)

Signalization is identified as a potential improvement to provide acceptable LOS at Yale Avenue and Michelson Drive as it meets signal warrants. A four-way stop controlled

<sup>&</sup>lt;sup>5</sup> Highway Capacity Manual 6<sup>th</sup> Edition

<sup>&</sup>lt;sup>6</sup> Four-way stop controlled

<sup>&</sup>lt;sup>7</sup> Two-way stop controlled

<sup>&</sup>lt;sup>8</sup> Intersection Capacity Utilization



intersection at Yale Avenue and Royce Road is identified as a potential improvement to reduce delay.

The study roadway segment forecast LOS analysis was prepared for daily traffic as shown in Table 7.

**Table 7 - Buildout Conditions Roadway Study Segment LOS** 

#	Segment	Buildout Year I-405 Vehicular OC with Four-Lane Yale Ave	Buildout Year I-405 Vehicular OC with Two-Lane Yale Ave	Buildout Year No I-405 Vehicular OC with Four-Lane Yale Ave	Buildout Year No I-405 Vehicular OC with Two-Lane Yale Ave
"		LOS	LOS	LOS	LOS
Α	Yale Avenue North of Michelson Drive	D	D	А	А
В	Yale Avenue between Michelson Drive and Royce Road	А	А	А	А
С	Yale Avenue between Royce Road and University Drive	А	А	А	А

As shown in Table 7, the study segments are forecast to operate at acceptable LOS (LOS D or better) operations under all four buildout conditions scenarios.

#### **Collision Data**

Within the study area, a total of six collisions were recorded between March 2016 and March 2018 and are identified in Figure 4. Of the six collisions, four property damage only collisions were reported at the intersection of Yale Avenue and University Drive. At the intersection of Yale Avenue and Michelson Drive two collisions with bicyclists are recorded near the south leg crosswalk.





# V. Deficiencies and Justifications

The City of Irvine General Plan Circulation Element designates Yale Avenue as a secondary highway, where secondary highways provide for the movement of traffic between planning areas and/or the movement of traffic to and from activity centers within planning areas. North of Michelson Drive and over I-405, Yale Avenue is designated as a commuter highway. A commuter highway functions primarily as a collector facility which has the ability to handle through traffic movements between arterials. However, the commuter highway segment over I-405 remains undeveloped, resulting in Yale Avenue being built for more vehicular travel lanes than needed for traffic demands.

In addition to an excess roadway ROW for current traffic demand, the existing bicycle facilities along Yale Avenue are not separated from motor vehicles. The feedback from the Project's community engagement largely supported a separated cycletrack along Yale Avenue to lower the bicyclist level of stress which in turn can improve multi-modal conditions and encourage more bicycle trips. As shown by the 2023 United States Federal Highway Administration (FHWA) study titled "Developing Crash Modification Factors for Separated Bicycle Lanes", converting a Class II bike lane to a Class IV separated bikeway yields a 50% or more reduction in crashes. Implementation of lower stress bicycle facilities may encourage additional pedestrian trips through increased separation from moving car traffic and with less cyclists use of the sidewalk.

The community also noted an absence of pedestrian crossings, particularly at the community paseos south of Michelson Drive. The FHWA utilizes a chart for pedestrian crash countermeasures by roadway features, included in the "Guide for Improving Safety at Uncontrolled Crossing Locations". The City also considers factors such as posted speed limits, number of vehicle lanes, and vehicle and pedestrians volumes for installation of countermeasures at uncontrolled crossing. A Rectangular Rapid Flashing Beacon (RRFB) is proposed in conjunction with the proposed pedestrian crosswalk under the Project location conditions.

Other identified Project corridor challenges include:

- The lack of a crosswalk on the east leg of the Yale Avenue and University Drive intersection.
- Bicycle riding behavior observed along sidewalks introduces potential conflicts with pedestrians.
- Bicyclists counter-flow riding observed within the roadway introduces potential conflicts with other bicyclists and vehicles.



 An unmarked crossing at Royce Road intersection where there are sight distance concerns.

The Project will address existing challenges and reconfigure underutilized roadway space to provide improved bicycle facilities with a higher level of comfort and enhance pedestrian facilities for those who walk and bicycle and roll (skateboard, scooter, etc.) along Yale Avenue.

# **VI.** Project Description

# A. Proposal and Alternatives

Criteria was developed to support an evaluation of potential bicycle facility and roadway elements in December 2022. The criteria sought to identify positive outcomes or avoidance of issues of potential roadway concepts. The criteria included the following:

- Explores a new bikeway concept;
- Offers low stress bicycle facilities;
- Offers low stress pedestrian facilities;
- Provides direct access to University Trail and William R. Mason Regional Park;
- Provides direct access to RSJMS;
- Avoids conflicts with RSJMS parking and circulation;
- Matches drivers expectations;
- Avoids tree impacts;
- Impose minor impact on traffic operations;
- Allows for center medians or raised buffers;
- Avoids utility impacts;
- Avoids requiring new maintenance equipment; and
- Avoids complex reconfiguration of University Drive signal operations.

Potential roadway concepts evaluated through the criteria included the following:

- Two-way Class IV (cycletrack) on east side;
- Two-way Class IV (cycletrack) on west side;
- Class I (multi-use path) on east side;
- Class I (multi-use path) on west side;
- One-way Class IV (cycletrack) on both sides; and
- Class II (on-street bike lanes) with median (similar to Michelson Drive).



Utilizing the criteria, the concepts were narrowed to four (4) cross-section alternatives for subsequent public review and are shown in Attachment B – Cross Section Alternatives. The four alternatives included:

- 1. Alternative 1: 2-Way Class IV (Cycletrack) -West Side
  - a. Provides a 12' wide two-way cycletrack with a 4' landscaped median on the west side of the roadway. Provides one 11' vehicle travel lane and parking is available on both sides of the roadway. Includes a 10' middle two-way turn lane.
- 2. Alternative 2: 2-Way Class IV (Cycletrack) -West Side Hybrid
  - a. Provides a 12' wide two-way cycletrack with a 4' landscaped median on the west side of the roadway. Provides one 12' vehicle travel lane and 6' buffered Class II bike lane in each direction. Parking is available only on the east side of the roadway.
- 3. Alternative 3: 1-Way Class IV (Cycletrack)
  - a. Provides a 7' one-way cycletrack, 5' landscaped median, and one 12' vehicle travel lane in both directions. Parking is available on both sides of the roadway.
- 4. Alternative 4: Class II Buffered Bike Lanes and Widened Shared Use Path
  - a. A 6' Class II bike lane, 3' buffer, and 12' vehicle travel lane is provided in each direction. A 14' median runs along the center of the roadway.

# 1. Preferred Project

Based on public feedback, Alternative 3, a one-way Class IV (cycletrack), was identified as the most desired Project cross-section. The public's support for the one-way Class IV (cycletrack) concept was documented during the second community workshop, where potential cross-sections were presented, and during the second public survey, where participants were asked to identify and rank the Project alternatives. The public's endorsement of Alternative 3 was further demonstrated through a Southern California Association of Governments (SCAG) *Go Human* demonstration event. One-way Class IV (cycletracks) were temporarily installed between Michelson Drive and Royce Road with materials from the SCAG *Go Human* Kit of Parts. This event provided an opportunity for the public to experience the Alternative 3 concept firsthand and provide immediate feedback. Alternative 3 was further refined with more design features in the finalized concept.



# The preferred Project concept includes:

- One-way Class IV (cycletracks) on each side of the roadway that are 6 to 7-feet wide with raised landscaped/concrete buffers.
- New and modified pavement delineation (striping) and signage.
- Parking and passenger loading/unloading zones adjacent to the landscaped/concrete buffers between north end of Yale Avenue and the community paseo approximately 700 feet south of Michelson Drive. Approximately 46 vehicles could park south of Michelson Drive and 19 could park north of Michelson Drive after implementation of the Project.
- Reduced crossing distances for pedestrians at all intersections and the paseo (via the Class IV cycletrack buffers).
- High-visibility crosswalk markings, advanced yield lines, pedestrian refuge islands (via the Class IV cycletrack buffers), and installation of a Rectangular Rapid Flashing Beacons (RRFB) traffic control device at the paseo approximately 700 feet south of Michelson Drive.
- Traffic signal modifications for bicycle operations and green crossbike paint at the Yale
  Avenue and University Drive intersection. Additional improvements at the Yale Avenue
  and University Drive intersection include modification to the southwest corner guard rail
  for a widened and upgraded ADA curb ramp within City ROW.
- Additional streetlights throughout the Project area.
- New sidewalk, curb, and gutter at north end of Yale Avenue to connect to the pedestrian and bicycle I-405 overcrossing.

The proposed Project recommends modification to the traffic signal operations to provide a dedicated phase to allow bicyclists and pedestrians to cross University and for northbound cyclists to access the cycletrack. The traffic signal modifications are included in the cost estimates for the project and the operations have been reviewed assuming the signal phasing operations which is not forecast to cause deficient level of service operations.

The preferred Project improvements are located within the existing City owned ROW and will have minimal impacts on existing landscaping and sidewalks. Project benefits include but are not limited to a reduction in roadway collisions; diversified travel options; enhanced connections to the City's off-street trail network; reduced air, noise, and stormwater pollution; reduced motorist speeding behavior, and community-building and increased quality of life with recreational facilities.





Figure 5 —Bicyclists riding in the temporary Class IV cycletrack on Yale Avenue during the SCAG Go Human Demonstration Event on August 26th, 2023



#### 2. Alternatives Withdrawn from Consideration

The first online public survey was open from October 4<sup>th</sup>, 2022 to November 4<sup>th</sup>, 2022 which identified the following improvements as most effective in encouraging walking and biking along the Project Corridor:

- 1. Enhanced bicycle/pedestrian separation from moving cars
- 2. Improved crossings at existing intersections
- 3. Wider bike lanes
- 4. Slower vehicle speeds

On October 22<sup>nd</sup>, 2022, a Project workshop was held in-person at the University Community Center in Irvine. Approximately 50 attendees attended. From the engagement at the public workshop, the Project Team identified the following considerations for the corridor;

- Enhanced bicycle/pedestrian separation from moving cars
- Support improved crossings at existing intersections
- Slower motor vehicle speeds
- Suggestions for a center median
- Additional pedestrian crossings
  - Particularly at Yale Avenue and Royce Road intersection and at paseo north of Tamarack Way where there is no marked crossing or pedestrian curb ramps

In December 2022, the following concepts were evaluated for consideration in the development of Project alternatives:

- Two-way Class IV (cycletrack) on east side;
- Two-way Class IV (cycletrack) on west side;
- Class I (multi-use path) on east side;
- Class I (multi-use path) on west side;
- One-way Class IV (cycletrack) on both sides; and
- Class II (on-street bike lanes) with median (similar to Michelson Drive).

The initial scoring identified the top three concepts as the two-way cycletrack on the west side, two-way cycletrack on the east side, and the one-way cycletrack on both sides of Yale Avenue. Four cross-section alternatives were developed based on this initial evaluation of concepts. Feedback was sought on the cross-section alternatives in the second public survey that was open from March 8<sup>th</sup>, 2023 to April 7<sup>th</sup>, 2023. Table 8 below details the results of the survey when respondents were asked for their first and second choice cross-section alternative:



**Table 8 - Survey Results for Preferred Cross-Section Alternatives** 

Cross-Section Alternative	1 <sup>st</sup> Choice for % of Respondents	2 <sup>nd</sup> Choice for % of Respondents
Alternative 3 (One-Way Cycletrack)	30%	33%
Alternative 4 (Buffered Bike Lanes and Widened Shared Use Path)	28%	17%
Alternative 1 (Two-Way Cycletrack-West Side)	23%	29%
Existing Conditions	13%	9%
Alternative 2 (Two-Way Cycletrack- West Side Hybrid)	6%	13%

Alternatives 1, 2, and 4 were removed from consideration following strong support for Alternative 3 from the public and City staff.

# 3. No Project Alternative

In the No Project alternative, no improvements are proposed along the Yale Avenue corridor. Consequently, the Yale Avenue corridor would remain a wide roadway without the benefit of enhancing bicyclist and pedestrian mobility and safety that support the City's goal of GHG reductions and potential management of travel speeds.

# 4. Project Phasing

Implementation of the Project would be carried out in a single project phase.

#### **B.** Material Alternatives and Restrictions

The Project implementation will include construction of two one-way Class IV cycletracks and two raised buffers. Cycletrack construction would consist of concrete, asphalt concrete, and aggregates for base materials as available to the City.

The Project team has also identified and analyzed landscaped and hardscaped options for the proposed raised buffers. Selected materials will be identified during the Plan, Specification, and Estimate (PS&E) phase and will be indicated on the Project construction plans.

# C. Non-Standard Design Features / Variances

The Project concept includes variances from the City Standard Plans with vehicle travel lane widths and parking lane widths.

The Class IV separated cycletrack may be the first facility of its kind within the City, subject to other parallel City efforts, that requires a deviation from the current City standards or minimum requirements. Standard Plan 104 note 9 from the City Standard Plans states each parallel parking space shall have a minimum dimension of 8 feet wide by 22 feet long and shall be in accordance with the zoning ordinance section 4-4-1 A.5. The Project concept proposes 7-foot



wide parking along a landscaped buffer, consistent with the National City Transportation Officials (NACTO) Urban Street Design Guide which recommends parking stalls be 7-9 feet wide. The City Signing and Striping Guidelines also call for 13-foot travel lanes next to raised medians, while the project proposes 11-foot-wide travel lanes. Caltrans Design Information Bulletin 94 (DIB 94) provides justification for the concept travel lane widths in *Table 5.3 Suggested Minimum Lane Widths by Place Type and Proposed Operating Speed.* As the Project is in a suburban area and has posted speed limits of 40-45 miles per hour, DIB 94 recommends 11 to 12-foot vehicle travel lane widths.

# **D.** Utilities

Table 9 identifies the companies and agencies who own utilities within or near the study limits.

**Table 9—Yale Avenue Utility Inventory** 

Company	Company Utility Equipment	
AT&T Distribution	<ul> <li>Buried, conduit, building, and underground substructures</li> </ul>	No
COX Communications	<ul> <li>Underground 2" Conduit</li> </ul>	No
Irvine Ranch Water District	<ul> <li>12" RCP Sewer</li> <li>8" Water Line</li> <li>6" ACP RW</li> <li>4" Service Line RW</li> </ul>	Potential
Municipal Water District of Orange County	<ul> <li>12" ACP water main</li> <li>54" inside-diameter welded-steel         East Orange County Feeder No. 2         and accompanying manhole         structures, air-release-vacuum-valve         structure     </li> <li>40' wide permanent easement</li> <li>right-of-way</li> </ul>	Potential
Southern California Edison	UG Conductor 0-750V	No
Southern California Gas Company	<ul><li>8" HSL 35-20-4</li><li>3" PA</li></ul>	No



# 1. Determination of Prior Rights

Prior rights have yet to be confirmed but will be identified in the Caltrans B-letters process via coordination with the identified utility companies in the Project area. Through this process the utilities companies will provide their rights within the roadway.

From a review of received As-Builts and GIS maps, it can be assumed that AT&T Distribution, COX Communications, Irvine Ranch Water District, Southern California Edison, and Southern California Gas Company have a franchise agreement with the City as they all have infrastructure within the roadway and/or sidewalk of Yale Avenue. Metropolitan Water District (MWD) is assumed to pre-exist the roadway and appears to have permanent right-of-way 20 feet to either side of the 55-inch pipeline. It is assumed at this point that they have prior rights and would likely be the City's liability for any potential cost for adjustments.

# 2. Required Relocations

The Project utility mapping analysis revealed challenges in accurately determining the locations of various utilities but relocations of all utilities were determined to be unlikely. Continued utility coordination will be necessary during the Project's preliminary engineering phase. The telecommunications GIS maps did not provide accurate alignments for manholes or pull boxes so aerial imagery and site visit review was utilized to identify their locations. Additionally, most utilities lack elevation details, except for the water lines. The available information suggests that the water lines were placed approximately 10 feet below elevation.

Anticipated conflicts which are likely to require relocations within the study area include water valve covers in the proposed landscaped/concrete buffers and Class IV cycletracks. The water lines located 10 feet under the surface and running parallel to the buffers are unlikely to require relocation and instead may constrain the types and placements of plants within the proposed landscaped/concrete buffers.

# E. Drainage

The Project proposes two total Filterra treatments at the storm drain inlets on the west and east sides of Yale Avenue near the University Drive intersection.

# F. Landscaping & Irrigation

The Project will incorporate plant selections harmonizing with the surrounding landscape areas and adhere to the guidelines outlined in the City Landscape Manual and Standard Plans. The Project irrigation strategy will prioritize water efficiency, employing techniques such as bubblers and drip irrigation systems detailed in the City Landscape Manual and Standard Plans.



#### **G. Traffic Signal Improvements**

The proposed Project recommends modification to the traffic signal operations to provide a dedicated phase to stop motor vehicle traffic and allow bicyclists and pedestrians to cross University and for northbound cyclists to access the cycletrack. The traffic signal modifications are included in the cost estimates for the project and the operations have been reviewed assuming the signal phasing operations which is not forecast to cause deficient level of service operations.

#### H. Conformance with General Plan and Zoning Code Standards

The Project is in conformance with the following objectives from the City's General Plan:

#### **Element B Circulation**

Objective B-3 addresses multi-modal goals by finding policies that support a pedestrian circulation system to support and encourage walking as a mode of transportation.

#### Element K Parks and Recreation

Objective K-3 aims to establish parks and recreation facilities with safe and easy access via policy (c), which uses the adopted 2017 Parks Master Plan to locate parks adjacent to public shared-use paths in an effort to connect parks to nearby paths for enhanced connectivity.

In addition to conformance with the City's General Plan, the Project was identified in the City's SATP as a potential opportunity to support mobility for bicyclists by implementing a Class IV cycletrack.

The Project also supports regional bicycle planning efforts which include OC Active, Orange County Transportation Agency's (OCTA) 2022 Long-Range Transportation Plan, and the 2016 OC Foothills Bikeways Strategy. The Project will connect to the existing bikeways on University Drive that are part of Corridor J, the Jeffrey Corridor of the OC Foothills Bikeways Strategy. When completed, Corridor J will provide over nine (9) miles of connected Class I and Class II bikeways.

#### I. Inter-Agency Considerations

The City is the lead agency for the Project. Inter-agency coordination has been ongoing throughout the Project planning process with OC Parks, Orange County Fire Authority (OCFA), and Irvine Police Department. OC Parks manages William R. Mason Regional Park which is adjacent to the Project area and located south of University Drive. The Project team has consulted with OCFA on allowable roadway design and with OC Parks related to potential habitat impacts in the regional park.



The following utility companies have infrastructure within the Project area where continued coordination will be needed; AT&T Distribution, Cox Communications, Irvine Ranch Water District, Municipal Water District of Orange County, Southern California Edison, and Southern California Gas Company.

#### J. Project Schedule

The Project's planning phase concluded in Summer 2024. The Project engineering phase is expected to begin in Fall 2024 and be completed within one (1) to two (2) years and one (1) additional year for Project construction.

#### **K. Project Costs**

The estimate cost of construction of the Project, based on 30% concept plans, is \$7,865,000. Components of the Project cost include the construction of curb ramps, sidewalk, bike paths, landscaping, drainage, RRFB, traffic signal modification, and street lighting. A detailed construction cost estimate is provided in Attachment D- Engineering Cost Estimate. The total project cost is estimated to be \$9,440,000, which includes the following project phases - preliminary engineering, final design, construction, construction engineering and other supporting costs, as detailed in Table 10.

**Table 10 - Summary of Project Costs** 

Phase	Assumptions	Amount
Preliminary Engineering and	Completed	\$325,000
Environmental Document		
Final Design and Right of Way	Includes contingency and	\$500,000
Engineering and Administration	management estimate	
Construction	Includes 25% contingency	\$7,865,000
Construction Engineering and	Includes contingency and	\$573,000
Administration	management estimate	
Other Costs	Administration Costs	\$177,000
	Total - All Phases	\$9,440,000



#### VII. Agreements/Permits

The following coordination, agreements, and permit approvals will be required prior to commencement of project construction:

#### A. Utilities

Utility notification letters were sent to utility companies identified by the Dig Alert website for the study area. Continued coordination with the following companies will be required to confirm the locations, extents, and costs of necessary relocations:

- AT&T Distribution
- COX Communications
- Irvine Ranch Water District
- Municipal Water District of Orange County
- Southern California Gas Company
- Southern California Edison

#### **B.** Inter-Agency

OC Parks; Review of proposed improvements within City ROW along Yale Avenue and at the Yale Avenue and University Drive intersection.

OCTA; Review of proposed improvements within City ROW along Yale Avenue as it relates to the MPAH.

#### C. Intra-Agency

City of Irvine – California Environmental Quality Act Clearance documents; Approval of construction bid documents.

#### VIII. Right-of-Way

#### A. Existing ROW

The existing ROW is 91-feet wide along Yale Avenue within the project limit. The proposed Project improvements are to be implemented within the existing 64-foot curb-to-curb width within the existing City owned ROW. The improvements will have minimal changes to existing landscaping and sidewalks. Yale Avenue's existing roadway configuration is as follows:

- 5-foot sidewalk on the west side of the roadway.
- 4-foot landscaped area on the west side of the roadway.
- One 8-foot Class II bike lane.
- Two 24-foot motor vehicle travel lanes.
- One 8-foot Class II bike lane.



- 11-foot landscaped area on the east side of the roadway.
- 9-foot sidewalk on the east side of the roadway.

#### **B.** Constraints

#### William R. Mason Park

William R. Mason Park, located south of the University Drive and Yale Avenue intersection, is maintained by OC Parks and is an environmentally sensitive area. As an environmentally sensitive area, there are constraints on allowable development at the Yale Avenue and University Drive intersection. While an additional crossing on the east leg would benefit bicycle and pedestrian access to and from the University Trail, the nearby environmentally sensitive OC Parks land limits the development of a direct north-south crosswalk. Modification of the OC Parks managed area would impact protected habitat and require notable landform modifications that could also affect the creek flowlines. The existing University Drive and Yale Avenue intersection only provides crosswalks on the north and west legs of the intersection and therefore does not provide direct pedestrian and bicycle connectivity to the east side of Yale Avenue.

To address this constraint, the Project proposes providing a diagonal crossbike through the intersection. The Project improvements will accomplish greater bicycle access to and from the University trail and William R. Mason Park and support the implementation of one-way Class IV cycletracks.

#### <u>University Park Homeowner's Association (HOA)</u>

The University Park HOA owns the ROW adjacent to the roadway between University Drive and Michelson Drive as well as the community paseos. The Project's enhancements will not encroach on the HOA's ROW.

#### C. Proposed ROW

The Project improvements are planned within the existing City owned ROW. No additional ROW is proposed.

#### IX. Environmental Clearance

The proposed improvements will not create additional travel lanes and instead will include one-way Class IV bicycle facilities and pedestrian crossings that qualify for both a California Environmental Quality Act (CEQA) Class 1 Categorical Exemption (per Section 15301 of the CEQA Guidelines), the California Public Resources Code (PRC) 21080.25, as well as a Statutory Exemption under Senate Bill (SB) 922. The City is preparing a Notice of Exemption per the statutory exemption identified in PRC 21080.25.



The Project is statutorily exempt from a Water Quality Management Plan (WQMP) as the Project would reduce overall impervious areas in the study area. Despite this, a WQMP was prepared before the notice of the statutory exemption. The WQMP found that the post-Project conditions will increase the pervious roadway area to a total of 0.79 acres.

A biological study for the Project area was conducted which resulted in the following findings and recommendations:

- Due to the nature of the Project activities, no impacts are anticipated on special-status species, and existing landscaped and ornamental habitat on-site will be protected to the greatest extent possible through implementation of measure BIO 1.
- Project activities should be conducted outside of the nesting bird season if feasibly possible as per measure BIO 2.
- If the Project must occur during the nesting season (February 1–September 15), then preconstruction nesting bird surveys should be conducted by a qualified biologist as described in measure BIO 3.
- In order to prevent the proliferation and spread of noxious, invasive weed species, all construction equipment, associated tools, and personnel footwear should be thoroughly washed before arriving on-site, as stated in measure BIO 4.

A cultural study was conducted for the Project area. No archaeological resources were identified in the Project area and the potential for the Project to encounter or affect subsurface cultural materials during construction and its excavations is low. Additionally, no historic resources exist within or directly adjacent to the Project limits. The University Park neighborhood is not locally designated or identified as a potential historic district in the City of Irvine's General Plan. Therefore, the Project area contains no historical resources under CEQA. The Project does not have the potential to cause significant adverse impacts on historical resources under CEQA.

An Initial Site Assessment (ISA) was performed with the purpose to review, evaluate, and document present and past land uses and practices, and visually examine Project area conditions to identify recognized environmental conditions (RECs). A REC is defined as the presence or likely presence of any hazardous substances or petroleum hydrocarbons on a property under conditions that indicate an existing release, a past release, or a material threat of a release of any hazardous substances or petroleum hydrocarbons into structures or into the ground, groundwater, or surface water of the Project area. The REC term does not include de minimis conditions that generally do not present a threat to human health or the environment, and that generally would not be the subject of an enforcement action if brought to the attention of appropriate governmental agencies. The ISA assessment did not reveal any RECs in connection with the proposed Project area.



#### X. Public Involvement/Hearing Process

The Project engagement, which included Phase I, Phase II, and the *Go Human* demonstration event, identified a variety of challenges and concerns as well as improvements.

#### Phase I included the following activities:

- Three (3) meetings at Rancho San Joaquin Middle School
  - School District meeting August 26<sup>th</sup>, 2022
  - Executive Board Parent Teacher's Association October 4<sup>th</sup>, 2022
  - Associated Study Body meeting October 4<sup>th</sup>, 2022
- One (1) stakeholder meeting
  - In-Person Meeting October 12<sup>th</sup>, 2022
- Five (5) Community Homeowner Association (HOA) meetings
  - Parkcrest HOA October 6<sup>th</sup>, 2022
  - Parkside HOA October 11<sup>th</sup>, 2022
  - University HOA October 12<sup>th</sup>, 2022
  - The Terrace HOA October 25<sup>th</sup>, 2022
  - Village Park November 2<sup>nd</sup>, 2022
- One (1) in-person public workshop
  - o October 22<sup>nd</sup>, 2022
- One (1) online survey
  - o Via Mentimeter October 4<sup>th</sup>, 2022 to November 4<sup>th</sup>, 2022
- Digital and print promotion of the Project

#### Phase II included the following activities:

- One (1) stakeholder meeting
  - Virtual Meeting March 7<sup>th</sup> 2023
- One (1) virtual public workshop
  - Zoom Workshop March 8th, 2023
- One (1) presentation at Rancho San Joaquin Middle School
  - o Parent Teacher Association Presentation March 16th, 2023
- Two (2) Community Homeowner Association (HOA) meetings
  - Parkside HOA February 28<sup>th</sup>, 2023
  - Village Park HOA March 30<sup>th</sup>, 2023
- One (1) online survey
  - o Via Mentimeter March 8<sup>th</sup>, 2023 to April 7<sup>th</sup>, 2023
- Digital and print promotion of the Project



- One (1) SCAG *Go Human* Demonstration event on August 26, 2023, which included the following:
  - Demonstration of separated one-way Class IV cycletrack
  - Community engagement hubs at Royce Road and University Drive
  - o Digital and print promotion of the Go Human Demonstration event

Tribal consultation pursuant to Assembly Bill 52 is not required for the Project because the project is statutorily exempt from the requirement to comply with CEQA. The construction will be minor and will occur within the confines of the existing roadway.

The Project engagement was critical for guiding the vision for Yale Avenue and advancing the Project from its initial identification in the City's 2020 SATP. The engagement feedback will continue to be instrumental in the development of the Project through engineering and design. From Phase I, Phase II, and the *Go Human* demonstration event, the following Project priorities were identified:

- Incorporate physical separation between transportation modes, most especially between vehicles and bicyclists and bicyclists and pedestrians, through the construction of one-way Class IV cycletracks.
- Promote traffic calming through travel lane narrowing and other engineering and signage measures.
- Install crosswalks and other pedestrian crossing enhancements at the community paseos and at Royce Road.
- Install crossing enhancements at the existing crosswalks at Michelson Drive and University Drive.
- Consider parking and/or loading spaces near RSJMS that support student pick-up and drop-off as well as parking lot overflow during special events.
- Balance muti-modal travel needs and the community desire to maintain limited parking on Yale Avenue.

#### **XI.** Other Considerations

#### A. Impacts on Non-Motorized Transportation and Pedestrian Modes

During construction, modifications between existing curbs along Yale Avenue between the I-405 bridge and University Drive may require temporary impacts to bicycle and pedestrian routes within the study area. Detour routes will be accessible and clearly signed to direct bicyclists and pedestrians around the construction areas. The Project's one-way Class IV facilities will ultimately improve active transportation roadway user mobility and safety due to the physical separation between vehicles.



#### **B. Prolonged Temporary Road and/or Ramp Closure**

Construction of the proposed improvements will not require prolonged temporary road closures. To minimize construction impacts to local circulation, measures will be taken to minimize street/lane closures and detours, particularly during weekday rush hours and RSJMS related loading activity. Traffic control/detour plans will be prepared for necessary closures using approved City of Irvine traffic control guidelines.

#### C. Hazardous Waste or Material

Within the Project area, there is record of one site with recognized environmental conditions (REC). In May 1997, the Irvine Ranch Water District reported a release of 9,000 gallons of reclaimed water to the Orange County Emergency Management Division. Reportedly, a line broke on the customers side of a meter due to new installation of a gate valve. The reclaimed water flowed down the road into San Diego Creek down to Newport Back Bay. Based on this information, this listing does not represent a recognized environmental condition to the Project.

The following precautionary recommendation is provided in the event of unknown or suspect materials are encountered during construction:

#### General Site Disturbance Activities

If unknown wastes or suspect materials are discovered during construction by the contractor, which they believe may involve hazardous waste/materials, the contractor shall:

- Immediately stop work in the vicinity of the suspected contaminant, removing workers and the public from the area;
- Notify the City of Irvine Director of Public Works;
- Secure the areas as directed by the City;
- Notify the implementing agency's Hazardous Waste/Materials Coordinator; and
- Perform remedial activities as required under existing regulatory agency standards.

#### D. Wetland and Floodplain

The Project area lies on the Orange County Coastal Plain approximately 114 feet above mean sea level. The Orange County Basin is bounded to the north by the Puente and Chino Hills, to the east by the Santa Ana Mountains, to the south by the San Joaquin Hills, and to the southwest by the Pacific Ocean (DWR, 2003).

The Orange County basin underlies the lower Santa Ana River watershed and is characterized by a deep structural alluvial basin containing a thick accumulation of interbedded sand, silt and clay. The Irvine subbasin, bounded by the Santa Ana Mountains and the San Joaquin Hills, forms the southern-most portion of the basin. Irvine area aquifers are thinner and contain



greater percentages of clay and silt deposits than aquifers in the main portion of the basin (DWR, 2003).

The nearest groundwater monitoring well is located approximately 1,800 feet southeast of the Project area and the average depth-to-groundwater during the June 2023 groundwater event was approximately 48 feet below the top of well casing, with general groundwater flow direction to the northwest (Geotracker Global ID T0605900193).

According to the 2004 Preliminary Digital Geologic Map of the Santa Ana 30' x 50' Quadrangle, Southern California, version 2.0 compiled by Douglas M. Morton, subsurface materials at the Project area are primarily Marine deposits which in part are overlain by local, mostly alluvial fan, deposits. A concealed fault is depicted in the northern portion of the Project area.

As presented in the Environmental Data Resources (EDR) Radius map report, the Project area surface soil (to a depth of 22 inches) is a sandy loam, with very slow infiltration rates, which is underlain by a sandy clay/sandy clay loam. The soil has a high corrosion potential for uncoated steel.

#### E. Roadway Reconstruction, Restoration, Pavement Rehabilitation

The existing pavement along Yale Avenue is in very good condition and shows minimal signs of wear throughout the study limits. The City of Irvine prepared a Pavement Management Plan in 2023 which identified Yale Avenue with a Pavement Condition Index (PCI) ranging from 85 to 100 within the Project limits. The construction of the proposed roadway improvements will also be with materials consistent with the standard City requirements and shall be identified during the PS&E phase of the Project.

#### F. Bus and Emergency Lanes

The Project will not include bus or emergency lanes but through coordination with the OCFA, the Project design will provide facilities that accommodate emergency vehicles.

#### **G.** Interim Features

No interim improvements are proposed.

#### **H. Traffic Management Plan**

A Traffic Management Plan (TMP) will be prepared for approval by the City of Irvine prior to the commencement of construction activities. The TMP will describe necessary detours, emergency routes, and other measures to provide congestion relief and safety during short-term construction activities. Construction staging should be developed to minimize traffic impacts with considerations for phased implementation. Local residents and RSJMS stakeholders will be consulted in the development of construction staging and the TMP to best reflect school-



related traffic and activities and to maintain access to the residential communities directly adjacent to Yale Avenue. Detour routes for pass through traffic shall be identified where appropriate. The TMP will meet City of Irvine traffic control guidelines.

#### I. Biological Requirements

No materials or equipment shall be placed on the dirt or vegetation adjacent to the developed portions of the Project area (i.e., outside of the existing concrete footprint). Work should occur outside of nesting bird season which occurs annually between February 15<sup>th</sup> and September 15<sup>th</sup>. Should work be required during nesting bird season, pre-disturbance avian nesting surveys must be conducted by a qualified biologist. Survey reports shall be furnished to OC Parks upon request. If nests or nesting behaviors are identified, the biologist shall notify the OC Parks Natural Resources Program Coordinator within 24 hours with a report summarizing survey findings. The biologist shall establish appropriate no-work buffers, and the City shall be solely responsible for complying with all federal, state, and local laws.

To prevent invasive weed seed spread, vehicles, equipment, tools, and personnel footwear shall be cleaned before each entrance onto the Project site.

#### XII. Recommendations

After extensive community and stakeholder engagement and close collaboration between City and Mark Thomas staff, the Project team recommends Alternative 3 (Class IV Separated Bikeway/Cycletrack) with the following improvements be advanced for final design and implementation:

#### **Bicycle Enhancements**

- Separated, one-way Class IV cycletracks along both sides of Yale Avenue from the southern boundary at University Drive to the north terminus that connects to the I-405 pedestrian and bicycle bridge.
- Intersection improvements at Yale Avenue and University Drive which include a diagonal bicycle crossing with green markings.
- Intersection improvements at Yale Avenue and Royce Road which include green conflict paint





#### Pedestrian Enhancements

- Crossing enhancements at the community paseos.
- High-visibility crosswalk markings, advanced yield lines, pedestrian refuges (via the Class IV cycletrack buffers), and installation of an RRFB are likely to be recommended by the City at the paseos.
- Crossing enhancements including an upgraded ADA ramp at the southwest corner of Yale Avenue and University Drive intersection.



**RECOMMENDED BY:** 

Melisse Dr

Melissa Dugan

Project Development Administrator

City of Irvine

Paul Martin, PE, TE

RANK

Project Manager

Mark Thomas



**Attachment A – Engineering Concepts** 

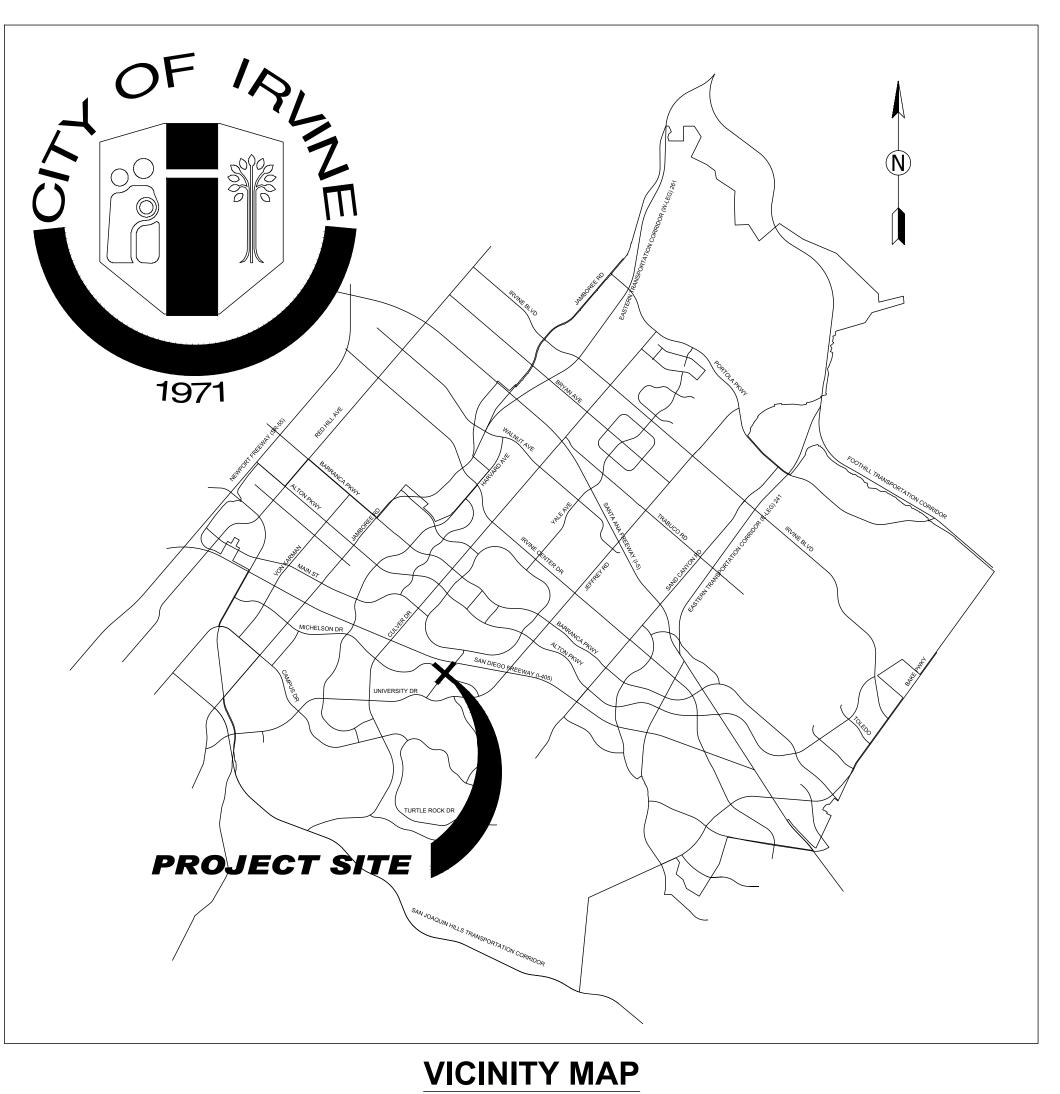
# CONSTRUCTION PLANS FOR THE IMPROVEMENT OF

# SOUTH YALE CORRIDOR IMPROVEMENTS

CIP# 312204

### **INDEX OF DRAWINGS**

SHEET No.	DESCRIPTION
1	TITLE SHEET
2-3	TYPICAL SECTIONS
4-5	LAYOUT



NOT TO SCALE

CITY APPROVAL:



				PLAN PREPARED BY:
				<b>THOMAS</b>
				MARK THOMAS & COMPANY 2121 ALTON PARKWAY, SUITE 210 IRVINE, CA 92606
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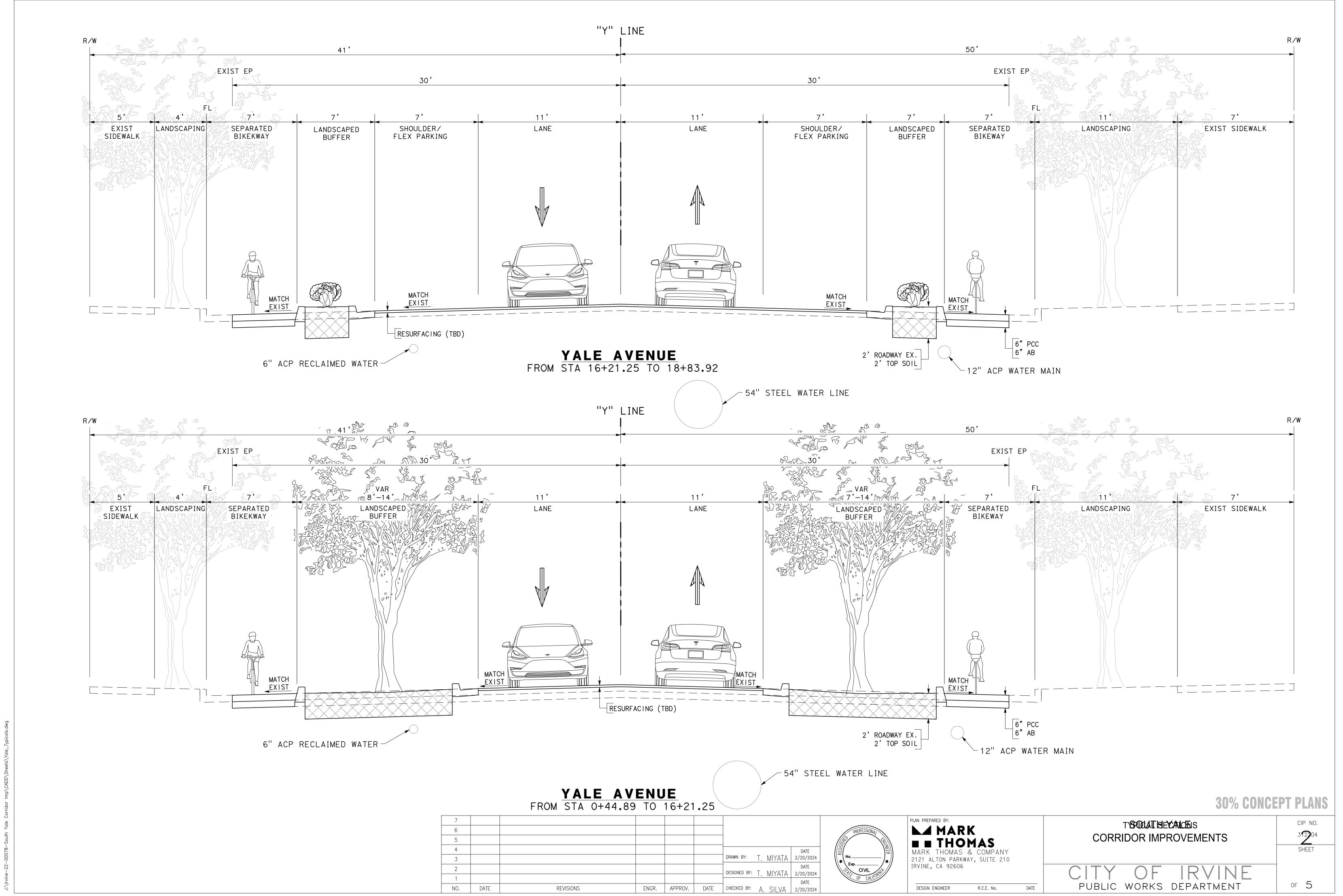
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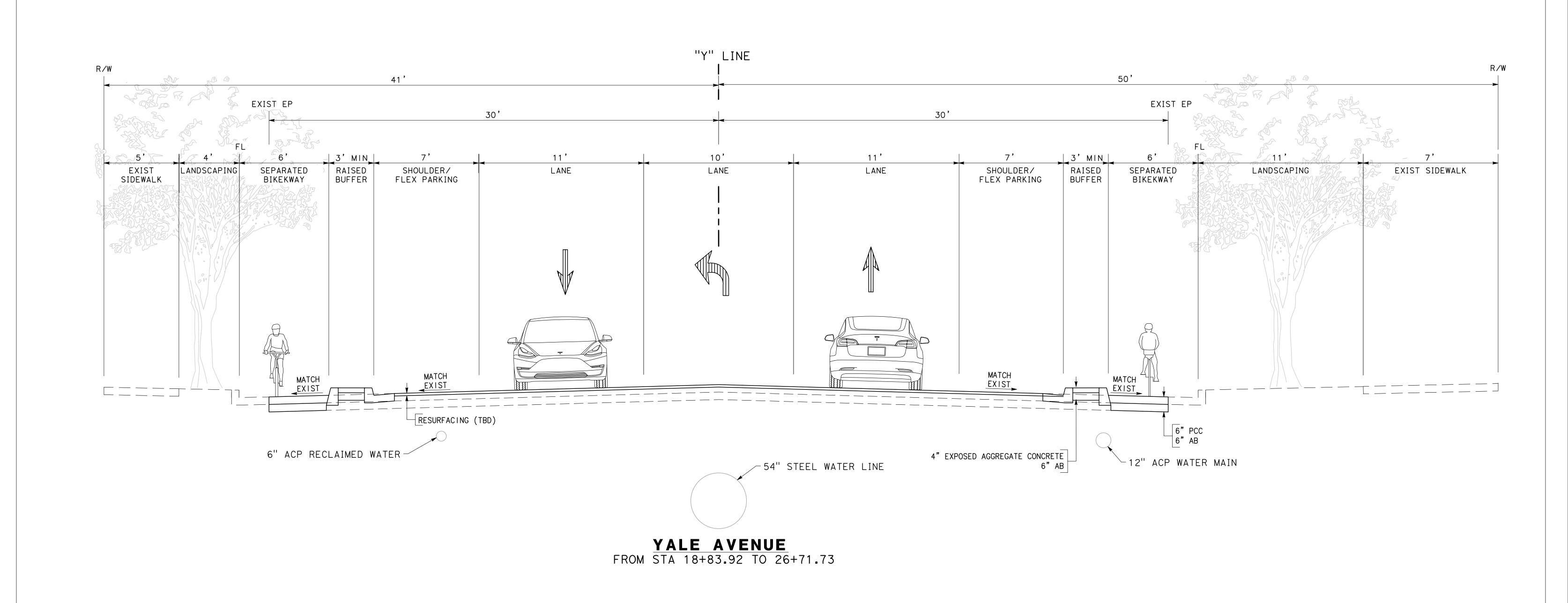
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ARK THOMAS & COMPANY
21 ALTON PARKWAY, SUITE 210
VINE, CA 92606

R.C.E. No.

DESIGN ENGINEER

SOUTH YALE
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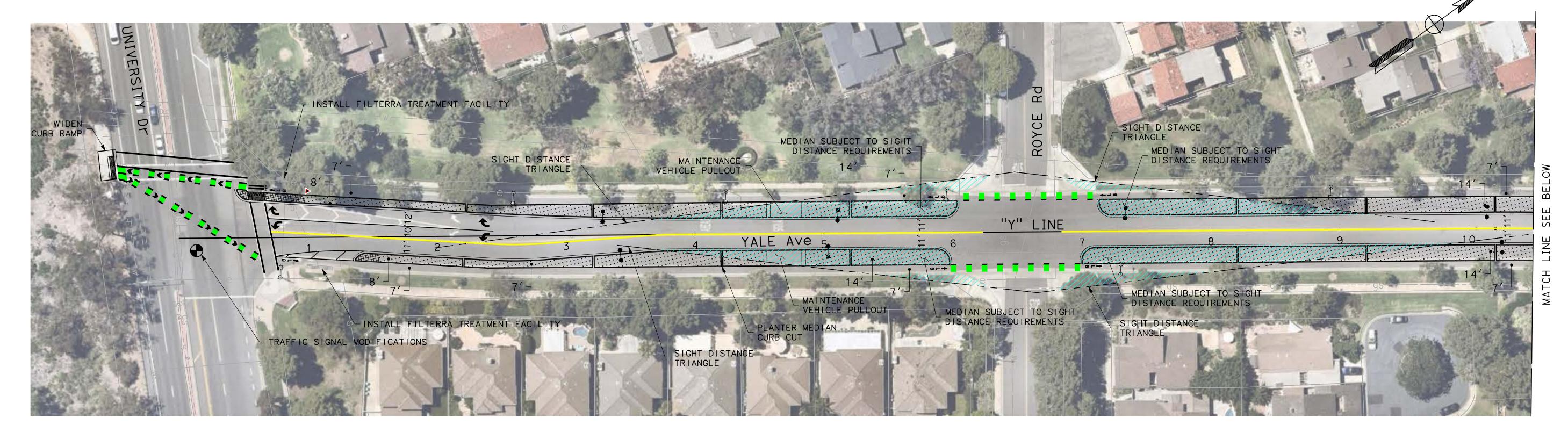
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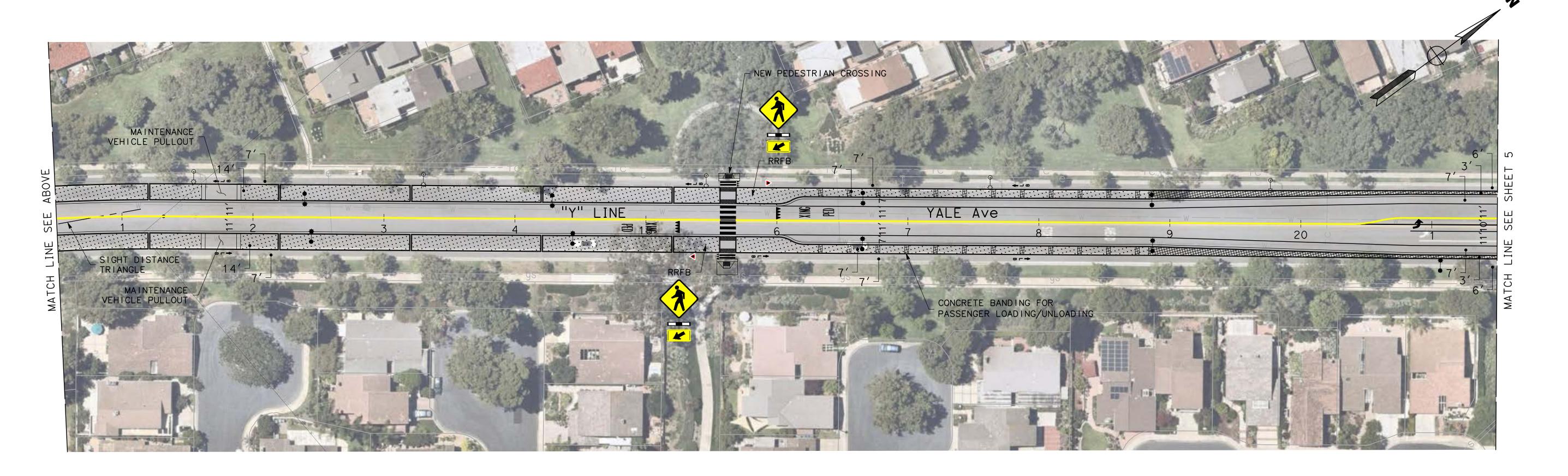
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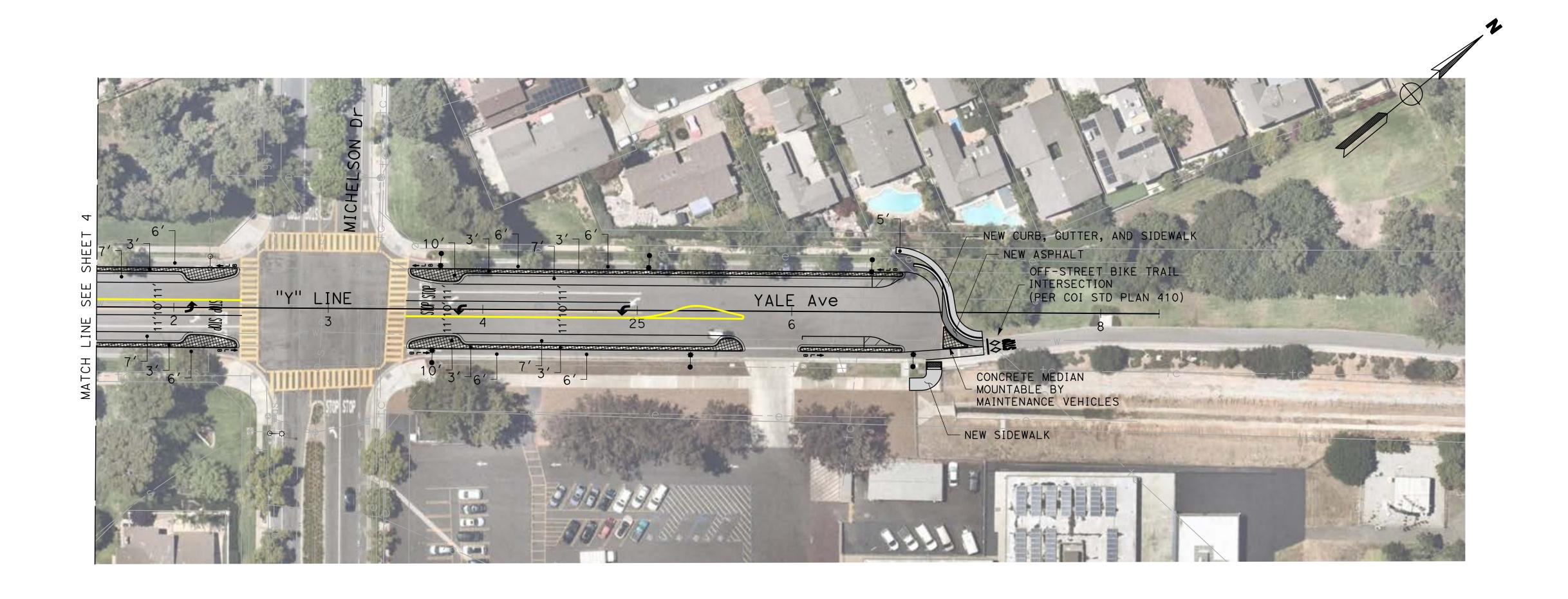
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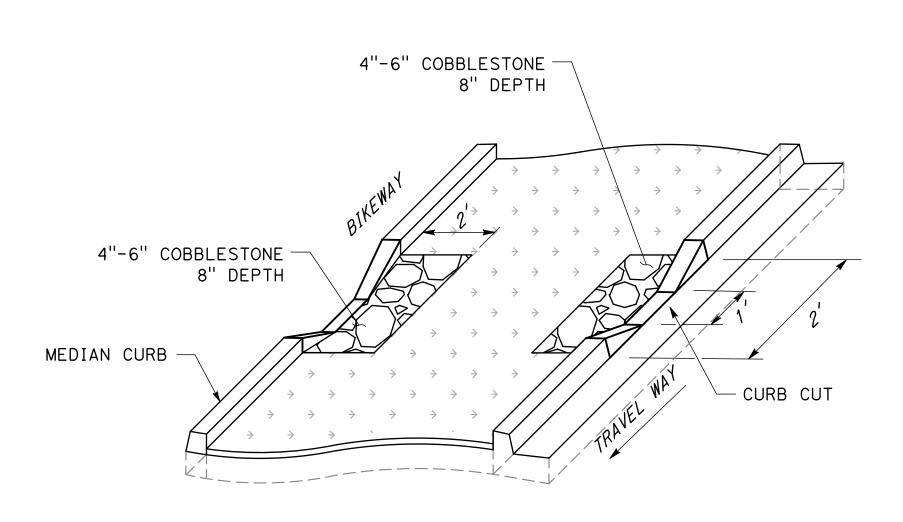
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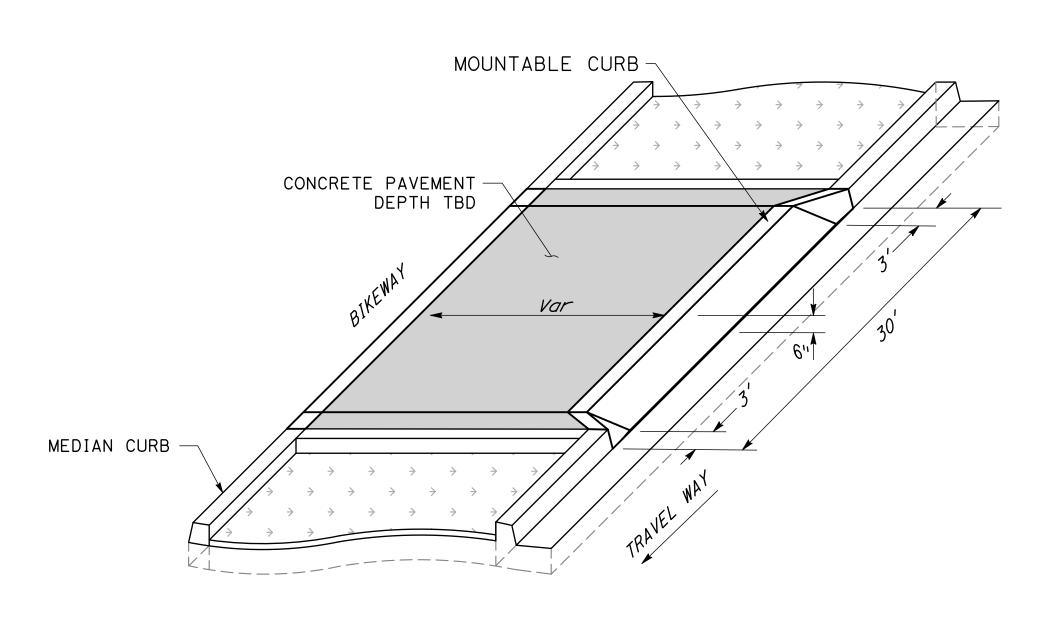
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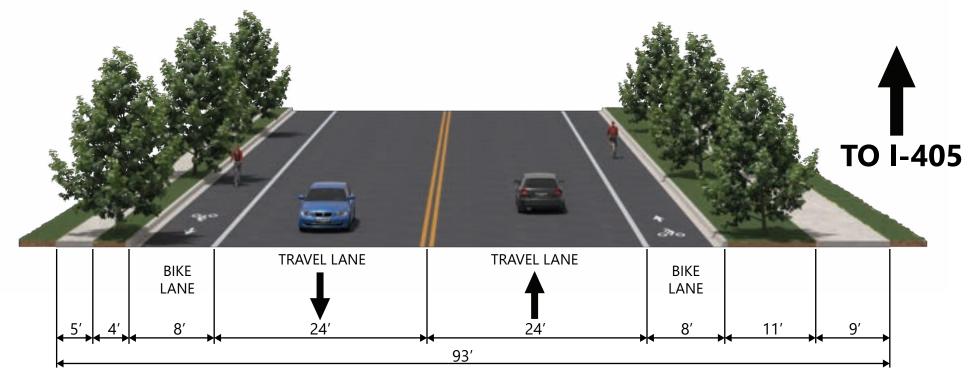
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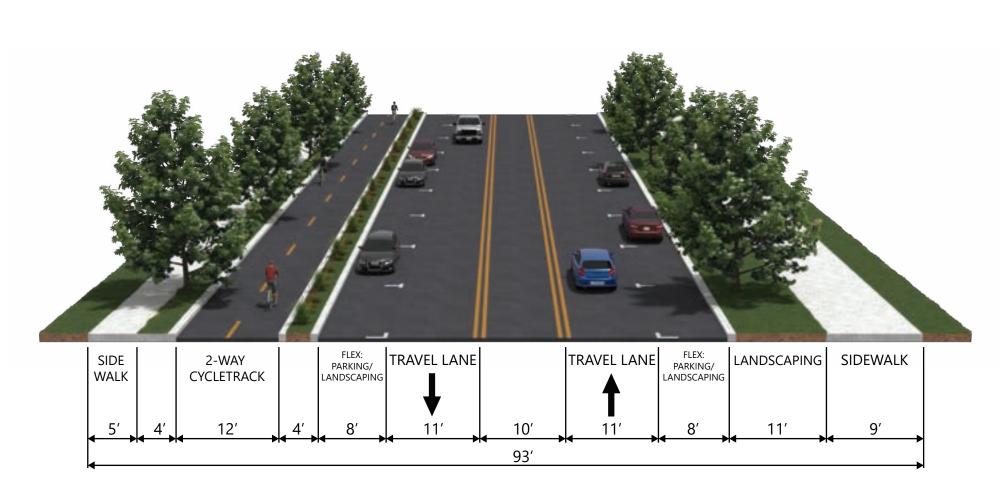
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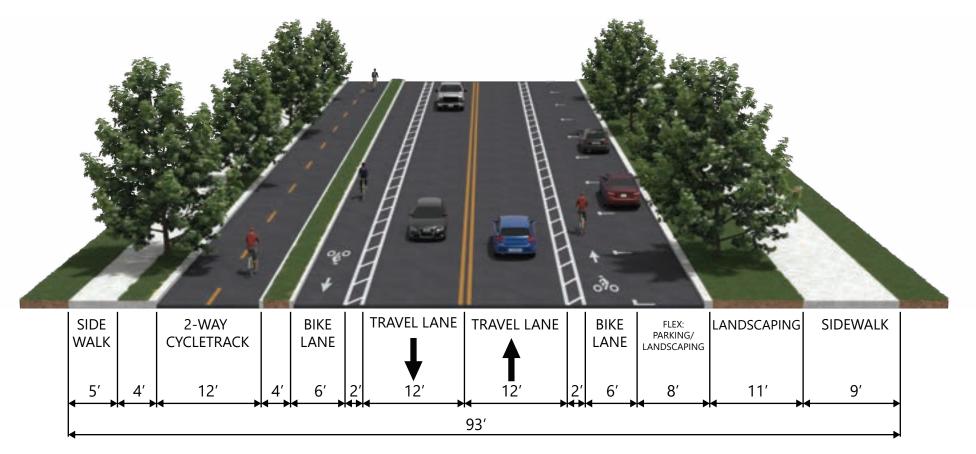
**Attachment B – Cross-Section Alternatives** 



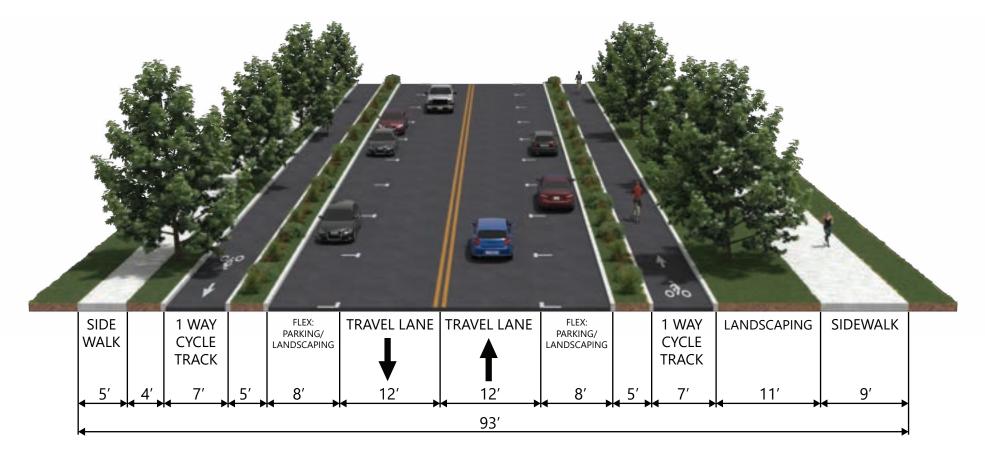
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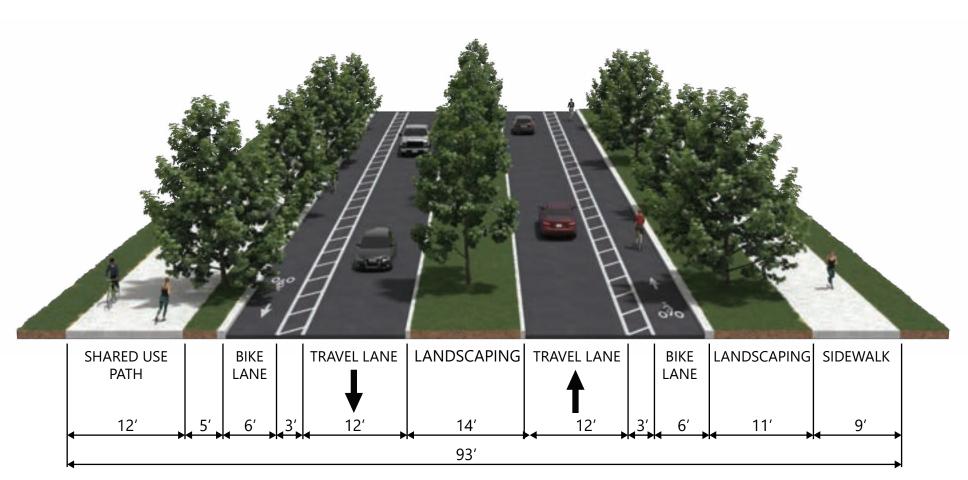
**ALTERNATIVE 1: 2-WAY CYCLETRACK - WEST SIDE** 



**ALTERNATIVE 2: 2-WAY CYCLETRACK - WEST SIDE HYBRID** 



**ALTERNATIVE 3: 1-WAY CYCLETRACK** 



ALTERNATIVE 4: BUFFERED BIKE LANES AND WIDENED SHARED USE PATH



Attachment C – Utility Maps



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REVISIONS

RATURNELCHL. SOMMETAWIALE

No. C96069 Exp. 022 / 310 / 2284 \*

R.C.E. No.

DESIGN ENGINEER

DRAWN BY: S. STRAUB 12/26/2023

DESIGNED BY: S. STRAUB 12/26/2023

ENGR. APPROV. DATE CHECKED BY: A. SILVA 12/26/2023

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PUBLIC WORKS DEPARTMENT

LAYOUT

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SOUTH YALE CORRIDOR IMPROVEMENTS LAYOUT

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**Attachment D – Engineering Cost Estimates** 

## South Yale Corridor Improvements Yale Avenue (University Drive to I-405)



(30% Concept Plans)

	term comments.					
ITEM No.	ITEM DESCRIPTION	UNIT	QUANTITY	ι	INIT PRICE	TOTAL
ROADW	AY					
1	Install Concrete - Curb Ramp	EA	3	\$	8,000	\$24,000
2	Install Concrete - Curb	LF	9590	\$	30	\$287,700
3	Install Concrete - Maintenance	SF	1570	\$	15	\$23,550
4	Install Concrete - Sidewalk	SF	1480	\$	15	\$22,200
5	Install Concrete - Textured Pavment	SF	6510	\$	25	\$162,750
6	Install Concrete - Bike Path	SF	22860	\$	15	\$342,900
7	Roadway Excavation	CY	31900	\$	65	\$2,073,500
8	Remove Concrete	SF	1200	\$	2	\$2,400
9	Hot Mix Asphalt	TON	360	\$	260	\$93,600
10	Slurry Seal	SF	104000	\$	0.33	\$34,320
11	CL2 Aggregate Base	CY	16000	\$	45	\$720,000
12	Signing and Striping	LS	1	\$	33,000	\$33,000
13	Landscape, Irrigation, Green Infrastructure	SF	34420	\$	35	\$1,204,700
					SUBTOTAL	\$5,024,620
DRAINA	AGE					
14	Minor Drainage	EA	2	\$	15,000	\$30,000
	·	.1			SUBTOTAL	\$30,000
ELECTR	ICAL					
15	Rapid Rectangular Flashing Beacon System	EA	1	\$	45,000	\$45,000
16	Traffic Signal Modification	EA	1	\$	100,000	\$100,000
17	Street Lighting	EA	14	\$	20,000	\$280,000
18	Cycle Track Lighting	LS	1	\$	240,000	\$240,000
		<u> </u>			SUBTOTAL	\$665,000
19	Mobilization (10% of Items 1-18)	LS	1	\$	572,000	\$572,000
	-	4	CON	TINGE	NCY (25%) *	\$1,573,000
CONSTRUCTION SUBTOTAL					\$5,719,620	
GRAND	TOTAL				<u> </u>	
			CONST	RUCT	ION TOTAL=	\$7,864,620

<sup>\*</sup> This concept level estimate includes a 25% contingency intended to compensate for the use of preliminary and limited information.

General Note: Where applicable, only minor drainage improvements for transportation projects to address safety are included.

Utility improvements such as water, communication, gas, etc. are not included in these estimates.

South Yale Corridor Improvements Estimate



**Attachment E – Traffic Analysis** 

# iteris

# **City of Irvine**South Yale Corridor Improvements Traffic Analysis





April 12, 2024

Submitted to:



11797.23 | Prepared by Iteris, Inc.

### **DOCUMENT VERSION CONTROL**

DOCUMENT NAME	SUBMITTAL DATE	VERSION NO.
Draft 1	May 10, 2023	1.0
Final Draft	February 28, 2024	2.0
Final	April 12, 2024	3.0

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Appendix A – 2022 Traffic Counts

Appendix B – ICU Calculation Sheets

Appendix C – HCM Synchro Worksheets

Appendix D – Traffic Signal Warrants

#### **1** EXECUTIVE SUMMARY

The purpose of this report is to study the traffic impacts of the potential elimination of a future street upgrade of Yale Avenue from an existing two-lane commuter street to a four-lane secondary arterial between Michelson Drive and University Drive. This future reclassification is currently assumed in the City of Irvine's General Plan and OCTA's Master Plan of Arterial Highways (MPAH).

The Irvine Strategic Active Transportation Plan (ISATP) includes analysis of existing conditions and potential barriers to active transportation within the City. The plan identified the South Yale Corridor as a potential active transportation project. Therefore, instead of a street upgrade for vehicular traffic, bicycle and pedestrian friendly street design solutions are under consideration for this roadway segment which would be incompatible with upgrading the street classification.

Traffic counts were collected along Yale Avenue and at the intersections of Yale Avenue and Michelson Drive, Yale Avenue and Royce Road, and Yale Avenue and University Drive in November 2022. In existing conditions all three study area intersections and roadway segments operate at satisfactory levels of service. There are two pairs of Buildout Scenarios with and without the widening to four lanes.

- 1. **No Future Vehicular crossing of Yale Avenue over I-405** In this scenario pair the elimination of the future widening Yale Avenue from two-lanes to four-lanes will not result in any deficient level of service at any of the three study intersections or roadway segments. All intersections and arterial segments will continue to operate at satisfactory levels of service.
- 2. Future Vehicular crossing of Yale Avenue over I-405 This is the current General Plan and MPAH scenario. In this scenario pair, in both the four-lane and two-lane scenarios the intersection of Yale Avenue and Michelson Drive would operate and unsatisfactory levels of service with the existing four-way stop control. However, this intersection meets signal warrants based on future peak hour volumes. Based on the assumption that the intersection would be signalized should a vehicular overcrossing of I-405 be implemented, then the intersection would operate at satisfactory levels of service using the ICU methodology.

The intersection of Yale Avenue and Royce Avenue would operate at unsatisfactory levels of service using the existing two-way stop control configuration. The future volumes at the intersection do not warrant a traffic signal. A four-lane stop controlled analysis was therefore performed as a sensitivity test. Although the overall intersection delay increases with a four-way control the intersection level of service as defined by the approach with maximum delay would improve in both two-lane and four-lane Yale Avenue scenarios. In the case of the four-lane Yale Avenue scenario, the intersection would operate at a satisfactory level of service but with the two-lane stop control (the existing configuration) the level of service would remain unsatisfactory.

• Since the purpose of the study is for the potential removal of the street widening of Yale Avenue, there is no VMT impact under CEQA.

#### 2 INTRODUCTION

The purpose of this report is to study the traffic impacts of the potential elimination of a future street upgrade of Yale Avenue from an existing two-lane commuter street to a four-lane secondary arterial between Michelson Drive and University Drive. This future reclassification is currently assumed in the City of Irvine's General Plan and OCTA's Master Plan of Arterial Highways (MPAH).

The Irvine Strategic Active Transportation Plan (ISATP) includes analysis of existing conditions and potential barriers to active transportation within the City. The plan identified the South Yale Corridor as a potential active transportation project. Therefore, instead of a street upgrade for vehicular traffic, bicycle and pedestrian friendly street design solutions are under consideration for this roadway segment, which would be incompatible with upgrading the street classification.

#### 2.1 Project Description

The study analyses existing traffic conditions and operations as well as four future scenarios as described below. The current Yale Avenue overcrossing of I-405 is for non-vehicular traffic only. As part of the City of Irvine's General Plan and OCTA's MPAH Buildout conditions, a two-lane vehicular overcrossing (OC) of I-405 is assumed to be built. However, since there are currently no plans to build a vehicular OC, traffic analysis was performed with and without the vehicular OC. Future year No Project and With Project scenarios were analyzed using the Irvine Transportation Analysis Model (ITAM). The four future scenarios are:

- 1. Buildout Year I-405 Vehicular OC with Four-lane Yale Avenue Analyzes the widening of Yale Avenue from a two-lane to a four-lane Secondary arterial between University Drive and Michelson Drive. The I-405 OC along Yale Avenue was modeled as a two-lane Commuter consistent with the current Master Plan of Arterial Highways (MPAH).
- **2. Buildout Year I-405 Vehicular OC with Two-lane Yale Avenue** Analyzes the removal of future street widening of Yale Avenue, keeping Yale Avenue as a two-lane Commuter Street between University Drive and Michelson Drive. The I-405 vehicular OC along Yale Avenue was modeled as a Commuter Street.
- 3. Buildout Year No I-405 Vehicular OC with Four-lane Yale Avenue Analyzes the widening of Yale Avenue from a two-lane to a four-lane Secondary arterial between University Drive and Michelson Drive consistent with the current Master Plan of Arterial Highway (MPAH). I-405 OC along Yale Avenue will remain as pedestrians and bicycles only.
- **4. Buildout Year No I-405 Vehicular OC with Two-lane Yale Avenue** Analyzes the removal of street widening of Yale Avenue, keeping Yale Avenue two-lane Commuter Street between University Drive and Michelson Drive. I-405 OC along Yale Avenue will remain as pedestrians and bicycles only.

#### 2.2 Project Site

The project study area is Yale Avenue bounded by University Drive (to the south) and the pedestrian and bicycle crossing over Interstate 405 (to the north). Along the roadway, three segments and three intersections were analyzed. The three segments are:

- 1. Yale Avenue north of Michelson Drive;
- 2. Yale Avenue between Michelson Drive and Royce Road; and
- 3. Yale Avenue between Royce Road and University Drive.

The three intersections are:

- A. Yale Avenue and Michelson Drive;
- B. Yale Avenue and Royce Road; and
- C. Yale Avenue and University Drive.

**Figure 2-1** illustrates the study area within the City of Irvine boundary and **Figure 2-2** illustrates the project site and the study intersections.

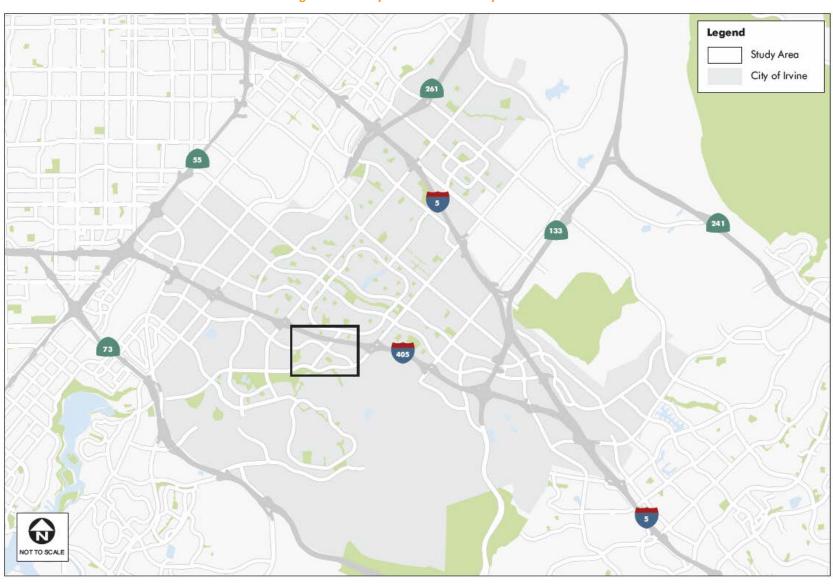
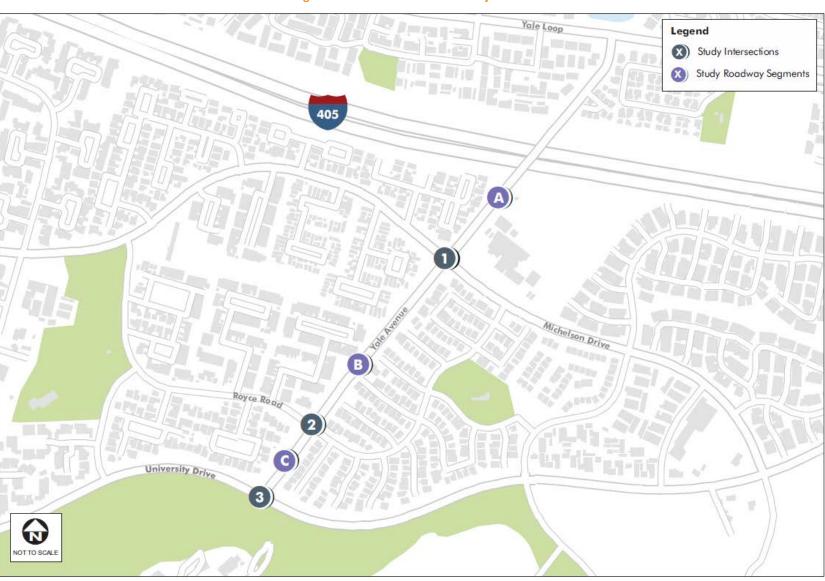


Figure 2-1: Study Area within the City of Irvine



**Figure 2-2: South Yale Corridor Project Site** 

#### 3 INTERSECTION ANALYSIS METHODOLOGY

The City of Irvine uses the Intersection Capacity Utilization (ICU) methodology for the calculation of signalized intersection Level of Service (LOS). The ICU methodology compares the volume-to-capacity (V/C) ratios of conflicting turn movements at an intersection, sums these critical conflicting V/C ratios for each intersection approach, and determines the overall ICU. The resulting ICU is expressed in terms of level of service (LOS), where LOS A represents free-flow activity and LOS F represents overcapacity operation. Parameters set by the City for ICU calculations, including lane capacity, right-turn treatment, and clearance interval are included in the analysis.

LOS definitions for signalized intersections and roadways are provided in **Table 3-1.** LOS E or worse is considered deficient at these locations by the City of Irvine.

LOS ICU Description At this LOS, traffic volumes are low and speed is not restricted by other vehicles. All Α ≤ 0.60 signal cycles clear with no vehicles waiting through more than one original cycle. At this LOS, traffic volumes begin to be affected by other traffic. Between one and R ten percent of the signal cycles have one or more vehicles which wait through more 0.61 - 0.70than one signal cycle during peak traffic periods. At this LOS, operating speeds and maneuverability are closely controlled by other C traffic. Between 11 and 30 percent of the signal cycles have one or more vehicles 0.71 - 0.80which wait through more than one signal cycle during peak traffic periods. At this LOS, traffic will operate at tolerable operating speeds, although with D 0.81 - 0.90restricted maneuverability. Traffic will experience restricted speeds, vehicles will frequently have to wait Ε through two or more cycles at signalized intersections, and any additional traffic will 0.91 - 1.00result in breakdown of the traffic carrying ability of the system. Long queues of traffic, unstable flow, stoppages of long duration with traffic F volumes and traffic, speed can drop to zero. Traffic volumes will be less than the >1.00 volume which occurs at LOS E.

**Table 3-1: ICU Level of Service Definitions** 

The City of Irvine does not have any criteria for HCM analysis for unsignalized intersections. The unsignalized intersection will be evaluated using the latest Highway Capacity Manual 6<sup>th</sup> Edition (HCM 6) methodology. The HCM 6 methodology defines LOS by the average vehicle delay experienced by all vehicles traveling through the intersection. Traffic operations analysis for HCM methodologies will be completed using Synchro software.

**Table 3-2** presents the average delay associated with each LOS grade as well as a qualitative description of intersection operations at that grade.

LOS	Description	Unsignalized Intersection Delay (Seconds)
А	<ul><li>Free flowing, virtually no delay.</li><li>Minimal traffic.</li></ul>	≤ 10.0
В	<ul> <li>Free flow and choice of lanes.</li> <li>Delays are minimal.</li> <li>All cars clear intersection easily.</li> </ul>	>10.0 – 15.0
С	<ul> <li>Good operation.</li> <li>Delays starting to become a factor but still within acceptable limits.</li> </ul>	>15.0 – 25.0

Table 3-2: HCM Level of Service Definitions

D	<ul> <li>Approaching unstable flow.</li> <li>Queues at intersection are quite long but most cars clear intersection on their green signal.</li> <li>Occasionally, several vehicles must wait for a second green signal.</li> <li>Congestion is moderate.</li> </ul>	>25.0 – 35.0
E	<ul> <li>Severe congestion and delay.</li> <li>Most of the available capacity is used.</li> <li>Many cars must wait through a complete signal cycle to clear the intersection.</li> </ul>	>35.0 – 50.0
F	<ul> <li>Excessive delay and congestion.</li> <li>Most cars must wait through more than one on one signal cycle.</li> <li>Queues are very long, and drivers are obviously irritated.</li> </ul>	>50.0

Source: Highway Capacity Manual 6<sup>th</sup> Edition

The arterial roadway analysis involved the calculation of average daily traffic (ADT) volume-to-capacity (V/C) ratios on study roadway segments. **Table 3-3** summarizes the roadway capacities per the City of Irvine Traffic Study Guidelines 2023 within the study area.

**Table 3-3: Roadway Classification and Daily Capacities** 

Roadway Classification	Number of Lanes	Daily Capacity
Expressway	6 Lanes	135,000
Major Artorial	8 Lanes Divided	72,000
Major Arterial	6 Lanes Divided	54,000
Primary Arterial	4 Lanes Divided	32,000
Secondary Arterial	4 Lanes Undivided	28,000
Commuter	2 Lanes Undivided	13,000

#### **4** EXISTING CONDITIONS

#### 4.1 Existing Corridor Land Uses

The adjacent land use along the South Yale Corridor is primarily residential with Rancho San Joaquin Middle School located in the northeast quadrant of the intersection of Michelson Drive and Yale Avenue.

#### 4.2 Existing Roadways and Intersections

The speed limit on Yale Avenue between Michelson Drive and Royce Road is currently 45 miles per hour (mph) and between Royce Road and University Drive the speed limit is 40 mph. Yale Avenue is a two-lane roadway (one-lane in each direction) with Class II bike lane in each direction. The intersections of Yale Avenue and Michelson Drive (four-way stop-controlled) and Yale Avenue and Royce Road (two-way stop-controlled) are unsignalized. Yale Avenue and University Drive is a signalized intersection.

**Figure 4-1** illustrates the land uses within the study area and **Figure 4-2** illustrates the lane configurations for each study intersection.

#### 4.3 Transit Services

The study area is currently served by one bus transit service operated by OCTA, which is Community Route 167 as shown in **Figure 4-3**. This service operates between the Village in the City of Orange and University Center Area in UCI. The route traverses Michelson Drive between University Drive and Culver Drive within the study area. The service operates an hourly service on weekdays only, with 18 buses per day in each direction.

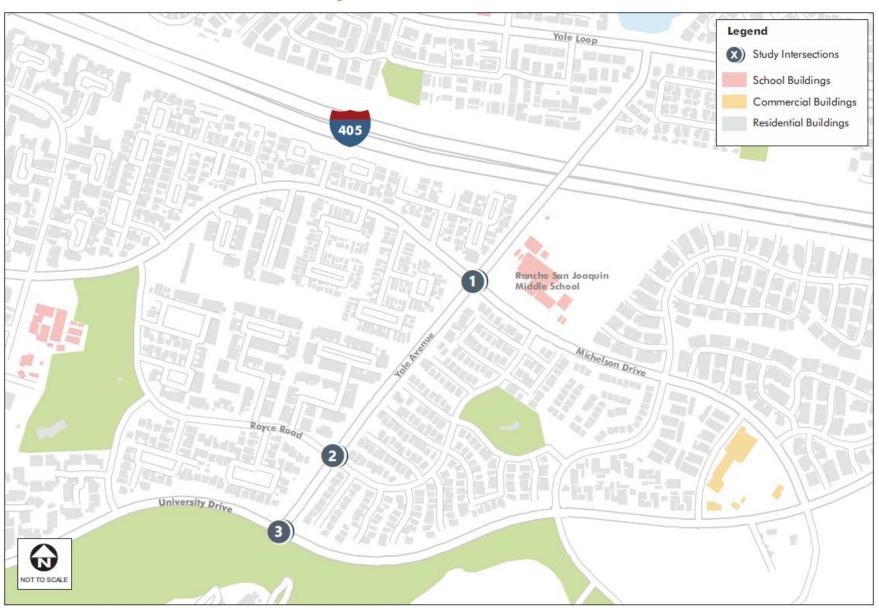


Figure 4-1: South Yale Corridor Land Use



**Figure 4-2: Existing Lane Configurations** 

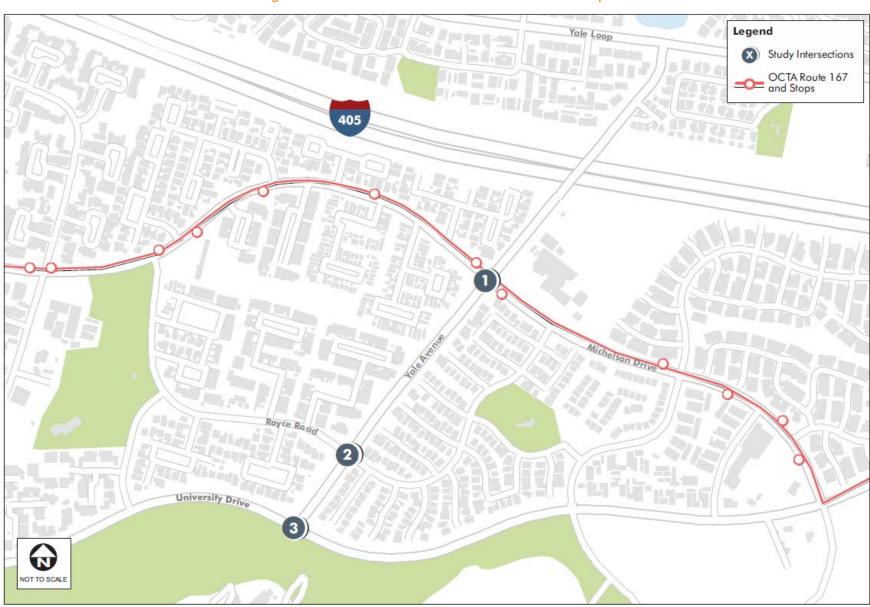


Figure 4-3: South Yale Corridor Commuter Route 167 Bus Stops

#### 4.4 Existing Traffic Counts

Traffic counts were performed on Tuesday 15<sup>th</sup> and Wednesday 16<sup>th</sup> of November 2022. AM and PM peak hour counts were collected between 7:00 AM to 9:00 AM and 2:30 PM to 6:00 PM, respectively, along with arterial average daily traffic (ADT) counts which are provided in **Appendix A**. The two-day weekday counts were averaged as is per City standard practice. PM traffic counts were extended beyond the traditional 4:00 PM to 6:00 PM time period to include the school peak hour at Rancho San Joaquin Middle School.

The Covid-19 pandemic along with the associated lockdowns and remote work requirements has affected traffic patterns and volumes, including shifting traffic to different times of the day. While traffic volumes recovered during 2022 a comparison with available pre-Covid counts was performed to determine the most existing traffic counts to use for the analysis. Year 2018/2019 intersection turning movement counts for two of the three intersection turning movements were available from the ITAM post-processor. **Table 4-1** shows the intersection turning movement count comparison between 2022 and 2018/2019 for the traditional AM and PM peak periods.

In November 2022, the AM peak hour traffic volumes at the intersection of Yale Avenue and Michelson Drive were around 67% higher than pre-Covid conditions, while the evening PM peak hour traffic volumes were around 32% lower than pre-Covid conditions. At the intersection of Yale Avenue and University Drive, the AM peak hour traffic volumes were approximately 32% lower than pre-Covid conditions and 30% lower in the evening PM peak hour.

While the volumes along University Drive are higher in 2018 compared to 2022 this mainly relates to the east-west through movements. At the time of the 2022 count, there was construction on eastbound University Drive near I-405 but since volumes were lower in both eastbound and westbound directions it seems more likely that this is due to a secular reduction in weekday peak hour traffic due to increased working from home. The volumes on Yale Avenue itself are actually higher in 2022 compared to 2018 so it was determined that the year 2022 counts would better reflect current conditions.

**Table 4-1: Intersection Turning Movement Count Comparison** 

tota martina	Peak	Varia		Northbou	nd	S	outhboun	d	E	astbound		ν	Vestboun	d		LT	THRU	RT
Intersection	Hour	Year	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Total	Total	Total	Total
		2022	13	56	33	21	37	52	65	135	21	88	193	20	732	186	420	126
	0.04	2018/2019	10	4	14	5	1	4	7	173	25	16	177	1	437	38	355	44
V 1 A	AM	Diff	3	52	19	16	36	48	58	-39	-5	72	16	19	295	148	65	82
Yale Avenue and		% Diff	30%	>100%	>100%	>100%	>100%	>100%	>100%	-22%	-18%	>100%	9%	>100%	67%	>100%	18%	>100%
Michelson Drive		2022	14	1	57	2	0	3	2	284	7	13	204	1	586	30	489	68
Drive	PM	2018/2019	11	1	58	1	2	2	2	505	15	19	241	2	859	33	749	77
	(4:45 PM)	Diff	3	-1	-1	1	-2	1	-1	-221	-8	-6	-37	-1	-273	-4	-261	-9
		% Diff	23%	-50%	-2%	50%	-100%	50%	-25%	-44%	-53%	-32%	-15%	-50%	-32%	-11%	-35%	-12%
		2022	0	0	0	76	0	104	81	769	0	0	1,319	35	2,382	156	2,088	139
	AM	2018/2019	0	0	0	67	0	119	67	1,278	0	0	1,930	33	3,494	134	3,208	152
	AIVI	Diff	0	0	0	9	0	-15	14	-509	0	0	-612	2	-1,112	22	-1,121	-14
Yale Avenue and		% Diff				13%		-13%	20%	-40%			-32%	5%	-32%	16%	-35%	-9%
University Drive		2022	0	0	0	13	0	21	68	1,416	0	0	1,001	32	2,550	81	2,417	53
Drive	PM	2018/2019	0	0	0	27	0	30	64	2,071	0	0	1,406	37	3,635	91	3,477	67
	(4:45 PM)	Diff	0	0	0	-14	0	-9	4	-656	0	0	-405	-6	-1,086	-11	-1,061	-15
		% Diff				-52%		-30%	5%	-32%			-29%	-15%	-30%	-12%	-31%	-22%

The 2022 ADT counts on the arterial roadways shown in **Table 4-2** indicate that traffic volume on Yale Avenue was higher than pre-Covid volumes.

**Table 4-2: Arterial Daily Flow Comparison** 

#	Segment	Year 2022	Year 2018	% Difference
А	Yale Avenue north of Michelson Drive	540	Not Available	Not Available
В	Yale Avenue between Michelson Drive and Royce Road	1,230	1,130	9%
С	Yale Avenue between Royce Road and University Drive	1,770	1,160	53%

Figure 4-4 illustrates the existing vehicle traffic counts.

Total Layer

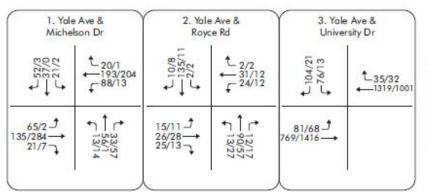
405

Althority Drive

3

NOTTO SCALE

**Figure 4-4: Existing Vehicle Traffic Counts** 



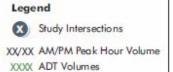


Figure 4-5 illustrates the existing conditions bicycle and pedestrian counts during the AM and PM peak hours (1hr).

0 1, Yale Ave & Michelson Dr 3. Yale Ave & University Dr 2. Yale Ave & Royce Rd 11/3 12/10 19/8 Legend 7/4 16/8 6/11 Study Intersections 51 45/17 10/6 8 Private Sidewalk

0/3

4/3

Figure 4-5: Existing Pedestrian and Bike Counts AM and Evening PM Peak Hours (1Hr)

20/14

16/10

\*Private Sidewalk

7/12

5/6

\*1-405 Overcrossing

XX/XX AM/PM Peak Hour Pedestrian Counts XX/XX AM/PM Peak Hour Bike Counts

Figure 4-6 illustrates the existing conditions bicycle and pedestrian counts during school peak hour (1hr).

3. Yole Ave & University Dr 2. Yole Ave & 1. Yole Ave & Michelson Dr Royce Rd Legend Study Intersections = 1 2 I 2 2 1 1 2 8 Private Sidewalk School Peak Hour Pedestrian Counts XX School Peak Hour Bike Counts 10 \*Private Sidewalk "1-405 Overcrossing

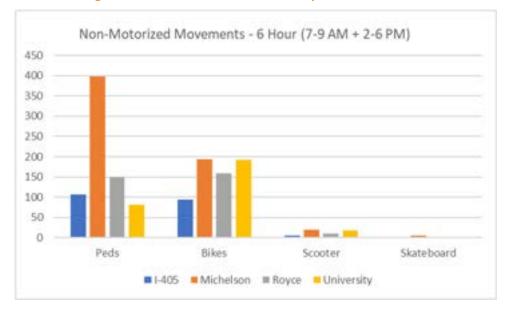
Figure 4-6: Existing Pedestrian and Bike Counts School Peak Hour (1Hr)

**Table 4-3 and Figure 4-7** shows the total non-motorized movements during AM (7AM-9AM) and PM (2:30 PM-6PM) periods (six hours) at the study intersections and at I-405 overcrossing by mode. The main pedestrian movement is at Yale Avenue and Michelson Drive around the Rancho San Joaquin Middle School. Bicycles are more evenly spread throughout the study area. This suggests bikes traversing the whole corridor while pedestrians are either walking to nearby homes or being picked up by parents from school who are waiting on adjacent streets. This observation was supported by field observations. Only a small number of scooters and skateboards were observed.

Mode	I-405 Overcrossing	Yale Avenue and Michelson Drive	Yale Avenue and Royce Road	Yale Avenue and University Drive
Pedestrian	107	397	150	82
Bicycle	88	194	160	192
Scooter	6	20	10	18
Skateboard	1	5	2	2
Total	201	616	321	294

Table 4-3: November 2022 AM and PM Periods Non-Motorized Counts





#### 4.5 Existing Conditions Traffic Analysis

The intersection LOS results were calculated during the AM, PM, and school peak hours for Existing conditions and the results are shown in **Table 4-4**. The ICU worksheets are provided in **Appendix B**. The synchro worksheets are provided in **Appendix C**. Under Existing conditions, the study intersections are operating at LOS C or better during both AM and PM peak hours.

**Table 4-4: Existing Conditions Intersection Peak Hour LOS** 

			Existing										
#	Intersection	Methodology	AM		Evening PM		School PM						
			V/C Delay	LOS	V/C Delay	LOS	V/C Delay	LOS					
1	Yale Avenue and Michelson Drive <sup>1</sup>	HCM 6th 4-WSC	17.7	С	14.0	В	13.3	В					
2	Yale Avenue and Royce Road <sup>1</sup>	HCM 6 <sup>th</sup> 2-WSC	17.9	С	10.6	В	10.6	В					
3	Yale Avenue and University Drive	ICU	0.53	А	0.48	А	0.32	А					

#### Note:

<sup>1</sup> Unsignalized intersection

2-WSC: 2-way stop control

4-WSC: 4-way stop control

The roadway segment LOS results during existing conditions are shown in **Table 4-5**. The study roadway segments operate at LOS A under Existing conditions.

**Table 4-5: Existing Conditions Roadway Segment LOS** 

#	Someont	Existing									
#	Segment	Туре	Total Capacity	ADT	V/C	LOS					
А	Yale Avenue north of Michelson Drive	Commuter	13,000	540	0.04	А					
В	Yale Avenue between Michelson Drive and Royce Road	Commuter	13,000	1,230	0.09	А					
С	Yale Avenue between Royce Road and University Drive	Commuter	13,000	1,770	0.14	А					

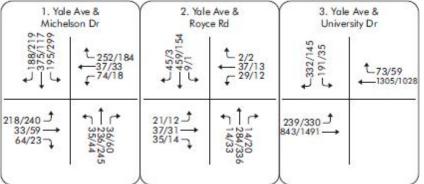
## 5 DEVELOPMENT OF FUTURE FORECAST TRAFFIC VOLUMES AND METHODOLOGY

Future traffic volumes were extracted from the City's traffic model ITAM. Prior to running ITAM, the highway networks were reviewed to ensure that they adequately represented the roadway system in the study area.

ITAM uses future model forecasts along with existing model volumes and existing traffic counts to generate post-processed forecast model volumes for the four Buildout year scenarios. **Figure 5-1** through **Figure 5-4** illustrates the buildout year turning movement volumes from ITAM while **Table 5-1** summarizes the buildout year daily volumes on the arterial segments.



Figure 5-1: Buildout Year I-405 Vehicular OC with Four-Lane Yale Avenue Traffic Volumes



Legend
Study Intersections

XX/XX AM/PM Peak Hour Volume

XXXX ADT Volumes

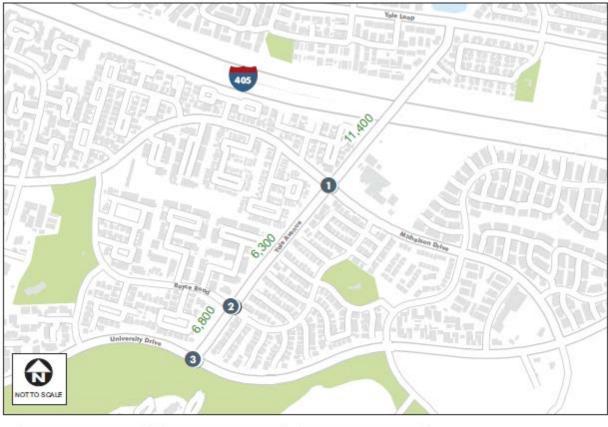
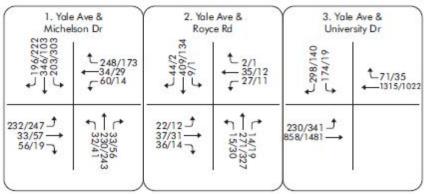


Figure 5-2: Buildout Year I-405 Vehicular OC with Two-Lane Yale Avenue Traffic Volumes



#### Legend

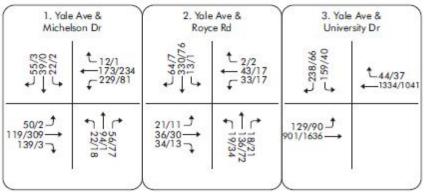


Study Intersections

XX/XX AM/PM Peak Hour Volume XXXX ADT Volumes



Figure 5-3: Buildout Year No I-405 Vehicular OC with Four-Lane Yale Avenue Traffic Volumes



#### Legend

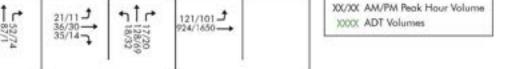


Study Intersections

XX/XX AM/PM Peak Hour Volume XXXX ADT Volumes



Figure 5-4: Buildout Year No I-405 Vehicular OC with Two-Lane Yale Avenue Traffic Volumes



(X) Study Intersections

**Table 5-1: Forecast Buildout Year Arterial Segment Volumes** 

				Buildout Year Po	st-Processed ADT	
#	Segment	Existing	I-405 Vehicular OC with 4-Lane Yale Avenue	I-405 Vehicular OC with 2-Lane Yale Avenue	No I-405 Vehicular OC with 4-Lane Yale Avenue	No I-405 Vehicular OC with 2-Lane Yale Avenue
А	Yale Avenue north of Michelson Drive	540	11,700	11,400	570	570
В	Yale Avenue between Michelson Drive and Royce Road	1,230	6,800	6,300	2,600	2,400
С	Yale Avenue between Royce Road and University Drive	1,770	7,200	6,800	3,200	3,000

Two different Buildout networks were used, one with an I-405 vehicular OC along Yale Avenue and the other with an I-405 pedestrians and bicyclists-only OC along Yale Avenue. Using traffic forecasts based on the City of Irvine's traffic model ITAM, Yale Avenue volumes from both Buildout scenarios with 2 lanes are lower than with 4 lanes. Also, the Buildout scenario with I-405 vehicular OC are higher than the scenarios with No I-405 vehicular OC, likely due to the network using Yale Avenue as an alternative route for some origin-destination pairs which could potentially increase traffic along Yale Avenue.

#### **6** BUILDOUT YEAR TRAFFIC OPERATIONS

LOS analysis was conducted to evaluate the future scenarios:

- Buildout Year I-405 Vehicular OC with Four-lane Yale Avenue,
- Buildout Year I-405 Vehicular OC with Two-lane Yale Avenue,
- Buildout Year No I-405 Vehicular OC with Four-lane Yale Avenue, and
- Buildout Year No I-405 Vehicular OC with Two-lane Yale Avenue during AM and PM peak hours.

The signalized intersections were analyzed using the ICU methodology, and additional HCM analyses were completed at the unsignalized intersections.

#### 6.1 Buildout Year I-405 Vehicular OC with Four-Lane Yale Avenue

The intersection LOS results were calculated during the AM and PM peak hours are shown in **Table 6-1**. The ICU worksheets are provided in **Appendix B**. The synchro worksheets are provided in **Appendix C**. Two (2) intersections are expected to operate at LOS E or worse during either AM or PM peak hours:

- Yale Avenue and Michelson Drive (AM LOS F | PM LOS F for 4-way stop-controlled operation)
- Yale Avenue and Royce Road (AM LOS E for 2-way stop-controlled operation)

LOS is also shown for informational purposes using the ICU methodology at Yale Avenue and Michelson Drive and using a four-way stop-controlled methodology at Yale Avenue and Royce Road, which both operate at satisfactory levels of service. Unlike ICU analysis, for HCM analysis typically the delay for the most restrictive approach is reported rather than the delay for the intersection. Therefore, in the case of Royce Road, the delay in the eastbound and westbound direction is reduced significantly. Although there is an increase in delay for the northbound and southbound movements compared to 2-way stop-controlled operation, overall delay for the intersection increases, but with an improvement in reported LOS (since stop-controlled intersections are reported by worst approach).

Table 6-1: Buildout Year I-405 Vehicular OC with Four-Lane Yale Avenue Intersection LOS

				Exis	ting		Buildout Year I-405 Vehicular OC with Four-Lane Yale Avenue					
#	Intersection	Methodology	AM		PM		AM		PM			
			V/C Delay	LOS	V/C Delay	LOS	V/C Delay	LOS	V/C Delay	LOS		
1	Yale Avenue and Michelson Drive	HCM 6th 4-WSC	17.7	С	14.0	В	388.4	F	341.5	F		
1	raie Avenue and Michelson Drive	ICU					0.43	Α	0.46	Α		
		HCM 6 <sup>th</sup> 2-WSC	17.9	С	10.6	В	41.5	E	19.5	С		
2	Yale Avenue and Royce Road <sup>1</sup>	HCM 6 <sup>th</sup> 4-WSC					16.0	С	11.2	В		
3	Yale Avenue and University Drive	ICU	0.53	А	0.48	А	0.68	В	0.56	А		

**Note:** Bolded cell denotes deficient LOS ( $V/C \ge 0.91$ )

<sup>1</sup> Unsignalized intersection

2-WSC: 2-way stop control

4-WSC: 4-way stop control

A traffic signal warrant study per Manual on Uniform Traffic Control Devices (MUTCD) was performed for both intersections. The unsignalized intersection of Yale Avenue and Royce Road does not meet the peak hour volume warrant, while the unsignalized intersection of Yale Avenue and Michelson Drive does meet the peak hour volume warrant, meaning that signal installation may be recommended. The peak hour volume warrant is provided in

#### Appendix D.

The roadway segment LOS results during Buildout Year I-405 Vehicular OC with four-lane Yale Avenue are shown in **Table 6-2**. The study roadway segments are expected to operate at LOS D or better under Buildout Year I-405 Vehicular OC with Four-Lane Yale Avenue scenario conditions.

Table 6-2: Buildout Year I-405 Vehicular OC with Four-Lane Yale Avenue Roadway Segment LOS

#	Sagment		Exist	ing			Buildout Year I-405 Vehicular OC with Four-Lane Yale Avenue					
#	Segment	Туре	Total Capacity	ADT	v/c	LOS	Туре	Total Capacity	ADT	V/C	LOS	
А	Yale Avenue north of Michelson Drive	Commuter	13,000	540	0.04	А	Commuter	13,000	11,700	0.90	D	
В	Yale Avenue between Michelson Drive and Royce Road	Commuter	13,000	1,230	0.09	А	Secondary	28,000	6,800	0.24	А	
С	Yale Avenue between Royce Road and University Drive	Commuter	13,000	1,770	0.14	А	Secondary	28,000	7,200	0.26	А	

#### 6.2 Buildout Year I-405 Vehicular OC with Two-Lane Yale Avenue

The intersection LOS results were calculated during the AM and PM peak hours for as shown in **Table 6-3**. The ICU worksheets are provided in **Appendix B**. The synchro worksheets are provided in **Appendix C**.

As shown in **Table 6-3**, the following two (2) intersections are expected to operate at LOS E or worse during AM or PM peak hours:

- Yale Avenue and Michelson Drive (AM LOS F | PM LOS F for 4-way stop-controlled operation)
- Yale Avenue and Royce Road (AM LOS E for 2-way stop-controlled operation)

LOS is also shown <u>for informational purposes</u> using the ICU methodology at Yale Avenue and Michelson Drive and using a four-way stop-controlled methodology for Yale Avenue and Royce Road. Unlike the four-lane Yale Avenue conditions (summarized in *Section 6.1*), the two-way stop-control would not result in a satisfactory level of service in the AM peak.

Table 6-3: Buildout Year I-405 Vehicular OC with Two-Lane Yale Avenue Intersection LOS

				Exis	ting		Buildout Year I-405 Vehicula OC with Two-Lane Yale Avenue				
#	Intersection	Methodology	AIV	1	PIV	1	AIV	1	PM		
			V/C Delay	LOS	V/C Delay	LOS	V/C Delay	LOS	V/C Delay	LOS	
1	Yale Avenue and Michelson Drive	HCM 6th 4-WSC	17.7	С	14.0	В	903.6	F	456.8	F	
1	raie Avenue and Michelson Drive	ICU					0.51	Α	0.54	Α	
2	Yale Avenue and Royce Road <sup>1</sup>	HCM 6 <sup>th</sup> 2-WSC	17.9	С	10.6	В	46.3	Е	19.1	С	
	Tale Avenue and Royce Road	HCM 6 <sup>th</sup> 4-WSC					38.8	E	16.1	С	
3	Yale Avenue and University Drive	ICU	0.53	А	0.48	А	0.68	В	0.56	А	

**Note: Bolded** cell denotes deficient LOS ( $V/C \ge 0.91$ )

A traffic signal warrant study per Manual on Uniform Traffic Control Devices (MUTCD) was performed for both intersections. The unsignalized intersection of Yale Avenue and Royce Road does not meet the peak hour volume warrant, while the unsignalized intersection of Yale Avenue and Michelson Drive does meet the peak hour volume warrant and signal installation should be considered. The peak hour volume warrant is provided in **Appendix D.** 

The roadway segment LOS results during Buildout Year I-405 Vehicular OC with Two-Lane Yale Avenue are summarized in **Table 6-4**. The study roadway segments are expected to operate at LOS D or better under Buildout Year I-405 Vehicular OC with Two-Lane Yale Avenue scenario conditions.

Table 6-4: Buildout Year I-405 Vehicular OC with Two-Lane Yale Avenue Roadway Segment LOS

#	Segment		Existi	ing			Buildout Year I-405 Vehicular OC with Two-Lane Yale Avenue						
#	Segment	Туре	Total Capacity	ADT	v/c	LOS	Туре	Total Capacity	ADT	v/c	LOS		
А	Yale Avenue north of Michelson Drive	Commuter	13,000	540	0.04	А	Commuter	13,000	11,400	0.88	D		
В	Yale Avenue between Michelson Drive and Royce Road	Commuter	13,000	1,230	0.09	А	Secondary	28,000	6,300	0.23	А		
С	Yale Avenue between Royce Road and University Drive	Commuter	13,000	1,770	0.14	А	Secondary	28,000	6,800	0.24	А		

#### 6.3 Buildout Year No I-405 Vehicular OC with Four-Lane Yale Avenue

The intersection LOS results were calculated during the AM and PM peak hours for Buildout Year No I-405 Vehicular OC with Four-Lane Yale Avenue scenario, and the results are summarized in **Table 6-5**. The ICU worksheets are provided in **Appendix B**. The synchro worksheets are provided in **Appendix C**. The study intersections are expected to operate at LOS C or better during both AM and PM peak hours under the Buildout Year No I-405 Vehicular OC with Four-Lane Yale Avenue scenario conditions.

<sup>&</sup>lt;sup>1</sup> Unsignalized intersection 2-WSC: 2-way stop control 4-WSC: 4-way stop control

Table 6-5: Buildout Year No I-405 Vehicular OC with Four-Lane Yale Avenue Intersection LOS

				Exi	sting		Buildout Year No I-405 Vehicular OC with Four-Lane Yale Avenue				
#	# Intersection	Methodology	Α	AM		PM		AM		М	
			V/C Delay	LOS	V/C Delay	LOS	V/C Delay	LOS	V/C Delay	LOS	
1	Yale Avenue and Michelson Drive <sup>1</sup>	HCM 6 <sup>th</sup> 4-WSC	17.7	С	14.0	В	24.2	С	18.1	С	
2	Yale Avenue and Royce Road <sup>1</sup>	HCM 6 <sup>th</sup> 2-WSC	17.9	С	10.6	В	22.9	С	12.0	В	
3	Yale Avenue and University Drive	ICU	0.53	А	0.48	А	0.61	В	0.55	А	

#### Note:

2-WSC: 2-way stop control

4-WSC: 4-way stop control

The roadway segment LOS results during Buildout Year No I-405 Vehicular OC with Four-Lane Yale Avenue are summarized in **Table 6-6**. The study roadway segments are expected to operate at LOS A under Buildout Year No I-405 Vehicular OC Four-Lane Yale Avenue scenario conditions.

Table 6-6: Buildout Year No I-405 Vehicular OC Four-Lane Yale Avenue Roadway Segment LOS

#	Segment		Existin	g			Buildout Year No I-405 Vehicular OC with Four-Lane Yale Avenue						
#	Segment	Туре	Total Capacity	ADT	v/c	LOS	Туре	Total Capacity	ADT	v/c	LO S		
А	Yale Avenue north of Michelson Drive	Commuter	13,000	540	0.04	А	Commuter	13,000	570	0.04	А		
В	Yale Avenue between Michelson Drive and Royce Road	Commuter	13,000	1,230	0.09	А	Secondary	28,000	2,600	0.09	А		
С	Yale Avenue between Royce Road and University Drive	Commuter	13,000	1,770	0.14	А	Secondary	28,000	3,200	0.11	А		

#### 6.4 Buildout Year No I-405 Vehicular OC with Two-Lane Yale Avenue

The intersection LOS results were calculated during the AM and PM peak hours for Buildout Year No I-405 Vehicular OC with Two-Lane Yale Avenue conditions, and the results are summarized in **Table 6-7**. The ICU worksheets are provided in **Appendix B**. The synchro worksheets are provided in **Appendix C**. The study intersections are expected to operate at LOS C or better during both AM and PM peak hours under Buildout Year No I-405 Vehicular OC with Two-Lane Yale Avenue scenarios conditions.

<sup>&</sup>lt;sup>1</sup> Unsignalized intersection

Table 6-7: Buildout Year No I-405 Vehicular OC with Two-Lane Yale Avenue Intersection LOS

				Existin	ıg				o I-405 V ine Yale <i>l</i>	
#	Intersection	Methodology	ΑN	1	PI	VI	А	M	PI	M
			V/C Delay	LOS	V/C Delay	LOS	V/C Delay	LOS	V/C Delay	LOS
1	Yale Avenue and Michelson Drive <sup>1</sup>	HCM 6 <sup>th</sup> 4-WSC	17.7	С	14.0	В	20.4	С	18.4	С
2	Yale Avenue and Royce Road <sup>1</sup>	HCM 6 <sup>th</sup> 2-WSC	17.9	С	10.6	В	24.7	С	11.9	В
3	Yale Avenue and University Drive	ICU	0.53	А	0.48	А	0.61	В	0.55	А

#### Note:

<sup>1</sup> Unsignalized intersection

2-WSC: 2 ways stop control

4-WSC: 4 ways stop control

The roadway segments LOS results during Buildout Year No I-405 Vehicular OC with Two-Lane Yale Avenue conditions are summarized in **Table 6-8**. The study roadway segments are expected to operate at LOS A under Buildout Year No I-405 Vehicular OC Two-Lane Yale Avenue scenario conditions.

Table 6-8: Buildout Year No I-405 Vehicular OC with Two-Lane Yale Avenue Roadway Segment LOS

#	Sagmont		Existin	g				out Year No rith Two-La			
#	Segment	Туре	Total Capacity	ADT	v/c	LOS	Туре	Total Capacity	ADT	v/c	LOS
А	Yale Avenue north of Michelson Drive	Commuter	13,000	540	0.04	А	Commuter	13,000	570	0.04	А
В	Yale Avenue between Michelson Drive and Royce Road	Commuter	13,000	1,230	0.09	А	Secondary	28,000	2,400	0.09	А
С	Yale Avenue between Royce Road and University Drive	Commuter	13,000	1,770	0.14	А	Secondary	28,000	3,000	0.11	А

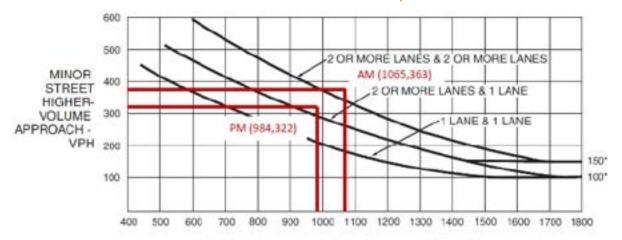
#### **7** SIGNAL WARRANTS

The following unsignalized intersections are expected to operate deficiently under Buildout Year I-405 vehicular overcrossing under both four-lane Yale Avenue and two-lane Yale Avenue scenarios:

- Yale Avenue and Michelson Drive
- Yale Avenue and Royce Road

Traffic signal warrant studies per Manual on Uniform Control Devices (MUTCD) was performed for both intersections. The intersection of Yale Avenue and Michelson Drive met the conditions for Warrant 3 (Peak Hour) with AM and PM peak hour volumes as shown in **Figure 7-1** and **Figure 7-2**, while the intersection of Yale Avenue and Royce Road did not meet the conditions for Warrant 3 (Peak Hour) for either AM or PM peak hour volumes.

Figure 7-1: Buildout Year I-405 Vehicular OC with Four-Lane Yale Avenue – MUTCD Traffic Signal Warrant (Yale Avenue and Michelson Drive)



MAJOR STREET—TOTAL OF BOTH APPROACHES— VEHICLES PER HOUR (VPH)

\*Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

600 500 2 OR MORE LANES & 2 OR MORE LANES MINOR AM (1040,342) 400 STREET 2 OR MORE LANES & 1 LANE HIGHER-300 VOLUME 1 LANE & 1 LANE PM (968,323) APPROACH -VPH 200 150° 100\* 100 1000 1100 1200 1300 1400 1500 1600 1700 1800 400 500 700 800 900 600 MAJOR STREET-TOTAL OF BOTH APPROACHES-VEHICLES PER HOUR (VPH)

Figure 7-2: Buildout Year I-405 Vehicular OC with Two-Lane Yale Avenue – MUTCD Traffic Signal Warrant (Yale Avenue and Michelson Drive)

\*Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

#### **8** FINDINGS AND RECOMMENDATIONS

In existing conditions all three study area intersections and roadway segments operate at satisfactory levels of service. There are two pairs of Buildout Scenarios with and without the widening to four lanes.

- 1. **No Future Vehicular crossing of Yale Avenue over I-405** In this scenario pair, the elimination of the future widening Yale Avenue from two-lanes to four-lanes will not result in any deficient level of service at any of the three study intersections or roadway segments. All intersections and arterial segments will continue to operate at satisfactory levels of service.
- 2. Future Vehicular crossing of Yale Avenue over I-405 This is the current General Plan and MPAH scenario. In this scenario pair, in both the four-lane and two-lane scenarios the intersection of Yale Avenue and Michelson Drive would operate and unsatisfactory levels of service with the existing four-way stop control. However, this intersection meets signal warrants based on future peak hour volumes. Based on the assumption that the intersection would be signalized should a vehicular overcrossing of I-405 be implemented, then the intersection would operate at satisfactory levels of service using the ICU methodology.

The intersection of Yale Avenue and Royce Avenue would operate at unsatisfactory levels of service using the existing two-way stop control configuration. The future volumes at the intersection do not warrant a traffic signal. A four-lane stop controlled analysis was therefore performed as a sensitivity test. Although the overall intersection delay increases with a four-way control the intersection level of service as defined by the approach with maximum delay would improve in both two -lane and four lane Yale Avenue scenarios. In the case of the four-lane Yale Avenue configuration, the intersection would operate at a satisfactory level of service, but with the two-lane stop control (the existing configuration), the level of service would remain unsatisfactory.

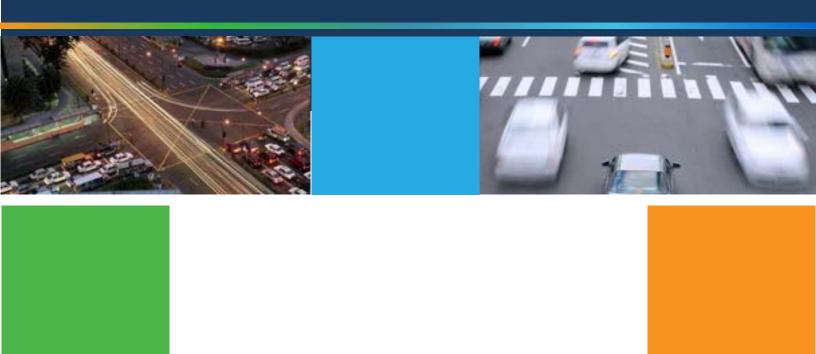
Since the purpose of the study is for the potential removal of the street widening of Yale Avenue, there is no VMT impact under CEQA.

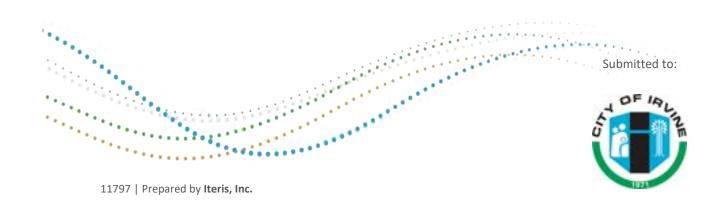


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# City of Irvine South Yale Avenue Traffic Study Technical Appendix





### APPENDIX A- 2022 TRAFFIC COUNTS

South Yale Corridor Study -Average Daily Traffic Summary

ID	Location	ADT	AM Peak	<b>PM School Peak</b>	PM Evening	AM Peak %	PM School Peak%	PM Evening%
1	Yale Ave north of Michelson Dr	540	250	135	8	46%	25%	1%
2	Yale Ave north of Royce Rd	1,230	253	188	89	21%	15%	7%
3	Yale Ave south of Royce Rd	1,770	295	217	133	17%	12%	8%

			Tuesday			Wednesda	зу			
			11/15/202	2		11/16/202	22		Average	
ID	Location	NB	SB	Combined	NB	SB	Combined	NB	SB	Combined
1	Yale Ave north of Michelson Dr	259	253	512	280	288	568	270	270	540
2	Yale Ave north of Royce Rd	722	563	1,285	646	522	1,168	680	540	1,230
3	Yale Ave south of Royce Rd	978	821	1,799	926	811	1,737	950	820	1,770

	es for	******		ember 15, 2022	D	CITY:					PROJECT: SC3579	
Locat	ion:		ADT1 Yale r	orth of Michelson		y: Field Data Ser	vices	of Ariz	zona, In	C.	Suhsduhg#e #DlpN	WG#00F##who1#:47#58
						AY 1	***********	******************				
M Period	NB		SB			PM Period	NB		SB			
0:00	0		0			12:00	0		1			
0:15	0		0			12:15 12:30	1		0 0			
0:30 0:45	0	0	0 0		0	12:45	0	2	0	1		3
1:00	0		0		<u> </u>	13:00	1		0			
1:15	0		0			13:15	0		0			
1:30	0		0			13:30	0		1			
1:45	0	0	0 0		0	13:45	0	1	0	1		2
2:00	0		0			14:00	1		1			
2:15	0		0			14:15	4		2			
2:30	0	•	0		•	14:30	14		0	_		40
2:45		0	0 0		0	14:45	22	41	4	7		48
3:00	0		0			15:00	19		45			
3:15 3:30	0		0			15:15 15:30	7 1		16 3			
3:45		0	0 0		0	15:30	5	32	2	66		98
4:00	0		0			16:00	7		21			
4:15	0		0			16:15	1		3			
4:30	0		0			16:30	1		2			
4:45	0	0	0 0		0	16:45	0	9	0	26		35
5:00	1		1			17:00	1		0			
5:15	1		0			17:15	0		1			
5:30	0		0			17:30	0		1			
5:45	0	2	0 1		3	17:45	0	1	11	3		4
6:00	1		1			18:00	0		2			
6:15	1		0			18:15	0		0			
6:30	0	2	2		-	18:30	1	2	1			•
6:45		2	0 3		5	18:45	2	3	3	6		9
7:00	3		0			19:00	2		3			
7:15 7:30	11 10		6 11			19:15 19:30	0		0 0			
7:45		39	5 22		61	19:45	0	2	0	3		5
8:00	47		29			20:00	0		0			
8:15	64		61			20:15	0		0			
8:30	3		5			20:30	0		0			
8:45	0 1	.14	6 101		215	20:45	0	0	0	0		0
9:00	1		2			21:00	0		0			
9:15	2		2			21:15	0		0			
9:30	1		0			21:30	0		1			
9:45		5	2 6		11	21:45	0	0	0	1		1
10:00	0		1			22:00	0		0			
10:15	2		1			22:15	0		0			
10:30	1		0		ć	22:30	0	•	0	0		0
10:45		4	0 2		6	22:45	0	0	0	0		0
11:00	0		0			23:00	0		0			
11:15 11:30	1 0		0 1			23:15 23:30	0		0 1			
11:45		2	2 3		5	23:45	0	0	0	1		1
otal Vol.		.68	138		306	251.15		91		115		206
-uii 101i	1	.50	130		550			71		113	Daily Totals	200
							-	NB		SB	-	Combined
								259		253		512
				AM		******************************					PM	
Split %	54	1.9%	45.1%		59.8%			44.2%	)	55.8%		40.2%
eak Hour	7	7:30	7:30		7:30			14:30		14:45		14:30
Volume	1	.36	106		242			62		68		127
P.H.F.		).53	0.43		0.48			0.84		0.38		0.50

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Volum		******		nesday, November 16, 2022	Prepared by	Field Data Service				Jouqui	n PROJECT: SC3579
Loca	tion:		AU (1	Yale north of Michelson					,		Suhsduhg#e #DlpWG#OOF##who1#:47#586#
					D	AY 2					
AM Period	NB		SB			PM Period	NB		SB		
0:00	0		0			12:00	0		2		
0:15	0		0			12:15	0		0		
0:30	0	0	0	0	0	12:30	1 0	1	1 1	4	5
0:45		U		0	U	12:45		1		-	<u> </u>
1:00 1:15	0		0			13:00 13:15	0 2		0		
1:30	0		0			13:30	0		1		
1:45	0	0	0	0	0	13:45	0	2	0	1	3
2:00	0		0		*	14:00	7		4		
2:15	0		0			14:15	6		1		
2:30	0		0			14:30	9		3		
2:45	0	0	0	0	0	14:45	22	44	4	12	56
3:00	0		0			15:00	25		58		
3:15	0		0			15:15	6		16		
3:30	0		0			15:30	2		3		
3:45	0	0	0	0	0	15:45	5	38	4	81	119
4:00	0		0			16:00	7		19		
4:15	0		0			16:15	0		1		
4:30	0	0	0	0	0	16:30	0 2	9	0	20	20
4:45	0	U	0	0	0	16:45		9	0	20	29
5:00	0		0			17:00	1 0		5		
5:15 5:30	0		0			17:15 17:30	1		0 2		
5:45	1	1	1	1	2	17:45	0	2	0	7	9
6:00	0		0	-		18:00	0		1		
6:15	0		0			18:15	0		0		
6:30	0		0			18:30	0		1		
6:45	1	1	0	0	1	18:45	0	0	0	2	2
7:00	1		3			19:00	0		0		
7:15	7		0			19:15	0		0		
7:30	4		1			19:30	0		1		
7:45	23	35	8	12	47	19:45	0	0	0	1	
8:00	57		34			20:00	0		1		
8:15	68		71			20:15	0		0		
8:30	3		6			20:30	0		0		
8:45		135		117	252	20:45	0	0	0	1	1
9:00	0		2			21:00	1		2		
9:15	2		2			21:15	1		0		
9:30 9:45	1	4	1	8	12	21:30 21:45	0	2	2	4	6
		7		U	14					7	<u> </u>
10:00 10:15	1 2		3			22:00 22:15	0		0		
10:15	1		1			22:15	0		0		
10:45	0	4	0	4	8	22:45	0	0	0	0	0
11.00		•			Ť	22.00	0	-	2	-	

								Daily Totals	
						NB	SB		Combined
						280	288		568
			AM					PM	
Split %	54.5%	45.5%		58.8%	***************************************	41.9%	58.1%		41.2%
Peak Hour	7:30	7:45		7:45		14:15	14:30		14:30
Volume	152	119		270		62	81		143
P.H.F.	0.56	0.42		0.49		0.67	0.35		0.43
			cs@aimtd.com	Tell. 714	253 7888				

11:00 11:15

11:30 11:45

Total Vol.

23:00 23:15 23:30

23:45

Volume	es for	:	Tuesday, Nov	rember 15, 2022		CITY:	Irvine	Ranch	no San .	Joaquin	PROJECT: SC3579		
Locat	tion:		ADT2 Yale	north of Royce	Prepare	d by: Field Dat	ta Serv	ices o	of Arizo	na, Inc.	Suhsduhg#e #DlpW	G#00F##who1#:47#5	86#:;;
	~~~~~~~				D	AY 1				~~~~~~~~~~			
AM Period	NB		SB			PM Period	NB		SB				
0:00	1		0			12:00	21		13				
0:15	0		0			12:15	12 9		6				
0:30 0:45		1	0 0		1	12:30 12:45	18	60	8 7	34		94	
1:00	1		0			13:00	12		6				
1:15	0		0			13:15	8		3				
1:30	0		0		1	13:30	12 7	20	9	24		63	
1:45	0	1	0 0		1	13:45	27	39	6 7	24		63	
2:00 2:15	0		0			14:00 14:15	25		7				
2:30	0		0			14:30	18		5				
2:45	0 (	0	0 0		0	14:45	43	113	4	23		136	
3:00	0		0			15:00	27		61				
3:15 3:30	0		0			15:15 15:30	6 10		19 7				
3:45		0	0 0		0	15:30	16	59	7	94		153	
4:00	0		0			16:00	21		25			<del></del>	
4:15	0		0			16:15	20		8				
4:30	0	_	0			16:30	6		9				
4:45		0	1 1		1	16:45	13	60	2	44		104	
5:00 5:15	0		0 0			17:00 17:15	19 18		4				
5:30	1		1			17:30	30		7				
5:45	0	1	0 1		2	17:45	13	80	5	20		100	
6:00	1		1			18:00	9		6				
6:15	2		2			18:15	8		3				
6:30 6:45	2 4 9	9	0 3 6		15	18:30 18:45	4 6	27	1 2	12		39	
7:00	3	,	1		13	19:00	8	21	4	12			
7:15	6		6			19:15	4		5				
7:30	6		10			19:30	4		3				
7:45	11 2	26	13 30		56	19:45	3	19	2	14		33	
8:00	36		40			20:00	4		0				
8:15 8:30	46 10		82 9			20:15 20:30	6 3		1 0				
8:45	8 1	00	9 140		240	20:45	1	14	1	2		16	
9:00	12		5			21:00	2		2				
9:15	5		4			21:15	1		1				
9:30	15		6			21:30	0	_	1				
9:45		89	10 25		64	21:45	4	7	0	4		11	
10:00 10:15	7 8		17 12			22:00 22:15	2		0				
10:30	9		5			22:30	0		0				
10:45	7 3	31	3 37		68	22:45	2	5	1	1		6	
11:00	5		15			23:00	1		0				
11:15	9		14			23:15	1		0				
11:30 11:45	6 9 2	9	9 11 49		78	23:30 23:45	0	2	1 1	2		4	
Total Vol.		37	289		526	23.13	<u> </u>	485		274		759	
											Daily Totals		
							-	NB 722		SB 563		Combined 1285	
				АМ				122		203	РМ	1205	
Split %	45	.1%	54.9%	AM	40.9%	*****************		63.9%	)	36.1%	ri4	59.1%	
Peak Hour		:45	7:30		7:45			14:00		15:00		14:15	
Volume		03	145		247			113		94		190	
P.H.F.		.56	0.44		0.48			0.81		0.39		0.54	
				cs@aimtd.com	Tell	714 253 7888							

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Volume	es foi	:	####	########	#####			CITY: 1	mmmmmmmm	mennanana		aquin	PROJECT: SC3579	
Locat	ion:		ADT2	Yale north of	f Royce	Prepa	ared by: Field	d Data Servic	es of A	Arizona	a, Inc.		Suhsduhg#e #DlpW	NG#00F##who1#:47#
							DAY	2						
AM Period	NB		SB					PM Period	NB		SB			
0:00	0		0					12:00	11		6			
0:15	1		0					12:15	9		4			
0:30	0		0	_				12:30	9		3			
0:45		1	0	0		1		12:45	9	38	6	19		57
1:00	0		0					13:00	11		3			
1:15	0		0					13:15	10		6			
1:30	0	•	0	•				13:30	5	40	7	24		
1:45		0	0	0		0		13:45	16	42	8	24		66
2:00	0		0					14:00	11		14			
2:15	0		0					14:15	23		5			
2:30	0	_	0	_				14:30	13		11			
2:45		0	0	0		0		14:45	41	88	2	32		120
3:00	0		0					15:00	17		76			
3:15	0		0					15:15	11		10			
3:30	0	^	0	0		_		15:30	17	<b>63</b>	10	101		450
3:45		0	0	0		0		15:45	17	62	5	101		163
4:00	0		0					16:00	15		17			
4:15	0		0					16:15	11		9			
4:30	0	0	1	2		2		16:30	10	F2	5	27		00
4:45		0	11	2		2		16:45	16	52	6	37		89
5:00	0		0					17:00	8		5			
5:15	0		0					17:15	14		6			
5:30	0		0	_				17:30	20		5			
5:45		0	2	2		2		17:45	18	60	4	20		80
6:00	0		0					18:00	8		5			
6:15	1		2					18:15	10		4			
6:30	2	_	3					18:30	4		5			
6:45		5	4	9		14		18:45	6	28	4	18		46
7:00	3		6					19:00	2		6			
7:15	6		3					19:15	3		3			
7:30	3		6					19:30	5		1			
7:45	10	22	9	24		46		19:45	3	13	0	10		23
8:00	49		45					20:00	5		5			
8:15	40		85					20:15	4		3			
8:30	9		10					20:30	2		1			
8:45	5 1	.03	8 :	148		251		20:45		15	3	12		27
9:00	6		2					21:00	2		0			
9:15	7		10					21:15	2		0			
9:30	5		7					21:30	1		2			
9:45	8	26	9	28		54		21:45	3	8	2	4		12
10:00	5		8					22:00	2		0			
10:15	12		1					22:15	2		0			
10:30	7		3					22:30	1		1	_		
10:45	12	36		15		51		22:45	4	9	2	3		12
11:00	10		5					23:00	1		1			
11:15	5		1					23:15	1		1			
11:30	7		1					23:30	2		1	_		_
11:45	12	34	4	11		45		23:45	0	4	0	3		7
otal Vol.	2	27	2	239		466				419		283		702
										NO		CD	Daily Totals	0
									_	NB		SB		Combined
					A 1.4					646		522	D14	1168
Split %	48	3.7%	5	1.3%	AM	39.9%	6			59.7%		40.3%	PM	60.1%
		7:45		7:45		7:45				14:15		15:00		14:15
aak Hour				.73		7:45				17.10		13.00		14:13
eak Hour Volume		.08		149		257				94		101		188

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Volume			ovember 15, 2022	Drenared I	city: by: Field Data Se	*****				PROJECT: SC3579	
Locati	ion:	ADT3 Yale	e south of Royce		-	vices	OI AIIZ	ona, If	io.	Suhsduhg#e #DlpV	G#00F##who1#:47#58
					DAY 1				*******************		
AM Period N	NB	SB			PM Period	NB		SB			
0:00	3	0			12:00	26		15			
0:15 0:30	0 1	1 0			12:15 12:30	19 16		13 7			
0:45	0 4	1 2		6	12:45	18	79	15	50		129
1:00	1	0			13:00	17		5			
1:15	0	0			13:15	13		10			
1:30	1	2			13:30	19		15			
1:45	1 3	0 2		5	13:45	13	62	11	41		103
2:00	0	0			14:00	34		14			
2:15	0	0			14:15	38		6			
2:30 2:45	1 1 2	0 0		2	14:30 14:45	18 45	135	12 8	40		175
3:00	1	0			15:00	32	100	59			
3:15	0	1			15:15	10		22			
3:30	0	0			15:30	15		6			
3:45	1 2	0 1		3	15:45	23	80	11	98		178
4:00	0	0			16:00	20		25			
4:15	0	0			16:15	13		9			
4:30	0	0			16:30	11		16			
4:45	0 0	2 2		2	16:45	18	62	6	56		118
5:00	0	1			17:00	25		13			
5:15 5:30	0 1	0 3			17:15 17:30	27 37		6 7			
5:45	1 2	2 6		8	17:45		110	7	33		143
6:00	2	1			18:00	15		8			
6:15	1	2			18:15	19		8			
6:30	2	3			18:30	14		8			
6:45	4 9	5 11		20	18:45	8	56	8	32		88
7:00	4	4			19:00	12		7			
7:15	7	11			19:15	12		8			
7:30	6	14		94	19:30	4	24	7	26		60
	15 32	23 52		84	19:45	6	34	4	26		60
	37 47	55 86			20:00 20:15	9 13		7 4			
	13	14			20:30	5		2			
	11 108	18 173		281	20:45	5	32	4	17		49
9:00	18	7			21:00	2		7			
9:15	8	4			21:15	4		1			
	15	10			21:30	4		4			
9:45	13 54	11 32		86	21:45	7	17	3	15		32
10:00	7	23			22:00	6		1			
10:15	7	13			22:15	2		3			
10:30 10:45	9 4 27	14 10 60		87	22:30 22:45	6 5	19	2 4	10		29
	7			0/			13		10		43
11:00 11:15	6	19 14			23:00 23:15	5 4		1 0			
	10	9			23:30	2		3			
	12 35	15 57		92	23:45	3	14	11	5		19
otal Vol.	278	398		676			700	_	423		1123
							MP		CP	Daily Totals	Combined
						-	NB		SB		Combined
			A 1.4				978		821	DM4	1799
Snlit %	A1 10	4 E0 00/	AM	37.6%			62.3%		37.7%	PM	62.4%
Split %	41.19										
Peak Hour	7:45	7:30		7:45			14:00		14:30		14:15
Volume	112	178		290			135		101		218

cs@aimtd.com

Tell. 714 253 7888

Volume	s for:	Wed	nesday, No	ovember 16, 2022		CITY:	Irvine I	Ranch	o San J	loaquin	PROJECT: SC3579	
Locati	ion:	ADT	3 Yale so	outh of Royce	Prepared by:	Field Data Servic	es of A	rizona	a, Inc.		Suhsduhg#e #DlpW	G#00F##who1#:47#586
					DA	Y 2						
M Period I	NB	SB				PM Period	NB		SB			
0:00	2	1				12:00	14		12			
0:15	2	0				12:15	20		8			
0:30	1	0				12:30	13		7			
0:45	0 5	0			6	12:45	9	56	14	41		97
1:00	2	1				13:00	17		4			
1:15	1	1				13:15	13		13			
1:30	0	0				13:30	13	c 7	10	42		110
1:45	0 3	1			6	13:45	24	67	16	43		110
2:00	1	0				14:00	23		17			
2:15 2:30	1 0	0				14:15 14:30	29 14		8 13			
2:45	0 2	0			2	14:45		106	10	48		154
	0	2				15:00	23	100	75			
3:00 3:15	0	0				15:00	23 12		75 13			
3:30	0	1				15:30	16		10			
3:45	0 0	0			3	15:45	18	69	15	113		182
4:00	0	0				16:00	25		21	-		
4:15	0	0				16:15	22		12			
4:30	0	1				16:30	19		7			
4:45	0 0	1	2		2	16:45	21	87	7	47		134
5:00	0	1				17:00	18		13			
5:15	0	1				17:15	20		10			
5:30	0	0				17:30	34		7			
5:45	1 1	2	4		5	17:45	25	97	12	42		139
6:00	1	0				18:00	12		9			
6:15	2	6				18:15	21		10			
6:30	1	6				18:30	9		10			
6:45	3 7	5	17		24	18:45	11	53	4	33		86
7:00	4	8				19:00	16		10			
7:15	8	8				19:15	6		5			
7:30	7	14				19:30	11		4			
7:45	10 29	20	50		79	19:45	10	43	2	21		64
	49	59				20:00	12		7			
	46	93				20:15	10		2			
	12	16			202	20:30	4	20	4	4.6		46
	13 120		182		302	20:45	4	30	3	16		46
9:00	6	7				21:00	6		0			
9:15	8	13				21:15	4		1 2			
9:30 9:45	4 7 25	11 17	48		73	21:30 21:45	3	16	6	9		25
					/3			10		J		<u></u>
10:00	6 9	12 7				22:00	8 2		2			
10:15 10:30	8	7				22:15 22:30	1		5			
10:45	13 36	8			70	22:45		16	3	13		29
11:00	9	12				23:00	3	,	2			
11:15	5	5				23:15	3		2			
	12	9				23:30	5		1			
11:45	18 44		35		79	23:45		14	1	6		20
otal Vol.	272		379		651			654		432		1086
								NP		CP	Daily Totals	Combined
							-	NB		SB		Combined
								926		811		1737
		,	E0 20/	AM	27 50/			-0.20		20.007	PM	C2 F0/
Split %	41.89		58.2%		37.5%			50.2%		39.8%		62.5%
Peak Hour	8:00	)	7:45		7:45			14:00		15:00		14:15
Volume	120		188		305			106		113		212
P.H.F.	0.61		0.51		0.55			0.69		0.38		0.54

cs@aimtd.com Tell. 714 253 7888

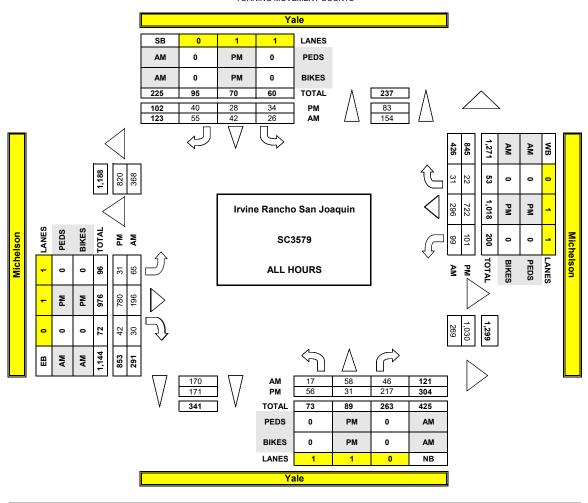
South Yale Corridor Study -Intersection Turning Movement Count Summary

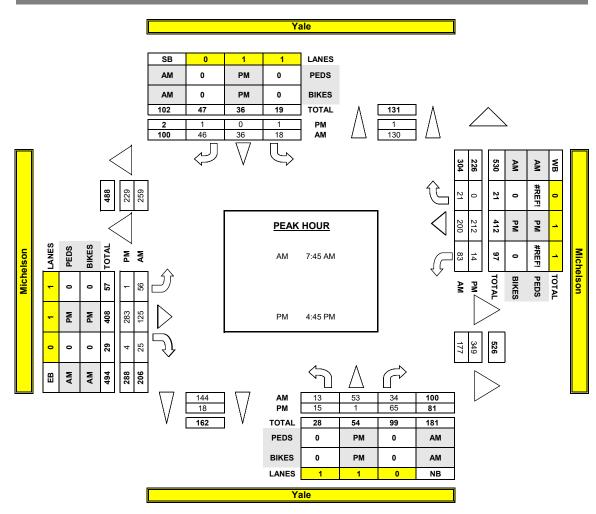
				NORTHBOUND SOUTHBOUND							EASTBOUN			WESTBOUN		1
					Yale			Yale			Michelsor			Michelson		
Intersection	Date	Peak	Hour Starting	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
		AM	7:45 AM	13	53	34	18	36	46	56	125	25	83	200	21	710
	Tue, Nov 15, 22	PM	2:30 PM	14	21	48	20	19	26	23	164	15	46	168	17	581
		PM	4:45 PM	15	1	65	1	0	1	1	283	4	14	212	0	597
		AM	7:45 AM	13	58	32	23	38	58	74	144	16	92	186	19	753
Yale/Michelson	Wed, Nov 16, 22	PM	2:30 PM	16	17	40	27	23	31	30	171	24	46	164	15	604
		PM	4:45 PM	12	0	49	2	0	5	2	285	10	12	196	2	575
		AM	7:45 AM	13	56	33	21	37	52	65	135	21	88	193	20	732
	Average	PM	2:30 PM	15	19	44	24	21	29	27	168	20	46	166	16	593
		PM	4:45 PM	14	1	57	2	0	3	2	284	7	13	204	1	586
				N	ORTHBOU	ND	S	OUTHBOU	ND		EASTBOUN	D	,	WESTBOUN	D	
					Yale			Yale			Royce			Royce		
Intersection	Date	Peak	Hour Starting	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
		AM	7:45 AM	13	87	12	3	130	11	16	27	22	26	31	2	380
	Tue, Nov 15, 22	PM	2:15 PM	13	97	23	3	64	8	14	26	7	12	16	2	285
	,	PM	4:45 PM	27	64	16	1	8	8	14	34	14	10	16	2	214
		AM	7:45 AM	12	93	12	1	139	9	14	24	27	22	31	1	385
Yale/Royce	Wed, Nov 16, 22	PM	2:15 PM	14	70	22	0	83	11	20	26	6	16	19	4	291
, .,	,,	PM	4:45 PM	26	50	17	2	13	7	7	22	11	13	8	1	177
		AM	7:45 AM	13	90	12	2	135	10	15	26	25	24	31	2	383
	Average	PM	2:15 PM	14	84	23	2	74	10	17	26	7	14	18	3	288
		PM	4:45 PM	27	57	17	2	11	8	11	28	13	12	12	2	196
				N	ORTHBOU	ND	S	OUTHBOU	ND		EASTBOUN		'	WESTBOUN		4
Later continue	D. I.	D I	Harris Charles	NII	Yale	ND	SL	Yale	CD	EL	University	/ ER	18/1	University WT		TOTAL
Intersection	Date	Peak AM	Hour Starting 7:45 AM	NL 0	NT	NR	76	ST	SR 103		<b>ET</b> 729		WL	1,373	<b>WR</b> 36	2,393
	T No 15 22			0	0	0		0	70	74		0	0			
	Tue, Nov 15, 22	PM	2:30 PM	0	0	0	32 10	0	22	89 69	627	0	0	727 984	33	1,578
		PM AM	4:45 PM 8:00 AM	0	0	0	75	0	105	69 87	1,438 809	0	0	1,264	32 33	2,556 2,373
Vala/University	Wed New 16 22			0	0	0	75 44	0	74	61	750	0	0	691		,
Yale/University	Wed, Nov 16, 22	PM	2:30 PM	_		Ŭ						, ,	, ,		31	1,651
		PM	4:45 PM	0	0	0	16	0	20	66	1,393	0	0	1,018	31 35	2,544
	A	AM	8:00 AM 2:30 PM	0	0	0	76 38	0	104 72	81	769 689	0	0	1,319 709	32	2,383
	Average	PM		_						75						1,615
		PM	4:45 PM	0	0	0	13	0	21	68	1,416	0	0	1,001	32	2,550

### INTERSECTION TURNING MOVEMENT COUNTS PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

	<u>DATE:</u> Tue, Nov 15, 22	DATE: LOCATION:			Irvine Rancho San Joaquin Yale Michelson					PROJECT # LOCATION CONTROL:	#:	SC3579 1 STOP ALL			
Ī	OTES:										AM		A		1
											PM MD	<b>∢</b> W	N	E►	
											OTHER OTHER		S ▼		Add U-Turns to Left Turns
Ī		NORTHBOUND Yale			SOUTHBOUND Yale			EASTBOUND Michelson			WESTBOUND Michelson		)		U-TURNS
ľ	LANES:	NL 1	NT 1	NR 0	SL 1	ST 1	SR 0	EL 1	ET 1	ER 0	WL 1	WT 1	WR 0	TOTAL	NB SB EB WB TTL 0 0 0 0
╁	7:00 AM	1	0	2	0	0	0	1	15	1	0	17	2	39	0 0 0 0 0
L	7:15 AM	2	2	1	2	3	1	4	11	2	4	21	5	58	0 0 0 0 0
H	7:30 AM	1	3	2	3	2	6	4	18	2	4	21	3	69	0 0 0 0
H	7:45 AM 8:00 AM	3 2	4 17	9	7	2 12	3 10	5 20	27 49	5 9	5 22	62 30	6 9	123 196	0 0 0 0 0 0 0 0 0 0
H	8:15 AM	7	31	16	9	21	31	30	35	10	48	71	5	314	0 0 0 0 0
L	8:30 AM	1	1	8	2	1	2	1	14	1	8	37	1	77	0 0 0 0 0
Ļ	8:45 AM DLUMES	0 17	0	7	3 26	42	2 55	0 65	27 196	30	8 99	37 296	0 31	85	0 0 0 1 1 0 0 0 1 1
	PROACH %	17	58 48%	46 38%	26 21%	42 34%	55 45%	22%	196 67%	30 10%	99 23%	296 69%	31 7%	961	0 0 0 1 1
	PP/DEPART	121	<u> </u>	154	123	/	170	291	/	269	426	/	368	0	1
В	GIN PEAK HR		7:45 AM												1
	DLUMES DDD A CLU 07	13	53	34	18	36	46	56	125	25	83	200	21	710	
	PPROACH %	13%	53% 0.463	34%	18%	36% 0.410	46%	27%	61%	12%	27%	66% 0.613	7%	0 565	
	EAK HR FACTOR PP/DEPART	100	0.403 /	130	100	/ /	144	206	0.660	177	304	0.613	259	0.565 0	1
f	02:00 PM	2	0	25	0	0	1	2	27	2	3	41	0	103	0 0 1 0 1
	2:15 PM	2	2	20	2	0	0	1	43	3	4	49	1	127	0 0 0 0 0
L	2:30 PM	1	4	10	0	0	0	4	59	3	4	34	6	125	0 0 0 0 0
H	2:45 PM 3:00 PM	7	8 6	19 13	2 12	1 14	19	9	36 37	6	4 29	32 60	5 4	126 212	0 0 0 0 0 0 1 0 0 1
r	3:15 PM	3	3	6	6	4	6	2	32	3	9	42	2	118	0 0 0 0 0
	3:30 PM	2	0	7	1	0	2	1	37	2	5	46	0	103	0 0 0 0 0
L	3:45 PM	6	2	11	2	0	0	1	36	4	3	31	2	98	0 0 0 0
H	4:00 PM 4:15 PM	3 6	4 1	12 15	6	8	7	0	38 51	3	16 4	46 51	0	144 134	0 0 0 0 0 0 0
H	4:30 PM	2	0	5	1	0	1	0	48	5	5	37	1	105	0 0 0 0 0
F	4:45 PM	6	0	8	0	0	0	0	55	1	2	45	0	117	0 0 0 0 0
ŀ	5:00 PM	2	1	17	0	0	0	1	70	0	3	50	0	144	0 0 1 0 1
H	5:15 PM 5:30 PM	3	0	14 26	0	0	0	0	82 76	3	8	46 71	0	151 185	0 0 0 0 0 0 0 0
H	5:45 PM	4	0	9	1	0	0	0	53	3	1	41	0	112	0 0 0 0 0
	DLUMES	56	31	217	34	28	40	31	780	42	101	722	22	2,104	0 1 2 0 3
	PPROACH %	18%	10%	71%	33%	27%	39%	4%	91%	5%	12%	85%	3%		4
	PP/DEPART EGIN PEAK HR	304	4:45 PM	83	102	/	171	853	/	1,030	845	/	820	0	4
	DLUMES	15	1	65	1	0	1	1	283	4	14	212	0	597	
Α	PROACH %	19%	1%	80%	50%	0%	50%	0%	98%	1%	6%	94%	0%		
P	AK HR FACTOR	01	0.698	-	1	0.500	10	200	0.847	240	226	0.715	220	0.807	4
Α	PP/DEPART	81		1	2	/	18	288	/	349	226	/	229	0	1
				Yale											
	-				NORTH SIDE										
	Michelson WEST SIDE							EAST SIDE	<b>.</b>	Michelsor	1				
								•							
						SOUTH SIDE									
					1	Yale		1							
_	2:30 PM	14	21	48	20	19	26	23	164	15	46	168	17	581	
_	2.00111			10	20	10	20	23	101	10	.5	100	1,	301	

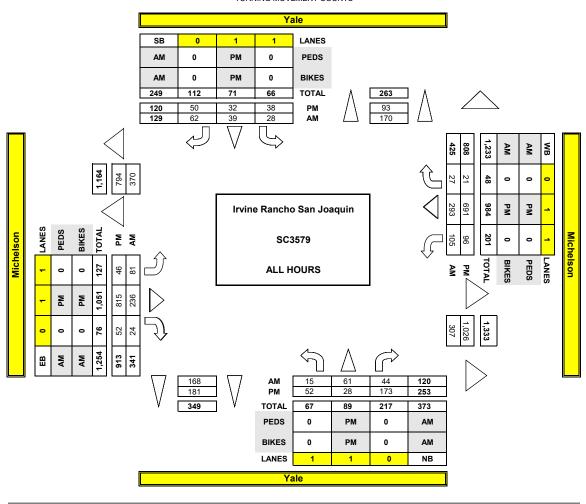
### AimTD LLC TURNING MOVEMENT COUNTS

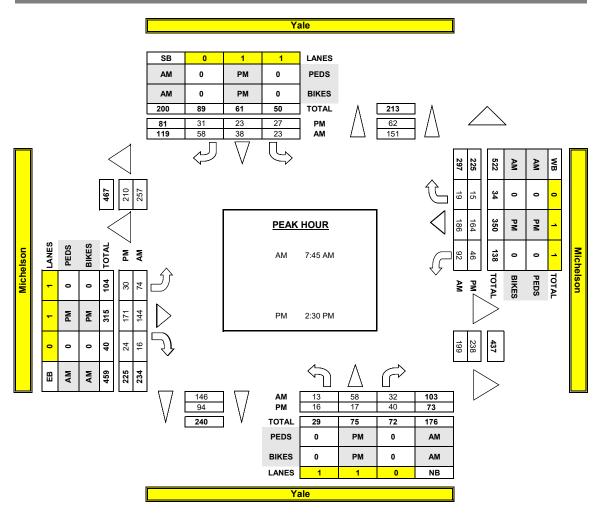




	<u>DATE:</u> Wed, Nov 16, 22	LOCATION NORTH & : EAST & WI	SOUTH:			cho San Joa		253 7888 cs		PROJECT # LOCATION CONTROL:		SC3579 1 STOP ALL			
	NOTES:										AM PM MD OTHER OTHER	<b>■</b> W	N S	E▶	Add U-Turns to Left Turns
Ī		N	ORTHBOU Yale	IND	S	OUTHBOUN Yale	ID		EASTBOUN Michelson	D		WESTBOUNI Michelson	Ď		U-TURNS
	LANES:	NL 1	NT 1	NR 0	SL 1	ST 1	SR 0	EL 1	ET 1	ER 0	WL 1	WT 1	WR 0	TOTAL	NB   SB   EB   WB   TTL
j	7:00 AM	1	0	2	0	1	2	1	16	2	2	11	0	38	0 0 0 0 0
ŀ	7:15 AM 7:30 AM	0	0	3	0	0	0	1 1	12 23	3	6	30 23	6 2	56 61	0 0 0 0 0
İ	7:45 AM	3	4	3	0	1	7	15	32	6	4	46	4	125	0 0 0 0 0
ŀ	8:00 AM 8:15 AM	5 2	21 32	13 11	5 14	13 23	16 34	25 33	54 41	6	27 53	64	11 3	240 313	0 0 0 0 0 0
ł	8:30 AM	3	1	5	4	1	1	1	17	1	8	32	1	75	0 0 0 0 0
į	8:45 AM	0	2	3	5	0	1	4	41	3	5	43	0	107	0 1 0 0 1
	VOLUMES APPROACH %	15 13%	61 51%	44 37%	28 22%	39 30%	62 48%	81 24%	236 69%	24 7%	105 25%	293 69%	27 6%	1,015	0 1 0 0 1
ĺ	APP/DEPART	120	1	170	129	/	168	341	/	307	425	/	370	0	<u>j</u>
	BEGIN PEAK HR VOLUMES	13	7:45 AM 58	32	23	38	58	74	144	16	92	186	19	753	
	APPROACH %	13%	56%	32 31%	23 19%	36 32%	36 49%	32%	62%	16 7%	92 31%	63%	6%	/53	
l	PEAK HR FACTOR		0.572			0.419			0.688			0.619		0.601	
4	APP/DEPART	103	/	151	119	/	146	234	/	199	297	/	257	0	
ł	02:00 PM 2:15 PM	3	2	7 17	2	0	0	4 2	29 44	2	9	44 29	2	107 106	0         0         1         0         1           0         0         0         0         0
I	2:30 PM	2	4	6	2	1	0	3	37	4	10	21	2	92	0 0 0 0 0
ŀ	2:45 PM 3:00 PM	6 7	7	12 13	1 14	2 18	26	10 16	45 45	6 13	5 26	40 62	5 5	140 249	0         0         0         0         0           1         0         0         0         1
ł	3:15 PM	1	2	9	10	2	4	10	44	13	5	41	3	123	0 0 0 0 0
ı	3:30 PM	4	0	11	2	0	1	2	28	1	5	32	0	86	0 0 0 0 0
I	3:45 PM 4:00 PM	5 3	5	10 6	0 4	2	9	3 2	46 52	5	2	46 53	0	119 150	0 0 0 0 0
ŀ	4:15 PM	2	0	9	0	6	1	0	43	1	5 8	37	0	101	0 0 0 0 0
Ī	4:30 PM	1	0	7	0	0	0	0	54	4	1	48	0	115	0 0 0 0 0
:	4:45 PM 5:00 PM	2	0	11 8	2	0	3	1 1	56 61	3	3 4	42 44	0	121 126	0 0 0 0 0
ł	5:15 PM	2	0	11	0	0	0	0	88	4	3	59	0	167	0 0 0 0 0
Ī	5:30 PM	4	0	19	0	0	2	0	80	2	2	51	1	161	0 0 0 0 0
ŀ	5:45 PM VOLUMES	3 52	0 28	17 173	0 38	32	0 50	1 46	63 815	52	96	42 691	0 21	131 2,094	0         0         1         0         1           1         0         2         0         3
l	APPROACH %	21%	11%	68%	32%	27%	42%	5%	89%	6%	12%	86%	3%	·	
	APP/DEPART BEGIN PEAK HR	253	2:30 PM	93	120	1	181	913	/	1,026	808	/	794	0	4
	VOLUMES	16	2:30 PM	40	27	23	31	30	171	24	46	164	15	604	
	APPROACH %	22%	23%	55%	33%	28%	38%	13%	76%	11%	20%	73%	7%		
	PEAK HR FACTOR APP/DEPART	73	0.730	62	81	0.349	94	225	0.760	238	225	0.605	210	0.606	4
	, , , , , , , , , , , , , , , , , , , ,		,	<u> </u>		Yale NORTH SID			,	250	LLU	,	210		
		Michelson		WEST SIDE				EAST SIDE	Ī	Michelsor	ı				
					] :	SOUTH SID	E								
						Yale									
					I	iale		I							
ſ	4:45 PM	12	0	49	2	0	5	2	285	10	12	196	2	575	
	יוח כד.ד	12	U	7.5	2	U	5	2	203	10	12	130	2	3/3	

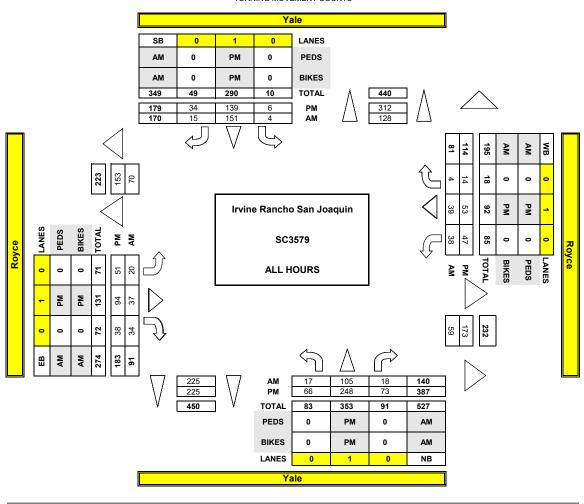
## AimTD LLC TURNING MOVEMENT COUNTS

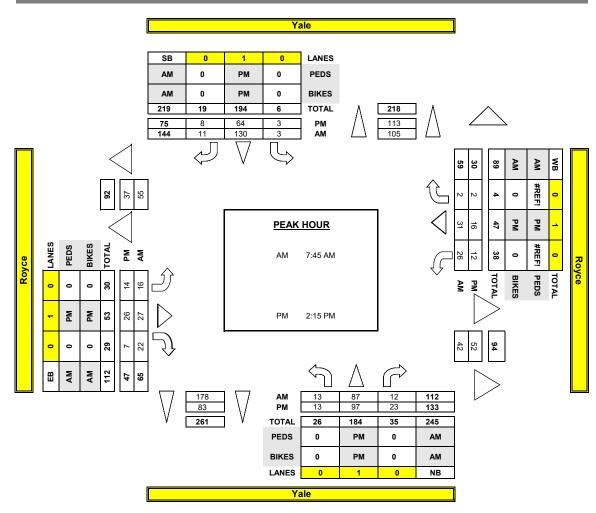




	<u>DATE:</u> Tue, Nov 15, 22	LOCATION NORTH & EAST & W	SOUTH:			icho San Joa			@aimtd.cor	PROJECT # LOCATION CONTROL:		SC3579 2 STOP E/W			
	NOTES:										AM PM MD OTHER OTHER	◀ W	N S ▼	E►	Add U-Turns to Left Turns
		N	ORTHBOUN Yale	ND	S	OUTHBOUN Yale	ND		EASTBOUNI Royce	)	1	WESTBOUND Royce	)		U-TURNS
	LANES:	NL 0	NT 1	NR 0	SL 0	ST 1	SR 0	EL 0	ET 1	ER 0	WL 0	WT 1	WR 0	TOTAL	NB         SB         EB         WB         TTL           0         0         0         0
Ī	7:00 AM 7:15 AM	0	3 5	0 2	0	1	0	0	2	2	1 4	0 4	0	10 28	$egin{array}{ c c c c c c c c c c c c c c c c c c c$
Į	7:30 AM	0	3	3	0	9	1	2	1	2	3	2	1	27	0 0 0 0 0
ŀ	7:45 AM 8:00 AM	3 5	15 27	5	0	13 37	2	5	7	3 10	7 8	10 7	1	58 115	0 0 0 0 0 0 0
I	8:15 AM	4	36	2	2	72	8	10	12	6	8	10	0	170	0 0 0 0 0
₊⊦	8:30 AM 8:45 AM	3	7	3	0	7	2	1	5	<u>3</u>	3 4	2	0	37 37	0 0 0 0 0 2 0 0 0 2
Ĭ	VOLUMES	17	105	18	4	151	15	20	37	34	38	39	4	482	2 0 1 0 3
- /	APPROACH % APP/DEPART	12% 140	75% /	13% 128	2% 170	89% /	9% 225	22% 91	41%	37% 59	47% 81	48%	5% 70	0	1
Ī	BEGIN PEAK HR		7:45 AM			122			2-						1
	Volumes Approach %	13 12%	87 78%	12 11%	3 2%	130 90%	11 8%	16 25%	27 42%	22 34%	26 44%	31 53%	2 3%	380	
þ	PEAK HR FACTOR		0.667			0.439			0.580			0.819		0.559	1
- /	APP/DEPART 02:00 PM	112 2	20	105 12	144 0	5	178 2	65 7	3	42 3	59 6	4	55 0	0 64	0 0 0 0 0
t	2:15 PM	8	23	7	0	5	2	2	6	1	0	3	0	57	0 0 0 0 0
ŀ	2:30 PM 2:45 PM	0	15 37	8	0	4	0	3 5	9	2	6 2	3 5	0	46 66	0 0 0 0 0 0 0 0 0 0
ŀ	3:00 PM	3	22	7	3	51	5	4	9	2	4	5	1	116	0 0 0 0 0
I	3:15 PM	1	4	5	0	17	2	2	2	2	3	2	0	40	0 0 0 0 0
ŀ	3:30 PM 3:45 PM	5 7	8 14	2	0	7	3	1	9	3	1	1	1 1	29 46	1 0 0 0 1 0 0 0 0 0
Į	4:00 PM	2	15	3	0	19	6	5	4	1	5	3	2	65	0 0 1 0 1
ŀ	4:15 PM 4:30 PM	4	10 4	3	1	5 5	3	5 1	1 6	6	3 5	7	5 1	37 46	0         0         0         0         0           0         0         0         0         0
Ξ	4:45 PM	5	9	4	0	0	2	4	11	4	2	6	0	47	0 0 0 0 0
`	5:00 PM 5:15 PM	9	13 17	3	0	2	2	5 1	9	8	3	5 2	0	60 44	0 0 0 0 0 0 0 0 0 0
t	5:30 PM	7	25	5	0	4	3	4	8	1	2	3	1	63	0 0 0 0 0
ī	5:45 PM VOLUMES	4 66	12 248	73	6	5 139	34	1 51	94	38	1 47	53	0 14	37 863	0         0         0         0         0           1         0         1         0         2
1	APPROACH %	17%	64%	19%	3%	78%	19%	28%	51%	21%	41%	46%	12%		
	APP/DEPART BEGIN PEAK HR	387	2:15 PM	312	179	/	225	183	/	173	114	/	153	0	4
)	Volumes Approach %	13 10%	97 73%	23 17%	3 4%	64 85%	8 11%	14 30%	26 55%	7 15%	12 40%	16 53%	2 7%	285	
	PEAK HR FACTOR APP/DEPART	133	0.739 /	113	75	0.318	83	47	0.783	52	30	0.750 /	37	0.614 0	1
						<b>Yale</b> NORTH SID	E					·			•
		Royce	,	WEST SIDE				EAST SIDE		Royce					
					]	SOUTH SID	E								
					I	Yale		I							
_															
_	4:45 PM	27	64	16	1	8	8	14	34	14	10	16	2	214	

### AimTD LLC TURNING MOVEMENT COUNTS





PROJECT #:

SC3579

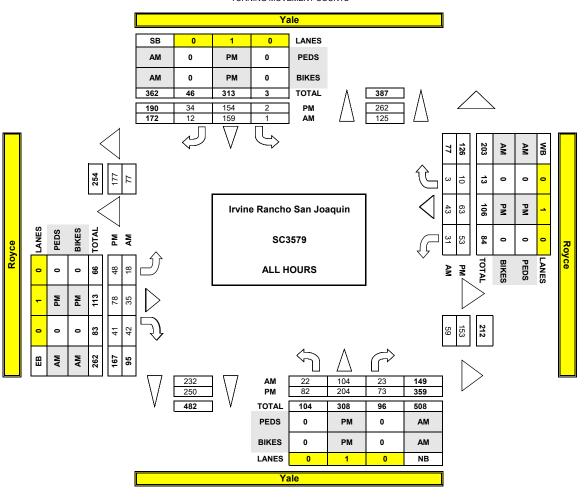
Irvine Rancho San Joaquin

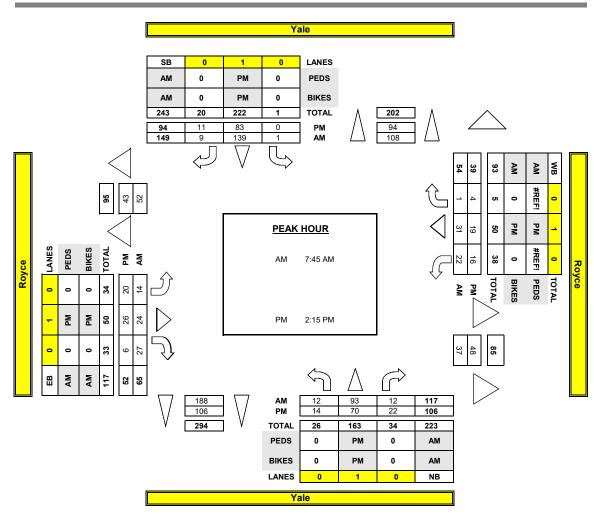
LOCATION:

DATE:

	Wed, Nov 16, 22	NORTH & EAST & W	SOUTH:		Yale Royce	icho San Joa	quiii			LOCATION CONTROL:	#:	2 STOP E/W			
	NOTES:										AM PM MD OTHER OTHER	<b>⋖</b> W	N N S ▼	E▶	Add U-Turns to Left Turns
		N	IORTHBOUN Yale	ND	S	OUTHBOUNI Yale	D		EASTBOUNI Royce	D	\	WESTBOUND Royce	)		U-TURNS
	LANES:	NL 0	NT 1	NR 0	SL 0	ST 1	SR 0	EL 0	ET 1	ER 0	WL 0	WT 1	WR 0	TOTAL	NB SB EB WB TTL 0 0 0 0
РМ АМ	7:00 AM 7:15 AM 7:30 AM 7:35 AM 8:00 AM 8:15 AM 8:30 AM 8:35 AM 8:35 AM 8:45 AM VOLUMES APPROACH % APP/DEPART BEGIN PEAK HR VOLUMES APPROACH % PEAK HR FACTOR APP/DEPART 02:00 PM 2:15 PM 2:30 PM 2:45 PM 3:00 PM 3:15 PM 3:30 PM 4:45 PM 4:00 PM 4:15 PM 5:30 PM 5:15 PM 5:30 PM 5:45 PM 5:00 PM 5:15 PM 5:00 PM	0 3 4 0 0 2 7 3 3 222,15% 149 12 10% 117 8 9 1 1 4 0 4 1 1 2 2 3 8 8 8 8 5 9 14 13% 13% 149 106 106 106 106 106 106 106 106 106 106	1 3 2 8 43 35 7 5 104 70% // 7:45 AM 93 79% 0.597 // 9 14 10 32 14 15 11 10 6 6 13 13 20 4 5 7 14 10 6 6 10 10 10 10 10 10 10 10 10 10 10 10 10	3 2 1 1 2 4 4 4 2 5 23 15% 125 12 10% 108 6 6 6 3 3 4 9 3 3 1 5 1 8 4 5 7 7 4 7 7 7 7 7 7 8 8 9 9 9 9 9 9 9 9 9 9 9 9		4 2 6 9 9 43 78 9 8 159 92% / / 139 93% 0.438 / 9 3 10 2 2 6 8 7 6 4 4 17 8 5 2 2 4 5 2 2 4 5 7 7 7 8 8 8 8 8 8 7 8 8 8 8 9 9 9 9 9 9		2 2 2 0 2 6 5 1 1 995 14 22% 65 1 7 1 9 3 3 4 3 2 1 1 4 2 2 3 3 0 1 5 1 1 9 4 2 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	2 5 2 6 8 7 3 3 37% / 2 4 37% 0.677 / 1 11 5 8 8 7 8 7 8 7 8 7 8 7 8 7 8 7 8 7 8 7	1 4 4 4 9 9 10 5 3 6 42 444% 5 9 27 42% 37 3 0 1 1 2 2 3 8 8 1 1 1 2 2 1 5 5 2 3 4 4 41 25% 153 6 12% 48 8 Royce	3 2 4 2 6 10 4 0 31 40% 777 22 41% 54 4 4 2 6 4 4 2 6 4 4 2 6 1 3 3 3 3 3 3 3 3 3 4 4 4 4 4 5 6 6 1 6 1 6 1 6 1 6 1 6 1 6 1 6 1 6 1	0 5 4 9 9 9 9 4 3 43 56% / 0.711 / 4 4 3 4 4 4 4 8 2 4 4 7 7 5 3 6 0 0 0 0 1 1 1 5 1 5 1 6 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 1 1 1 0 0 0 0 1 1 0 3 3 4% 777 1 2% 52 1 2 2 0 0 0 2 2 2 2 0 0 0 0 0 0 0 0 0	18 30 28 47 133 167 38 32 493 0 385 0.576 0 51 40 71 119 37 41 46 44 45 39 51 54 842 0 291 0.611 0	1
	4:45 PM	26	50	17	2	Yale	7	7	22	11	13	8	1	177	

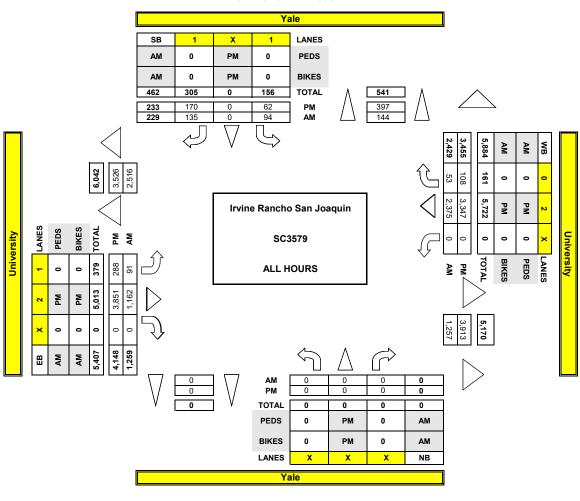
### AimTD LLC TURNING MOVEMENT COUNTS

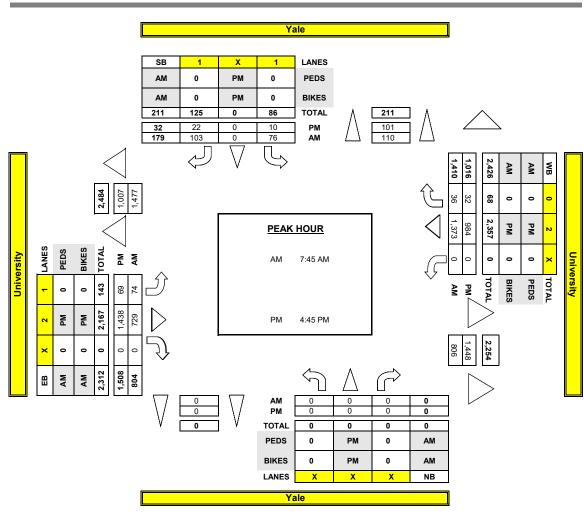




<u>DATE:</u> Tue, Nov 15, 22	LOCATION NORTH & S EAST & WE	SOUTH:		Irvine Ran Yale University	cho San Joa	aquin			PROJECT # LOCATION CONTROL:		SC3579 3 SIGNAL			
NOTES:										AM PM MD OTHER OTHER	<b>⋖</b> W	N S V	E►	Add U-Turns to Left Turns
	N	ORTHBOU Yale	JND	S	OUTHBOUN Yale	ID		EASTBOUN University	D	,	WESTBOUN University	D		U-TURNS
LANES:	NL X	NT X	NR X	SL 1	ST X	SR 1	EL 1	ET 2	ER X	WL X	WT 2	WR 0	TOTAL	NB SB EB WB TT 0 0 0 0
7:00 AM	0	0	0	4	0	2	3	68	0	0	139	3	219	0 0 0 0 0
7:15 AM	0	0	0	4	0	7	5	115	0	0	204	4	339	0 0 0 0 0
7:30 AM	0	0	0	4	0	12	4	128	0	0	339	5	492	0 0 1 0 1
7:45 AM	0	0	0	7	0	17	9	155	0	0	370	7	565	0 0 0 0
8:00 AM	0	0	0	18	0	34	26	165	0	0	317	12	572	0 0 0 0 0
8:15 AM	0	0	0	40	0	43	29	190	0	0	339	13	654	$\begin{array}{c ccccccccccccccccccccccccccccccccccc$
8:30 AM 8:45 AM	0	0	0	11 6	0	9 11	10 5	219 122	0	0	347 320	5	600 469	$\begin{array}{c ccccccccccccccccccccccccccccccccccc$
OLUMES	0	0	0	94	0	135	91	1,162	0	0	2,375	53	3,917	0 0 6 1 7
PPROACH %	0%	0%	0%	41%	0%	59%	7%	92%	0%	0%	98%	2%	3,317	0 0 0 1 7
PP/DEPART	0 70	1	144	229	/	0	1,259	1	1,257	2,429	/	2,516	0	1
EGIN PEAK HR OLUMES	0	7:45 AM 0		76	0	103	74	729	0	0	1,373	36	2,393	1
PPROACH %	0%	0%	0%	42%	0%	58%	9%	91%	0%	0%	97%	3%	_,_,_	
EAK HR FACTOR	1	0.000			0.539			0.874			0.935		0.913	
PP/DEPART	0	- /	110	179	/	0	804	- /	806	1,410	/	1,477	0	1
02:00 PM	0	0	0	3	0	8	26	116	0	0	130	4	287	0 1 1 0 2
2:15 PM	0	0	0	1	0	6	31	117	0	0	176	9	340	0 0 6 0 6
2:30 PM	0	0	0	2	0	11	9	125	0	0	198	5	350	0 0 0 0 0
2:45 PM	0	0	0	3	0	6	35	117	0	0	156	12	329	0 0 0 0 0
3:00 PM 3:15 PM	0	0	0	21 5	0	40 18	24 7	134 189	0	0	197 203	12 4	428 426	0 0 0 0 0 0 0
3:30 PM	0	0	0	3	0	6	23	187	0	0	171	5	395	0 0 0 0 0
3:45 PM	0	0	0	2	0	8	14	296	0	0	195	9	524	
4:00 PM	0	0	0	2	0	23	15	245	0	0	207	5	497	0 0 0 0 0
4:15 PM	0	0	0	2	0	6	11	297	0	0	231	2	549	0 0 0 0 0
4:30 PM	0	0	0	5	0	12	10	296	0	0	248	4	575	0 0 0 0 0
4:45 PM	0	0	0	3	0	3	8	384	0	0	245	7	650	0 0 0 0 0
5:00 PM	0	0	0	6	0	8	15	347	0	0	222	9	607	0 0 1 0 1
5:15 PM	0	0	0	0	0	5	18	401	0	0	256	8	688	0 0 0 0 0
5:30 PM 5:45 PM	0	0	0	3	0	6	28 14	306 294	0	0	261 251	8 5	610 571	$\begin{array}{c ccccccccccccccccccccccccccccccccccc$
OLUMES	0	0	0	62	0	170	288	3,851	0	0	3,347	108	7,836	0 1 9 0 10
PPROACH %	0%	0%	0%	27%	0%	73%	7%	93%	0%	0%	97%	3%	7,030	0 1 9 0 10
PP/DEPART	0	1	397	233	/	0	4,148	/	3,913	3,455	1	3,526	0	1
EGIN PEAK HR		4:45 PM			•		i '							1
OLUMES	0	0	0	10	0	22	69	1,438	0	0	984	32	2,556	
PPROACH %	0%	0%	0%	31%	0%	69%	5%	95%	0%	0%	97%	3%		
EAK HR FACTOR		0.000	101	22	0.571	0	1 500	0.900	1 440	1.016	0.944	1.007	0.929	4
PP/DEPART	0		101	32	/	0	1,508	/	1,448	1,016		1,007	0	J
					Yale									
					NORTH SID	E								
	University		WEST SIDE				EAST SIDE	<b>=</b>	University	,				
					SOUTH SID	_								
				3	200 IU 2ID	L								
					Yale									
			·	ı			1							

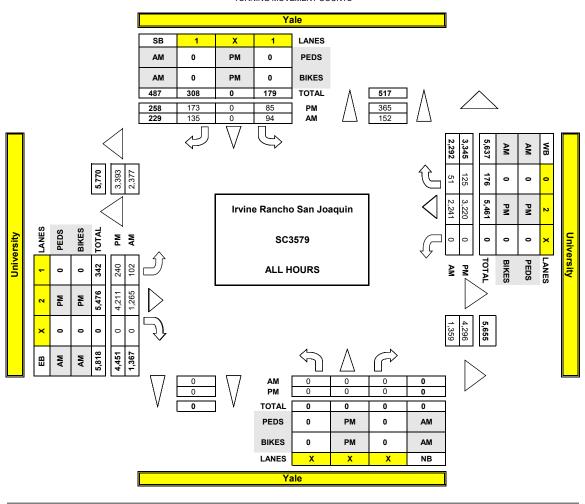
### AimTD LLC TURNING MOVEMENT COUNTS

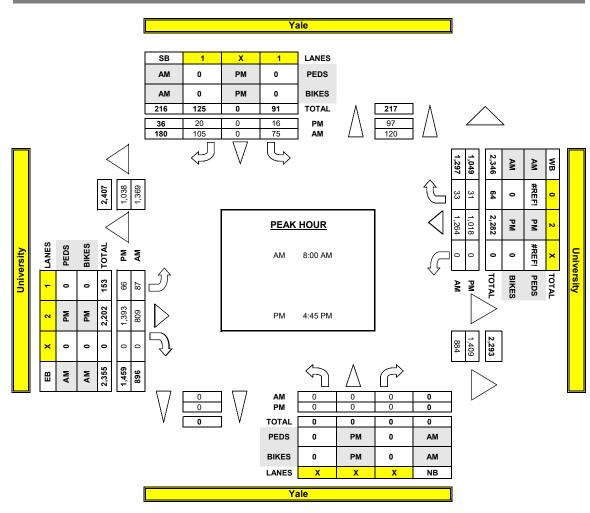




<u>DATE:</u> Wed, Nov 16, 22	NORTH & S EAST & WI	SOUTH:		Irvine Ran Yale University	cho San Joa	aquin			PROJECT # LOCATION CONTROL:		SC3579 3 SIGNAL			
NOTES:										AM PM MD OTHER OTHER	<b>⋖</b> W	N S V	E▶	Add U-Turns to Left Turns
	N	ORTHBOU Yale	JND	S	OUTHBOUN Yale	ND		EASTBOUN University	D		WESTBOUN University	D		U-TURNS
LANES:	NL X	NT X	NR X	SL 1	ST X	SR 1	EL 1	ET 2	ER X	WL X	WT 2	WR 0	TOTAL	NB SB EB WB TT 0 0 0 0
7:00 AM	0	0	0	2	0	7	2	71	0	0	129	3	214	0 0 0 0 0
7:15 AM	0	0	0	3	0	3	2	102	0	0	204	6	320	0 0 0 0 0
7:30 AM	0	0	0	7	0	6	3	123	0	0	310	4	453	0 0 0 0 0
7:45 AM	0	0	0	7	0	14	8	160	0	0	334	5	528	0 0 1 0 1
8:00 AM	0	0	0	17	0	32	37	164	0	0	381	10	641	0 0 0 0 0
8:15 AM	0	0	0	45	0	54	32	193	0	0	256	13	593	0 0 0 0
8:30 AM	0	0	0	10	0	9	9	286	0	0	281	6	601	0 0 0 0 0
8:45 AM	0	0	0	3 94	0	10	9 102	166	0	0	346	51	538	0 0 0 0 0
OLUMES PPROACH %	0 0%	0%	0%	94 41%	0%	135 59%	7%	1,265 93%	0 0%	0%	2,241 98%	2%	3,888	0 0 1 0 1
PP/DEPART	0%	U%0 /	152	229	/ /	0	1,367	93%	1,359	2,292	90%	2,377	0	1
EGIN PEAK HR	0	8:00 AM 0			0		87	809	0	0	1 264			1
OLUMES PPROACH %	0%	0 0%	0 0%	75 42%	0 0%	105 58%	10%	90%	0%	0%	1,264 97%	33 3%	2,373	1
EAK HR FACTOR	U%0	0.000	U%0	7270	0.455	J0%	10%	0.759	U%0	U%0	0.829	3%0	0.926	1
PP/DEPART	0	1	120	180	/	0	896	1	884	1,297	1	1,369	0.320	1
02:00 PM	0	0	0	3	0	10	11	166	0	0	151	10	351	0 0 0 0 0
2:15 PM	Ö	0	0	4	0	7	17	173	0	0	139	14	354	0 0 0 0 0
2:30 PM	0	0	0	6	0	8	7	182	0	0	157	8	368	0 0 0 0 0
2:45 PM	0	0	0	3	0	9	31	186	0	0	171	10	410	0 0 0 0 0
3:00 PM	0	0	0	33	0	42	15	180	0	0	186	9	465	0 0 0 0 0
3:15 PM	0	0	0	2	0	15	8	202	0	0	177	4	408	0 0 0 0 0
3:30 PM	0	0	0	2	0	9	16	238	0	0	188	1	454	0 0 0 0 0
3:45 PM	0	0	0	5	0	9	9	274	0	0	199	9	505	0 0 0 0 0
4:00 PM	0	0	0	5	0	16	22	276	0	0	193	7	519	0 0 0 0 0
4:15 PM	0	0	0	1	0	12	11	341	0	0	181	7	553	0 0 0 0 0
4:30 PM	0	0	0	3	0	7	10	330	0	0	233	9	589	0 0 0 0 0
4:45 PM	0	0	0	0	0		16	373	0	0	253 261	10	656	0 0 0 0 0
5:00 PM 5:15 PM	0	0	0	6 8	0	6	8 16	326 371	0	0	201	4	617 628	0 0 0 0 0 0 0 0 0
5:30 PM	0	0	0	2	0	5	26	323	0	0	277	10	643	0 0 0 0 0
5:45 PM	0	0	0	2	0	12	17	270	0	0	227	6	534	
OLUMES	Ö	0	0	85	0	173	240	4,211	Ö	0	3,220	125	8,054	0 0 0 0 0
PPROACH %	0%	0%	0%	33%	0%	67%	5%	95%	0%	0%	96%	4%	.,	
PP/DEPART	0	- /	365	258	/_	0	4,451		4,296	3,345	/	3,393	0	1
egin peak hr		4:45 PM												1
OLUMES	0	0	0	16	0	20	66	1,393	0	0	1,018	31	2,544	1
PPROACH %	0%	0%	0%	44%	0%	56%	5%	95%	0%	0%	97%	3%		1
EAK HR FACTOR PP/DEPART	0	0.000	97	36	0.750	0	1.459	0.938	1,409	1.049	0.914	1.038	0.970 0	4
-F/DEPART			97	30		U	1,439		1,409	1,049		1,036	U	1
					Yale									
					NORTH SID	E								
	University		WEST SIDE				EAST SIDE	<b>=</b>	University	,				
					SOUTH SID	E								
					Yale		ı							

## AimTD LLC TURNING MOVEMENT COUNTS





LOCATION: Irvine Rancho San Joaquin NORTH & SOUTH: Yale EAST & WEST: Michelson

PROJECT #: LOCATION #: CONTROL:

SC3579 1 STOP ALL

		Ar	PE	ns.												
		Ar					BYCI	CLIST			SCO	OTER		CVATE	BOARD	TOTAL
			dult	Scho	ol Age	Bi	ke	E-E	Bike	Sco	oter	Mobility A	Assistance	SIGNIE	DOARD	IOIAL
		EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	
	7:00 AM	0	1	1	0	0	0	0	0	0	0	0	0	0	0	2
	7:15 AM	0	0	1	0	0	0	0	1	0	0	0	0	0	0	2
	7:30 AM	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1
Z	7:45 AM	0	0	0	0	1	3	0	0	0	0	0	0	0	0	4
⋖	8:00 AM	0	0	3	1	5	0	0	0	0	0	0	0	0	0	9
	8:15 AM	0	0	9	0	2	2	1	0	1	0	0	0	0	0	15
	8:30 AM	0	1	0	0	0	0	0	0	1	0	0	0	0	0	2
	8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	TOTAL AM	0	2	14	1	8	6	1	1	2	0	0	0	0	0	35
	02:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2:30 PM	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1
	2:45 PM	2	0	0	0	0	0	0	0	1	0	0	0	0	0	3
	3:00 PM	0	4	1	51	0	4	0	2	0	3	0	0	0	0	65
	3:15 PM	1	0	0	0	1	0	0	1	0	0	0	0	0	0	3
	3:30 PM	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1
	3:45 PM	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1
폺	4:00 PM	0	0	1	2	0	2	0	0	0	1	0	0	0	0	6
	4:15 PM	2	2	0	0	0	0	0	0	0	1	0	0	0	0	5
	4:30 PM	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1
	4:45 PM	1	0	0	0	0	0	0	1	0	0	0	0	0	0	2
	5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	5:15 PM	3	2	0	0	0	1	0	0	0	0	0	0	0	0	6
	5:30 PM	1	0	0	0	1	1	0	0	0	0	0	0	0	0	3
	5:45 PM	0	2	0	0	0	0	0	0	0	0	0	0	0	0	2
	TOTAL PM	12	10	2	53	2	9	0	5	1	5	0	0	0	0	99

								SOUT	H SIDE							
			PE	DS			BYCI				SCO	OTER		CVATE	BOARD	TOTAL
		A	dult	Scho	ol Age	В	ike	E-8	Bike		ooter		Assistance	SKATE	BUARD	IOIAL
		EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	
	7:00 AM	0	2	0	0	0	0	0	0	0	0	0	0	0	0	2
	7:15 AM	1	0	1	0	1	1	0	0	0	0	0	0	0	0	4
	7:30 AM	1	5	2	0	0	3	0	0	0	0	0	0	0	0	11
Σ	7:45 AM	0	0	2	0	2	2	0	0	0	0	0	0	0	0	6
⋖	8:00 AM	0	1	4	0	5	3	0	0	0	0	0	0	0	0	13
	8:15 AM	1	0	8	1	1	0	0	0	0	0	0	0	1	0	12
	8:30 AM	0	1	0	0	1	0	0	0	0	0	0	0	0	0	2
	8:45 AM	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
	TOTAL AM	3	10	17	1	10	9	0	0	0	0	0	0	1	0	51
	02:00 PM	0	1	0	0	2	0	0	0	0	0	0	0	0	0	3
	2:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2:30 PM	0	0	0	0	3	0	0	0	0	0	0	0	0	0	3
	2:45 PM	0	0	0	0	4	0	0	0	0	0	0	0	0	0	4
	3:00 PM	0	3	0	15	0	4	0	0	0	1	0	0	0	0	23
	3:15 PM	1	0	0	0	1	0	0	0	0	0	0	0	0	0	2
	3:30 PM	1	3	0	0	0	0	0	0	0	0	0	0	0	0	4
	3:45 PM	2	0	0	0	1	0	1	0	0	0	0	0	0	0	4
M	4:00 PM	1	1	1	0	0	7	0	0	0	0	0	0	0	0	10
_	4:15 PM	0	1	0	0	1	0	0	0	0	0	0	0	0	0	2
	4:30 PM	0	5	0	0	0	0	0	0	0	0	0	0	0	0	5
	4:45 PM	2	0	0	0	0	1	0	0	0	0	0	0	0	0	3
	5:00 PM	1	2	0	0	2	0	0	0	0	0	0	0	0	0	5
	5:15 PM	6	0	0	0	0	0	0	0	0	0	0	0	0	0	6
	5:30 PM	1	3	0	0	0	0	0	0	0	0	0	0	0	0	4
	5:45 PM	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
	TOTAL PM	15	20	1	15	14	12	1	0	0	1	0	0	0	0	79

								EAST	SIDE							
			PE	DS			BYCI	CLIST			SCO	OTER		CVATE	BOARD	TOTAL
		A	dult	Scho	ol Age	В	ike		Bike		oter	Mobility A	Assistance	SKATE	BUARD	TOTAL
		NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	
	7:00 AM	1	2	0	0	0	0	0	0	0	0	0	0	0	0	3
	7:15 AM	1	1	3	0	3	1	0	0	0	0	0	0	0	0	9
	7:30 AM	1	3	2	0	1	0	0	0	0	0	0	0	0	0	7
Σ	7:45 AM	0	1	2	0	3	0	0	0	0	0	0	0	0	0	6
•	8:00 AM	0	1	11	0	11	0	1	0	2	0	0	0	0	0	26
	8:15 AM	1	2	22	0	4	0	0	1	0	0	0	0	1	0	31
	8:30 AM	2	0	0	0	0	1	0	0	0	0	0	0	0	0	3
	8:45 AM	0	2	0	0	1	0	0	0	0	0	0	0	0	0	3
	TOTAL AM	6	12	40	0	23	2	1	1	2	0	0	0	1	0	88
				•		•	•			•			•	•	•	•
	02:00 PM	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1
	2:15 PM	0	0	0	0	1	1	0	0	0	0	0	0	0	0	2
	2:30 PM	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1
	2:45 PM	3	0	0	2	0	0	0	0	0	1	0	0	0	0	6
	3:00 PM	0	2	0	55	0	13	0	1	0	0	0	0	0	0	71
	3:15 PM	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1
	3:30 PM	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1
	3:45 PM	2	0	0	0	1	1	0	0	0	0	0	0	0	0	4
M	4:00 PM	0	0	0	1	0	7	0	0	0	0	0	0	0	0	8
_	4:15 PM	1	3	0	0	0	0	0	0	0	0	0	0	1	0	5
	4:30 PM	0	2	0	0	1	1	0	0	0	1	0	0	0	0	5
	4:45 PM	2	1	0	0	0	0	0	1	0	0	0	0	0	0	4
	5:00 PM	1	0	0	0	0	1	1	0	0	0	0	0	0	0	3
	5:15 PM	0	1	0	0	2	0	0	0	1	0	0	0	0	0	4
	5:30 PM	2	1	0	0	1	1	0	0	0	0	0	0	0	0	5
	5:45 PM	0	2	0	0	0	0	0	0	0	0	0	0	0	0	2
	TOTAL PM	13	12	0	58	8	25	1	2	1	2	0	0	1	0	123

								WEST	SIDE							
				DS				CLIST				OTER		CVATE	BOARD	TOTAL
			lult		ol Age		ike		Bike		oter		Assistance			IOIAL
		NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	
	7:00 AM	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1
	7:15 AM	0	0	1	0	0	1	0	0	0	0	0	0	0	0	2
	7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Σ	7:45 AM	2	0	0	0	1	3	0	0	0	0	0	0	0	0	6
⋖	8:00 AM	0	0	3	0	2	1	0	0	0	0	0	0	0	0	6
	8:15 AM	0	1	3	1	1	4	0	0	1	0	0	0	0	0	11
	8:30 AM	0	0	0	0	1	1	0	0	0	0	0	0	0	0	2
	8:45 AM	1	0	0	0	1	4	1	0	0	0	0	0	0	0	7
	TOTAL AM	3	1	8	1	6	14	1	0	1	0	0	0	0	0	35
	02:00 PM	0	0	0	0	0	2	0	0	0	0	0	0	0	0	2
	2:15 PM	2	0	0	0	1	1	0	1	0	0	0	0	0	0	5
	2:30 PM	0	0	0	0	2	0	0	0	0	0	0	0	0	0	2
	2:45 PM	0	0	0	0	1	1	0	0	0	0	0	0	0	0	2
	3:00 PM	1	1	0	21	0	6	0	1	0	2	0	0	0	1	33
	3:15 PM	1	0	0	0	0	1	0	0	0	0	0	0	0	0	2
	3:30 PM	0	1	0	0	0	1	0	0	0	0	0	0	0	0	2
	3:45 PM	2	1	0	0	0	2	0	0	0	1	0	0	0	1	7
Σ	4:00 PM	1	0	0	1	0	1	0	0	0	1	0	0	0	0	4
_	4:15 PM	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1
	4:30 PM	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
	4:45 PM	2	2	0	0	0	0	0	0	0	0	0	0	0	0	4
	5:00 PM	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1
	5:15 PM	0	3	0	0	0	0	0	0	0	0	0	0	0	0	3
	5:30 PM	2	0	0	0	0	1	0	0	0	0	0	0	0	0	3
	5:45 PM	1	0	0	0	0	0	0	0	0	1	0	0	0	0	2
	TOTAL PM	12	9	0	22	4	17	0	2	0	6	0	0	0	2	74

LOCATION: Irvine Rancho San Joaquin NORTH & SOUTH: Yale EAST & WEST: Michelson

PROJECT #: LOCATION #: CONTROL:

SC3579 1 STOP ALL

W			DE													
Σ			PE	DS			BYCI	CLIST			SCO	OTER		CVATE	BOARD	TOTAL
Σ		Ac	dult	Scho	ol Age	Bi	ke	E-E	Bike	Sco	oter	Mobility A	Assistance	SIGNIE	DOARD	IOIAL
Σ		EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	
Σ	7:00 AM	0	1	1	0	0	0	0	0	0	0	0	0	0	0	2
Σ	7:15 AM	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1
Σ	7:30 AM	2	0	0	0	0	1	0	0	0	0	0	0	0	0	3
	7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
⋖ .	8:00 AM	0	0	9	0	2	0	0	0	0	0	0	0	0	0	11
	8:15 AM	0	0	7	0	5	12	0	0	0	0	0	0	0	0	24
	8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	TOTAL AM	2	1	17	0	7	13	0	1	0	0	0	0	0	0	41
	02:00 PM	0	1	0	1	0	1	0	0	1	0	0	0	0	0	4
	2:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2:30 PM	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
	2:45 PM	1	0	0	0	0	0	0	0	0	1	0	0	0	0	2
	3:00 PM	0	4	3	52	0	5	0	1	0	0	0	0	0	0	65
	3:15 PM	0	0	2	7	0	0	0	0	0	0	0	0	0	0	9
	3:30 PM	0	0	1	0	1	0	0	0	0	0	0	0	0	0	2
	3:45 PM	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
표	4:00 PM	0	1	0	2	0	5	0	0	0	2	0	0	0	0	10
	4:15 PM	0	2	0	0	0	0	1	1	0	0	0	0	0	0	4
	4:30 PM	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1
	4:45 PM	1	0	0	1	0	1	0	0	0	0	0	0	0	0	3
	5:00 PM	0	2	0	0	0	0	0	1	0	1	0	0	0	0	4
	5:15 PM	2	2	0	0	0	0	0	0	0	0	0	0	0	0	4
	5:30 PM	0	0	0	0	0	2	0	0	0	0	0	0	0	0	2
	5:45 PM	1	1	0	0	0	0	0	0	0	0	0	0	0	0	2
	TOTAL PM	5	14	6	64	1	15	1	3	1	4	0	0	0	0	114

									H SIDE							
			PE	DS			BYCI	CLIST			SCO	OTER		CVATE	BOARD	TOTAL
			dult		ol Age	В	ike		Bike		oter		Assistance	SKATE		IOIAL
		EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	
	7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	7:15 AM	0	3	0	0	0	0	0	0	0	0	0	0	0	0	3
	7:30 AM	0	0	0	0	2	3	0	0	0	0	0	0	0	0	5
Σ	7:45 AM	0	0	1	0	1	2	0	0	0	0	0	0	0	0	4
⋖	8:00 AM	0	2	4	0	1	2	0	0	0	0	0	0	0	0	9
	8:15 AM	0	2	5	0	3	1	0	0	1	0	0	0	1	0	13
	8:30 AM	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
	8:45 AM	0	1	0	0	2	0	0	0	0	0	0	0	0	0	3
	TOTAL AM	0	9	10	0	9	8	0	0	1	0	0	0	1	0	38
				•	•	•	•	•		•	•			•	•	•
	02:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2:30 PM	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1
	2:45 PM	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1
	3:00 PM	1	0	3	18	3	2	0	0	0	2	0	0	0	1	30
	3:15 PM	0	0	1	0	2	0	0	0	0	0	0	0	0	0	3
	3:30 PM	2	1	0	0	0	0	0	0	0	0	0	0	0	0	3
	3:45 PM	1	1	0	0	0	2	0	0	0	1	0	0	0	0	5
Σ	4:00 PM	5	1	0	0	0	3	1	0	0	0	0	0	0	0	10
_	4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4:30 PM	0	1	0	0	3	0	0	0	0	0	0	0	0	0	4
	4:45 PM	2	0	2	0	1	0	0	0	0	0	0	0	0	0	5
	5:00 PM	1	2	0	0	1	0	0	0	1	0	0	0	0	0	5
	5:15 PM	0	2	0	0	0	0	0	0	0	0	0	0	0	0	2
	5:30 PM	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1
	5:45 PM	2	4	1	0	0	0	0	0	0	0	0	0	0	0	7
	TOTAL PM	15	12	7	18	11	7	2	0	1	3	0	0	0	1	77

								EAST	SIDE							
			PE	:DS			BYCI	CLIST			SCO	OTER		CVATE	BOARD	TOTAL
		A	dult	Scho	ol Age	В	ike		Bike		oter	Mobility A	Assistance	SKATE	BUARD	IOIAL
		NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	
	7:00 AM	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
	7:15 AM	1	1	2	0	0	0	0	0	0	0	0	0	0	0	4
	7:30 AM	2	0	0	0	1	0	0	0	0	0	0	0	0	0	3
Σ	7:45 AM	9	0	2	0	4	0	0	0	0	0	0	0	0	0	15
⋖	8:00 AM	3	4	14	0	5	0	0	0	0	0	0	0	0	0	26
	8:15 AM	1	3	15	0	11	0	1	1	1	0	0	0	2	0	35
	8:30 AM	0	0	0	0	3	0	0	0	0	0	0	0	0	0	3
	8:45 AM	0	4	0	0	1	0	0	0	0	0	0	0	0	0	5
	TOTAL AM	16	13	33	0	25	0	1	1	1	0	0	0	2	0	92
				•	•	•				•			•	•		•
	02:00 PM	1	2	0	0	4	0	1	0	0	0	0	0	0	0	- 8
	2:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2:45 PM	1	0	1	1	0	0	0	0	0	0	0	0	0	0	3
	3:00 PM	0	2	0	53	3	13	0	1	0	2	0	0	0	1	75
	3:15 PM	2	1	1	0	1	0	0	0	0	0	0	0	0	0	5
	3:30 PM	1	2	0	0	0	2	1	0	0	0	0	0	0	0	6
	3:45 PM	1	3	0	0	2	0	0	0	0	0	0	0	0	0	6
Σ	4:00 PM	1	2	0	2	0	2	0	0	1	0	0	0	0	0	8
-	4:15 PM	1	1	0	0	0	1	1	0	0	0	0	0	0	0	4
	4:30 PM	5	1	0	0	5	0	0	0	0	0	0	0	0	0	11
	4:45 PM	1	2	0	0	0	3	0	0	0	0	0	0	0	0	6
	5:00 PM	1	0	0	0	2	3	0	0	1	0	0	0	0	0	7
	5:15 PM	2	1	0	0	1	0	0	0	0	0	0	0	0	0	4
	5:30 PM	0	1	0	0	0	0	1	0	0	0	0	0	0	0	2
	5:45 PM	0	1	0	0	1	0	0	0	1	0	0	0	0	0	3
	TOTAL PM	17	19	2	56	19	24	4	1	3	2	0	0	0	1	148

								WEST	SIDE							
				DS				CLIST				OTER		CVATE	BOARD	TOTAL
			dult		ol Age		ike		Bike		oter		Assistance			IOIAL
		NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	
	7:00 AM	0	2	1	0	0	0	0	0	0	0	0	0	0	0	3
	7:15 AM	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1
	7:30 AM	0	0	0	1	0	2	0	0	0	0	0	0	0	0	3
Σ	7:45 AM	1	0	1	0	1	1	0	0	0	0	0	0	0	0	4
⋖	8:00 AM	0	0	5	0	0	0	0	0	0	0	0	0	0	0	5
	8:15 AM	0	0	7	0	2	13	1	0	0	0	0	0	0	0	23
	8:30 AM	1	1	0	0	0	1	0	0	0	0	0	0	0	0	3
	8:45 AM	0	3	0	0	0	2	0	0	0	1	0	0	0	0	6
	TOTAL AM	2	6	14	1	3	20	1	0	0	1	0	0	0	0	48
	02:00 PM	3	0	0	1	0	4	0	0	0	0	0	0	0	0	8
	2:15 PM	1	1	0	0	0	0	0	1	0	0	0	0	0	0	3
	2:30 PM	2	1	0	0	0	0	0	0	0	0	0	0	0	0	3
	2:45 PM	1	1	0	0	1	1	0	0	0	0	0	0	0	0	4
	3:00 PM	1	1	0	25	0	3	0	0	0	0	0	0	0	0	30
	3:15 PM	0	1	0	0	1	1	0	0	0	0	0	0	0	0	3
	3:30 PM	2	1	0	0	2	2	0	0	0	0	0	0	0	0	7
	3:45 PM	0	0	0	1	0	2	0	0	0	0	0	0	0	0	3
Σ	4:00 PM	0	2	0	2	0	1	0	0	0	0	0	0	0	0	5
_	4:15 PM	1	1	0	0	0	0	1	0	1	0	0	0	0	0	4
	4:30 PM	1	1	0	0	0	0	0	1	0	0	0	0	0	0	3
	4:45 PM	0	2	0	1	0	0	0	0	0	0	0	0	0	0	3
	5:00 PM	1	2	0	0	0	0	0	1	0	1	0	0	0	0	5
	5:15 PM	1	1	0	0	0	0	0	0	0	0	0	0	0	0	2
	5:30 PM	1	1	0	0	0	2	0	0	0	0	0	0	0	0	4
	5:45 PM	1	0	0	0	1	1	0	0	0	0	0	0	0	0	3
	TOTAL PM	16	16	0	30	5	17	1	3	1	1	0	0	0	0	90

Irvine Rancho San Joaquin Yale Royce PROJECT #: LOCATION #: CONTROL: SC3579 2 STOP E/W

							NORT	H SIDE							
		PE	DS			BYCI	CLIST			SCC	OTER		CVATI	BOARD	тота
	A	dult	Scho	ol Age	Е	like	E-	Bike	Sco	oter	Mobility .	Assistance	SIGNI	LOUNKD	IOIA
	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	
AM	1	1	0	0	0	0	0	0	0	0	0	0	0	0	2
M	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1	0	1	0	0	0	0	1	0	0	0	0	0	0	0	2
M	4	0	2	0	3	0	0	0	0	0	0	0	0	0	9
м	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1
ιM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
AM	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1
AM	6	2	2	0	3	1	1	0	0	0	0	0	0	0	15
M	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
М	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
M	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
M	0	0	0	0	0	5	0	0	0	0	0	0	0	0	5
PM	0	0	2	0	1	0	0	0	0	0	0	0	0	0	3
PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
M	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
M	0	2	0	1	0	0	0	1	0	0	0	0	0	0	4
PM	0	0	0	0	0	1	1	0	0	0	0	0	0	0	2
PM	2	2	0	0	0	0	1	0	0	0	0	0	0	0	5
PM	1	0	1	0	0	0	0	0	0	0	0	0	0	0	2
PM	0	0	0	0	0	3	0	0	0	0	0	0	0	0	3
PM	0	1	0	0	2	0	0	0	0	0	0	0	0	0	3
PM	2	0	0	0	0	0	0	0	0	0	0	0	0	0	2
PM	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
PM	5	8	3	1	3	9	2	1	0	0	0	0	0	0	32

								SOUT	H SIDE							
			PE	DS			BYCI	CLIST			SCO	OTER		CVATE	BOARD	TOTAL
		A	dult	Scho	ol Age	В	ike	E+I	Bike	Sco	oter	Mobility .	Assistance	SKATE	BUARD	IOIAL
		EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	
	7:00 AM	0	1	0	0	0	0	0	0	0	0	0	0	1	0	2
	7:15 AM	2	1	0	0	0	0	0	0	0	0	0	0	0	0	3
П	7:30 AM	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
: 1	7:45 AM	1	0	0	0	1	0	0	0	0	0	0	0	0	0	2
€ [	8:00 AM	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1
ľ	8:15 AM	1	1	0	0	0	2	0	0	0	0	0	0	0	0	4
П	8:30 AM	1	1	0	0	0	0	0	0	0	0	0	0	0	0	2
ľ	8:45 AM	1	1	0	0	0	0	0	0	0	0	0	0	0	0	2
	TOTAL AM	6	6	0	0	2	2	0	0	0	0	0	0	1	0	17
ı				•						•						
T	02:00 PM	0	0	0	0	3	0	0	0	0	0	0	0	0	0	3
П	2:15 PM	1	2	0	0	0	0	0	0	0	0	0	0	0	0	3
Г	2:30 PM	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1
П	2:45 PM	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1
Г	3:00 PM	0	0	0	0	0	2	0	0	0	0	0	0	0	0	2
П	3:15 PM	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1
Г	3:30 PM	0	0	0	0	0	2	0	1	0	0	0	0	0	0	3
	3:45 PM	2	0	0	0	0	0	0	0	0	0	0	0	0	0	2
Г	4:00 PM	0	2	0	0	0	0	1	0	0	0	0	0	0	0	3
П	4:15 PM	1	2	0	0	0	0	0	0	0	0	0	0	0	0	3
Г	4:30 PM	1	1	0	1	2	0	0	0	0	0	0	0	0	0	5
П	4:45 PM	1	1	0	0	1	0	0	0	0	0	0	0	0	0	3
Г	5:00 PM	2	0	0	0	1	0	0	0	0	0	0	0	0	0	3
ı	5:15 PM	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1
ľ	5:30 PM	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1
ı	5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
۲	TOTAL PM	9	- 8	0	1	8	5	2	1	1	0	0	0	0	0	35

									SIDE							
			PE	DS			BYCI				SCO	OTER		CVATI	BOARD	TOTAL
			lult		ol Age		ike		Bike	Sco		Mobility .	Assistance			IOTAL
		NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	
	7:00 AM	1	1	0	0	0	0	0	0	0	0	0	0	1	0	3
	7:15 AM	1	1	0	0	0	0	0	0	0	0	0	0	0	0	2
	7:30 AM	0	1	0	0	2	0	0	0	0	0	0	0	0	0	3
M	7:45 AM	1	1	0	0	1	0	0	1	0	0	0	0	0	0	4
⋖	8:00 AM	2	2	2	0	2	0	1	0	0	0	0	0	0	0	9
	8:15 AM	0	1	0	0	2	4	0	1	0	0	0	0	0	0	8
	8:30 AM	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
	8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	TOTAL AM	5	8	2	0	7	4	1	2	0	0	0	0	1	0	30
	02:00 PM	1	0	0	0	8	0	0	0	0	0	0	0	0	0	9
	2:15 PM	0	1	0	0	1	0	0	0	0	0	0	0	0	0	2
	2:30 PM	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1
	2:45 PM	1	2	0	0	0	0	1	0	0	0	0	0	0	0	4
	3:00 PM	1	0	0	1	0	4	0	1	0	0	0	0	0	0	7
	3:15 PM	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1
	3:30 PM	0	0	0	0	1	0	2	1	0	0	0	0	0	0	4
	3:45 PM	0	2	0	0	1	0	0	0	0	0	0	0	0	0	3
Σ	4:00 PM	1	2	0	1	0	0	0	0	1	0	0	0	0	0	5
_	4:15 PM	2	1	0	0	0	0	1	0	0	0	0	0	0	0	4
	4:30 PM	0	0	0	0	3	0	0	0	0	0	0	0	0	0	3
	4:45 PM	0	1	0	0	5	0	0	0	0	0	0	0	0	0	6
	5:00 PM	1	1	0	0	0	0	0	0	0	0	0	0	0	0	2
	5:15 PM	2	1	0	0	1	0	0	0	0	0	0	0	0	0	4
	5:30 PM	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
	5:45 PM	1	0	0	0	1	0	0	0	0	0	0	0	0	0	2
	TOTAL PM	11	12	0	2	21	4	4	2	2	0	0	0	0	0	58

									T SIDE							
			PE	EDS			BYCI	CLIST			SCO	OTER		CVAT	EBOARD	TOTAL
			dult		ool Age		like		Bike		ooter		Assistance			IOIAL
		NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	
	7:00 AM	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
	7:15 AM	1	1	0	0	0	0	0	0	0	0	0	0	0	0	2
	7:30 AM	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1
Ε	7:45 AM	2	1	1	0	0	3	1	0	0	0	0	0	0	0	8
<	8:00 AM	0	0	3	0	6	1	1	0	0	0	0	0	0	0	11
	8:15 AM	2	1	1	0	3	22	0	0	0	0	0	0	0	0	29
	8:30 AM	1	1	0	0	0	0	0	0	0	0	0	0	0	0	2
	8:45 AM	0	0	0	0	0	2	0	0	0	0	0	0	0	0	2
	TOTAL AM	6	5	5	0	9	29	2	0	0	0	0	0	0	0	56
+	02:00 PM	2	2	0	0	2	3	0	0	0	0	0	0	0	0	9
	2:15 PM	1	1	0	0	0	0	Ö	1	0	0	0	0	0	0	3
	2:30 PM	2	1	0	0	1	0	0	0	0	0	0	0	0	0	4
	2:45 PM	1	0	0	0	0	0	Ö	0	0	0	0	0	Ö	0	1
	3:00 PM	0	2	0	1	0	6	0	0	0	0	0	0	0	0	9
	3:15 PM	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1
	3:30 PM	1	1	0	0	2	2	0	0	0	0	0	0	0	0	6
	3:45 PM	0	1	0	0	1	0	0	0	0	0	0	0	0	0	2
	4:00 PM	0	2	0	3	0	4	1	0	0	0	0	0	0	0	10
Г	4:15 PM	1	0	0	0	1	1	0	0	0	0	0	0	0	0	3
1	4:30 PM	1	1	0	0	2	1	0	0	0	0	0	0	0	0	5
	4:45 PM	1	1	0	0	0	0	0	0	0	0	0	0	0	0	2
-	5:00 PM	2	0	0	0	0	1	0	0	0	1	0	0	0	0	4
-	5:15 PM	0	0	0	0	1	0	0	0	0	0	0	0	Ö	0	1
1	5:30 PM	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1
	5:45 PM	1	0	0	0	1	4	0	0	0	0	0	0	Ö	0	6
	TOTAL PM	14	12	0	4	12	22	1	1	0	1	0	0	0	0	67

DATE: Tue, Nov 15, 22

SC3579 2 STOP E/W

							NORT	H SIDE							
		Dr	DS			DVCI	CLIST	H SIDE			OTER				
							-						SKATE	BOARD	TOTAL
		dult		ol Age		ke		Bike		oter		Assistance			
	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	
7:00 AM	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	2	0	0	0	2	0	0	0	0	0	0	0	0	0	4
7:45 AM	1	0	0	0	5	2	0	0	0	0	0	0	0	0	4
8:00 AM 8:15 AM	1	0	0	0		2	0	0	0	0	0	0	0	0	8
8:15 AM 8:30 AM	0	0	0	0	0	1	0	0	0	0	0	0	0	0	5
8:45 AM	3	1	0	0	0	0	0	0	0	0	0	0	0	0	4
	7	3	0		8						0	0		0	27
TOTAL AM	/	3	0	0	8	6	1	1	1	0	- 0	- 0	0	U	2/
	_	3				0						0			-
02:00 PM	0	3	0	0	0	0	0	0	0	0	0	0	0	0	5
2:15 PM 2:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:00 PM	0	0	0	U	0	4	0	U	0	0	0	0	0	0	U
3:15 PM	0	0	0	0	0	0	0	0	0	U	0	0	0	0	-/
3:30 PM	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
3:45 PM	0	0	0	0	1	1	0	0	0	0	0	0	0	0	2
4:00 PM	0	0	0	0	Ô	0	0	0	0	0	0	0	0	0	0
4:15 PM	5	ő.	0	0	0	0	0	0	0	0	0	0	0	0	5
4:30 PM	3	ő	ő	0	ő	1	Ö	ů.	ŏ	0	ő	0	ő	0	4
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM	2	0	0	0	1	0	0	0	0	0	0	0	0	0	3
5:15 PM	1	1	ő	Ö	Ô	1	ŏ	ő	Ö	Ö	0	Ö	ő	0	3
5:30 PM	0	Ö	0	Ö	Ö	0	0	Ō	Ö	Ö	0	0	Ö	Ō	0
5:45 PM	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1
TOTAL PM	12	7	0	2	2	7	1	1	0	1	0	0	0	0	33

							SOUT	H SIDE							
		PE	EDS			BYCI	CLIST			SCO	OTER		CVATE	BOARD	TOTAL
	Ac	iult	Scho	ol Age	Bi	ke	E-I	Bike	Sco	oter	Mobility /	Assistance	SKATE	BUARD	IOIAL
	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1
7:15 AM	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1
7:30 AM	0	2	0	0	0	1	0	0	0	0	0	0	0	0	3
7:45 AM	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1
8:00 AM	0	2	0	0	0	1	0	0	0	0	0	0	0	0	3
8:15 AM	1	1	0	0	0	2	0	1	0	0	0	0	0	0	5
8:30 AM	0	2	0	0	0	0	0	0	0	0	0	0	0	0	2
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL AM	1	7	1	0	0	5	0	1	0	0	0	0	1	0	16
02:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2:30 PM	1	1	0	0	0	0	0	0	0	0	0	0	0	0	2
2:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:00 PM	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1
3:15 PM	2	0	1	0	0	0	0	0	0	1	0	0	0	0	4
3:30 PM	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1
3:45 PM	1	0	0	0	0	1	0	0	0	0	0	0	0	0	2
4:00 PM	1	0	0	0	0	0	0	0	0	1	0	0	0	0	2
4:15 PM	2	1	0	0	3	1	0	0	0	0	0	0	0	0	7
4:30 PM	1	1	0	0	0	0	0	0	0	0	0	0	0	0	2
4:45 PM	3	1	1	0	1	0	0	0	0	0	0	0	0	0	6
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL PM	11	4	2	0	5	4	0	0	0	2	0	0	0	0	28

							EAST	SIDE							
		PE	DS			BYCI	CLIST			SCO	OTER		CVATE	BOARD	TOTAL
	Ac	dult	Scho	ol Age	Bi	ke	E-I	Bike	Sco	oter	Mobility /	Assistance	SKATE	BUARD	IOIAL
	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	
7:00 AM	0	0	0	0	1	0	0	0	0	0	0	0	1	0	2
7:15 AM	0	0	1	0	3	0	0	0	0	0	0	0	0	0	4
7:30 AM	1	2	0	1	0	0	0	0	0	0	0	0	0	0	4
7:45 AM	0	1	0	0	1	0	0	0	0	0	0	0	0	0	2
8:00 AM	5	0	3	0	2	0	0	0	0	0	0	0	0	0	10
8:15 AM	1	3	0	0	0	0	2	0	0	0	0	0	0	0	6
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	2	1	0	0	2	1	0	0	0	0	0	0	0	0	6
TOTAL AM	9	7	4	1	9	1	2	0	0	0	0	0	1	0	34
02:00 PM	0	0	0	0	1	0	1	0	0	0	0	0	0	0	2
2:15 PM	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1
2:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2:45 PM	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1
3:00 PM	0	0	0	1	0	2	1	3	0	0	0	0	0	0	7
3:15 PM	2	0	0	0	2	0	0	0	0	1	0	0	0	0	5
3:30 PM	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
3:45 PM	1	1	0	0	3	0	0	0	0	0	0	0	0	0	5
4:00 PM	1	0	0	0	1	0	0	0	0	0	0	0	0	0	2
4:15 PM	3	0	0	0	0	0	0	0	0	0	0	0	0	0	3
4:30 PM	0	1	0	0	1	0	0	0	0	0	0	0	0	0	2
4:45 PM	1	1	1	0	0	0	0	0	0	0	0	0	0	0	3
5:00 PM	1	0	0	0	1	0	0	0	0	2	0	0	0	0	4
5:15 PM	0	0	0	0	2	0	0	0	1	0	0	0	0	0	3
5:30 PM	1	0	0	0	1	0	0	0	0	0	0	0	0	0	2
5:45 PM	1	1	0	0	0	0	0	0	0	0	0	0	0	0	2
TOTAL PM	12	5	1	1	13	2	2	3	1	3	0	0	0	0	43

								SIDE							
			DS				CLIST				OTER		SKATE	BOARD	TOTAL
		dult		ol Age	В	ike		Bike		oter		Assistance	Sietit		
	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	
7:00 AM	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
7:15 AM	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1
7:30 AM	3	1	0	0	0	0	0	0	0	0	0	0	0	0	4
7:45 AM	3	2	0	0	0	2	0	0	0	0	0	0	0	0	7
8:00 AM	2	1	0	0	9	5	1	0	1	0	0	0	0	0	19
8:15 AM	0	1	1	0	4	9	0	3	0	0	0	0	0	0	18
8:30 AM	0	0	0	0	0	3	0	0	0	0	0	0	0	0	3
8:45 AM	3	0	0	0	0	3	1	0	0	0	0	0	0	0	7
TOTAL AM	11	6	1	0	13	23	2	3	1	0	0	0	0	0	60
02:00 PM	0	0	0	0	2	0	2	0	0	0	0	0	0	0	4
2:15 PM	1	0	0	0	2	1	0	1	0	0	0	0	0	0	5
2:30 PM	1	2	0	0	0	0	0	0	0	0	0	0	0	0	3
2:45 PM	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1
3:00 PM	0	2	0	5	0	8	0	2	0	2	0	0	0	0	19
3:15 PM	0	1	0	2	0	4	0	0	0	1	0	0	0	0	8
3:30 PM	1	2	0	0	1	0	1	0	0	0	0	0	0	0	5
3:45 PM	2	3	0	0	1	1	0	0	0	1	0	0	0	0	8
4:00 PM	1	1	0	1	2	5	0	0	0	1	0	0	0	0	11
4:15 PM	1	0	0	1	2	2	0	0	0	1	0	0	0	0	7
4:30 PM	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1
4:45 PM	0	2	0	0	1	0	0	1	0	0	0	0	0	0	4
5:00 PM	3	0	0	0	1	1	0	0	0	0	0	0	0	0	5
5:15 PM	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
5:30 PM	5	1	0	0	0	0	0	0	0	0	0	0	0	0	6
5:45 PM	2	0	0	0	0	0	0	0	0	0	0	0	0	0	2
TOTAL PM	17	15	0	9	13	23	3	4	0	6	0	0	0	0	90

LOCATION: Irvine Rancho San Joaquin NORTH & SOUTH: Yale EAST & WEST: University

PROJECT #: LOCATION #: CONTROL:

								NORT	H SIDE							
			PE	EDS			BYC	CLIST			SCO	OTER		CVATE	BOARD	тота
		A	dult	Scho	ol Age	В	like	E-	Bike	So	ooter	Mobility	Assistance	SKATE	BUARD	IUIA
		EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	
П	7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
ı	7:15 AM	0	0	0	0	2	1	0	0	0	0	0	0	0	0	3
ľ	7:30 AM	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1
ı	7:45 AM	0	0	0	0	1	3	0	0	0	0	0	0	0	0	4
ľ	8:00 AM	4	1	2	0	2	3	0	0	0	0	0	0	0	0	12
ľ	8:15 AM	0	3	0	0	0	4	0	0	0	0	0	0	0	0	7
Ī	8:30 AM	0	0	0	0	1	0	0	0	1	0	0	0	0	0	2
Ī	8:45 AM	0	0	0	0	2	0	0	0	0	0	0	0	0	0	2
ı	TOTAL AM	4	4	2	0	8	11	0	1	1	0	0	0	0	0	31
ľ				•		•	•		•	•		•				
ľ	02:00 PM	1	0	0	0	9	0	1	0	0	1	0	0	0	0	12
ŀ	2:15 PM	0	1	0	0	2	0	0	0	0	0	0	0	0	0	3
	2:30 PM	1	0	0	0	2	1	0	0	0	0	0	0	0	0	4
	2:45 PM	0	1	0	0	0	1	0	0	1	0	0	0	0	0	3
ľ	3:00 PM	0	0	0	0	0	0	0	0	1	1	0	0	0	0	2
ľ	3:15 PM	0	0	0	0	2	2	0	0	0	0	0	0	0	0	4
ŀ	3:30 PM	0	2	Ö	0	1	0	Ö	0	1	0	Ö	Ö	Ö	Ö	4
	3:45 PM	1	0	0	0	7	1	0	0	2	0	0	0	0	0	11
ľ	4:00 PM	0	0	0	0	0	2	0	0	0	0	0	0	0	0	2
ľ	4:15 PM	1	0	0	0	0	0	0	0	0	0	0	0	1	0	2
ľ	4:30 PM	0	0	0	0	2	0	0	2	0	0	0	0	0	0	4
	4:45 PM	0	1	0	0	0	1	0	0	0	0	0	0	0	0	2
	5:00 PM	0	0	0	0	1	1	1	1	1	0	0	0	0	0	5
ľ	5:15 PM	0	0	0	0	2	0	0	1	1	0	0	0	0	0	4
ľ	5:30 PM	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1
ľ	5:45 PM	1	1	Ö	Õ	Ö	0	Ö	0	Ö	0	Ö	Ö	Ö	Ö	2
ľ	TOTAL PM	6	6	0	0	28	9	2	4	7	2	0	0	1	0	65

								SOUT	H SIDE							
			PE	DS			BYCI	CLIST			SCO	OTER		CVATE	BOARD	TOTAL
		A	dult	Scho	ol Age	В	ike	E-8	Bike		oter	Mobility A	Assistance	SKATE		IOIAL
		EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	
	7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Σ	7:45 AM	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1
⋖	8:00 AM	0	0	0	0	2	0	0	0	0	0	0	0	0	0	2
	8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8:30 AM	0	0	0	0	1	1	0	0	0	0	0	0	0	0	2
	8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	TOTAL AM	0	0	0	0	3	1	1	0	0	0	0	0	0	0	5
				•		•	•	•		•			•	•		
	02:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2:15 PM	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1
	2:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3:00 PM	0	0	0	0	2	0	0	0	0	0	0	0	0	0	2
	3:15 PM	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1
	3:30 PM	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1
	3:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Σ	4:00 PM	1	1	0	1	2	0	0	0	0	0	0	0	0	0	5
-	4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4:30 PM	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1
	4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	5:15 PM	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1
	5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	TOTAL PM	1	1	0	1	9	0	0	0	0	0	0	0	0	0	12

								EAST	SIDE							
			PE	DS			BYCI	CLIST			SCO	OTER		CVATE	BOARD	TOTAL
		А	dult	Scho	ol Age	В	ike	E-8	3ike	Sco	oter	Mobility a	Assistance	SKATE	BUARD	IOIAL
		NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	
	7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Σ	7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
⋖	8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	TOTAL AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
			•	•	•	•	•	•		•	•			•		•
	02:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Σ	4:00 PM	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1
_	4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	TOTAL PM	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1

								WEST	SIDE							
				DS				CLIST				OTER		CVATE	BOARD	TOTAL
			lult		ol Age		ike		Bike		ooter		Assistance			IOIAL
		NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	
	7:00 AM	1	0	1	0	1	3	0	0	0	0	0	0	0	0	6
	7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	7:30 AM	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Σ	7:45 AM	0	2	0	1	2	6	0	0	0	0	0	0	0	0	11
⋖	8:00 AM	5	1	4	0	10	7	0	1	0	0	0	0	0	0	28
	8:15 AM	2	4	0	1	5	13	0	3	0	0	0	0	0	0	28
	8:30 AM	1	1	0	0	0	3	0	0	0	1	0	0	0	0	6
	8:45 AM	2	0	0	0	1	1	0	1	0	0	0	0	0	0	5
	TOTAL AM	12	8	5	2	19	33	0	5	0	1	0	0	0	0	85
	02:00 PM	1	1	0	0	10	0	3	0	0	0	0	0	0	0	15
	2:15 PM	2	1	0	0	3	1	0	1	0	0	0	0	0	0	8
	2:30 PM	0	0	0	0	2	0	0	0	0	0	0	0	0	0	2
	2:45 PM	1	0	0	0	3	0	0	0	1	0	0	0	0	0	5
	3:00 PM	0	5	0	0	1	9	0	0	0	1	0	0	0	0	16
	3:15 PM	0	0	0	0	2	4	0	0	0	1	0	0	0	0	7
	3:30 PM	0	1	0	0	1	0	1	0	1	0	0	0	0	0	4
	3:45 PM	2	1	0	0	6	2	0	0	1	2	0	0	0	0	14
Ξ	4:00 PM	1	0	1	0	3	5	0	0	0	1	0	0	0	0	11
_	4:15 PM	1	2	0	1	2	1	0	0	0	1	0	0	1	0	9
	4:30 PM	0	0	0	0	2	1	0	0	0	0	0	0	0	0	3
	4:45 PM	1	2	0	0	1	0	0	0	0	0	0	0	0	0	4
	5:00 PM	2	0	1	0	1	0	2	0	1	0	0	0	0	0	7
	5:15 PM	0	1	0	0	2	1	0	0	1	0	0	0	0	0	5
	5:30 PM	4	0	0	0	1	0	0	0	0	0	0	0	0	0	5
	5:45 PM	1	0	0	0	1	0	0	0	0	0	0	0	0	0	2
	TOTAL PM	16	14	2	1	41	24	6	1	5	6	0	0	1	0	117
	•															

LOCATION: Irvine Rancho San Joaquin NORTH & SOUTH: Yale EAST & WEST: University

PROJECT #: LOCATION #: CONTROL:

								NORT	H SIDE							
			PE	DS			BYCI	CLIST			SCO	OTER		CVATE	BOARD	TOTAL
		A	dult	Scho	ol Age	В	ike	E-I	Bike	Sco	ooter	Mobility	Assistance	SIGNIE	DOARD	IOIAL
		EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	
	7:00 AM	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1
	7:15 AM	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1
	7:30 AM	0	0	0	0	1	0	0	2	0	1	0	0	0	0	4
	7:45 AM	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1
	8:00 AM	1	0	1	0	0	3	2	0	0	0	0	0	0	0	7
	8:15 AM	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1
	8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8:45 AM	0	0	0	0	0	4	0	0	0	0	0	0	0	0	4
TO	OTAL AM	2	0	1	0	2	8	2	2	0	2	0	0	0	0	19
	02:00 PM	0	0	0	0	6	0	1	1	0	0	0	0	0	0	8
	2:15 PM	0	0	1	0	1	0	0	0	0	0	0	0	0	0	2
2	:30 PM	0	3	0	0	2	0	0	0	0	0	0	0	0	0	5
2:4	45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:0	00 PM	1	0	0	0	0	1	0	0	0	0	0	0	0	0	2
3:	15 PM	0	0	0	0	1	1	0	1	0	0	0	0	0	0	3
	30 PM	1	0	0	0	1	0	1	1	0	0	0	0	0	0	4
	45 PM	3	0	0	0	3	0	0	0	1	0	0	0	0	0	7
4:	00 PM	0	0	1	0	0	0	0	0	1	0	0	0	0	0	2
	:15 PM	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
	1:30 PM	1	0	0	0	2	1	0	0	0	0	0	0	0	0	4
	1:45 PM	0	1	0	0	5	0	0	0	1	0	0	0	0	0	7
	:00 PM	0	0	0	0	2	0	0	0	1	0	0	0	0	0	3
-	5:15 PM	1	0	0	0	2	0	0	0	0	0	0	0	0	0	3
	5:30 PM	1	0	0	0	0	1	0	0	0	0	0	0	0	0	2
	5:45 PM	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1
TO	TAL PM	8	5	2	0	25	5	2	3	4	0	0	0	0	0	54

									H SIDE							
				DS			BYCI					OTER		CKVLE	BOARD	TOTAL
		A	dult	Scho	ol Age	В	ike	E-8	Bike	Sco	ooter	Mobility a	Assistance	SKATE		IOIAL
		EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	
	7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Σ	7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
⋖	8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8:15 AM	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1
	8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8:45 AM	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1
	TOTAL AM	0	0	0	0	0	0	2	0	0	0	0	0	0	0	2
	02:00 PM	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1
	2:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1
	2:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3:15 PM	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1
	3:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3:45 PM	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1
Ξ	4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4:30 PM	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1
	4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	5:15 PM	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1
	5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	5:45 PM	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1
	TOTAL PM	0	0	0	0	4	0	1	0	1	0	0	0	1	0	7

								EAST	SIDE							
			PE	DS			BYCI	CLIST			SCO	OTER		CVATE	BOARD	TOTAL
		А	dult	Scho	ol Age	В	ike	E-8	Bike		oter	Mobility A	Assistance	SKATE	BUARD	IOTAL
		NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	
	7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Σ	7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
⋖	8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	TOTAL AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
			•	•	•	•				•			•	•		•
	02:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1
	2:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3:15 PM	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1
ı	3:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3:45 PM	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1
Ε	4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
٠,	4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4:30 PM	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1
	4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	5:45 PM	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1
	TOTAL PM	0	0	0	0	3	0	0	0	1	0	0	0	1	0	5

									SIDE							
			PE				BYCI					OTER		SKATE	BOARD	TOTAL
			lult		ol Age		ke		Bike		oter		Assistance		-	.o.a.
		NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	
	7:00 AM	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
	7:15 AM	4	2	0	0	0	0	0	0	0	0	0	0	0	0	6
	7:30 AM	1	0	0	0	1	0	0	1	0	0	0	0	0	0	3
ξ	7:45 AM	2	1	2	0	1	3	0	1	0	0	0	0	0	0	10
٩	8:00 AM	6	0	4	0	9	8	0	1	0	0	0	0	0	0	28
	8:15 AM	0	2	0	1	3	9	0	1	0	1	0	0	0	0	17
	8:30 AM	1	2	0	1	0	1	0	0	0	0	0	0	0	0	5
	8:45 AM	0	1	0	0	0	2	0	0	0	0	0	0	0	0	3
	TOTAL AM	14	9	6	2	14	23	0	4	0	1	0	0	0	0	73
	02:00 PM	0	0	0	0	13	3	1	0	0	0	0	0	0	0	17
	2:15 PM	1	1	1	0	1	0	2	1	0	0	0	0	0	0	7
	2:30 PM	0	1	1	0	2	0	1	0	0	0	0	0	0	0	5
	2:45 PM	1	2	1	0	2	0	1	0	1	0	0	0	0	0	8
	3:00 PM	0	1	0	3	0	7	0	0	0	0	0	0	0	0	11
	3:15 PM	0	0	0	0	3	0	0	0	0	0	0	0	0	0	3
	3:30 PM	1	1	0	0	3	1	1	0	0	0	0	0	0	0	7
	3:45 PM	2	0	0	0	7	0	0	1	1	0	0	0	0	0	11
Σ	4:00 PM	0	2	1	3	0	4	2	0	1	0	0	0	0	0	13
•	4:15 PM	0	1	0	0	1	1	0	0	0	0	0	0	0	0	3
	4:30 PM	0	0	0	0	6	0	0	1	0	0	0	0	0	0	7
	4:45 PM	0	1	0	0	5	0	0	0	1	0	0	0	0	0	7
	5:00 PM	1	1	0	1	3	1	0	0	0	0	0	0	0	0	7
	5:15 PM	2	0	0	0	1	0	0	0	0	0	0	0	0	0	3
	5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	5:45 PM	0	0	0	0	1	1	0	0	0	0	0	0	0	0	2
	TOTAL PM	8	11	4	7	48	18	8	3	4	0	0	0	0	0	111

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

<u>DATE:</u> Tue, Nov 15, 22 LOCATION: Irvine Rancho San Joaquin PROJECT #: SC3579

NORTH & SOUTH: Yale LOCATION #: 4

EAST & WEST: CONTROL: NO CONTROL

	7:00 AM
	7:15 AM
	7:30 AM
	7:45 AM
	8:00 AM
	8:15 AM
	8:30 AM
	8:45 AM
S	TOTAL
DIRECTIONALLY COUNTS	
OU	2:00 PM
/ C	2:15 PM
IΓ	2:30 PM
IAI	2:45 PM
[O	3:00 PM
CTi	3:15 PM
RE	3:30 PM
DI	3:45 PM
	4:00 PM
	4:15 PM
	4:30 PM
	4:45 PM
	5:00 PM
	5:15 PM
	5:30 PM
	5:45 PM
	TOTAL

	Yale	Crossing		
Pl	EDS	В	IKES	TOTAL
EB	WB	EB	WB	
0	0	0	0	0
0	1	0	0	1
1	0	0	0	1
1	1	0	0	2
0	0	0	0	0
1	0	0	0	1
1	2	0	0	3
0	2	0	0	2
4	6	0	0	10
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	3	0	0	3
1	1	0	0	2
1	1	0	0	2
1	0	0	0	1
1	4	0	0	5
3	0	0	0	3
0	3	0	0	3
1	4	0	1	6
3	0	0	0	3
1	0	0	0	1
3	0	0	0	3
1	0	0	0	1
16	16	0	1	33

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

<u>DATE:</u> Wed, Nov 16, 22 LOCATION: Irvine Rancho San Joaquin PROJECT #: SC3579

NORTH & SOUTH: Yale LOCATION #: 4

EAST & WEST: CONTROL: NO CONTROL

-	
	7:00 AM
	7:15 AM
	7:30 AM
	7:45 AM
	8:00 AM
	8:15 AM
	8:30 AM
	8:45 AM
S	TOTAL
E	
nc	2:00 PM
CC	2:15 PM
ΤX	2:30 PM
IAI	2:45 PM
0	3:00 PM
E	3:15 PM
DIRECTIONALLY COUNTS	3:30 PM
DI	3:45 PM
	4:00 PM
	4:15 PM
	4:30 PM
	4:45 PM
	5:00 PM
	5:15 PM
	5:30 PM
	5:45 PM
	TOTAL

	Yale	Crossing		
P	EDS		BIKES	TOTAL
EB	WB	EB	WB	
3	0	0	0	3
0	1	0	0	1
1	1	0	0	2
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
4	1	0	0	5
0	2	0	0	2
8	5	0	0	13
0	1	1	0	2
1	0	0	0	1
0	0	0	0	0
0	1	0	0	1
0	0	0	0	0
0	0	0	0	0
1	0	0	0	1
0	2	0	0	2
0	0	0	0	0
2	2	0	0	4
0	2	0	0	2
1	0	0	0	1
0	1	0	0	1
2	0	0	0	2
2	1	0	0	3
0	1	0	0	1
9	11	1	0	21

<u>DATE:</u> Tue, Nov 15, 22

LOCATION: NORTH & SOUTH: EAST & WEST:

Irvine Rancho San Joaquin Yale

PROJECT #: SC3474 LOCATION #: 1 CONTROL: NO CONTROL

			PE	DS			B:	IKES		Sk	ATEBOARD	S/SCOOTE	ERS	
		AD	ULT	SCHOO	OL AGE	ADI	ULT	SCHO	OOL AGE	AD	ULT	SCHO	OL AGE	TOTAL
		NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	
	7:00 AM	1	1	0	0	1	0	1	0	0	0	0	0	4
	7:15 AM	1	1	0	0	2	3	0	0	0	0	0	0	7
	7:30 AM	1	2	0	0	1	0	0	0	0	0	0	0	4
	7:45 AM	4	2	0	0	2	2	0	1	0	0	0	0	11
	8:00 AM	3	1	0	4	1	0	0	0	0	0	0	0	9
	8:15 AM	1	3	0	1	1	4	0	2	0	0	0	0	12
	8:30 AM	1	0	0	0	1	2	0	0	0	0	0	0	4
	8:45 AM	0	2	0	0	2	5	0	0	0	0	0	0	9
co	TOTAL	12	12	0	5	11	16	1	3	0	0	0	0	60
Ë														
COUNTS	2:00 PM	1	0	0	0	2	3	0	0	0	0	0	0	6
	2:15 PM	3	0	0	0	2	3	0	0	0	0	0	0	8
_	2:30 PM	2	0	0	0	2	0	0	0	0	0	0	0	4
I₫	2:45 PM	0	0	0	0	1	2	0	0	0	1	0	0	4
CTIONALLY	3:00 PM	1	1	1	0	0	5	2	0	0	0	1	1	12
15	3:15 PM	2	1	3	0	2	2	0	0	0	0	0	0	10
Ä	3:30 PM	0	0	0	0	0	1	0	0	0	0	0	0	1
DIRE	3:45 PM	2	4	2	1	2	2	0	0	0	2	0	0	15
	4:00 PM	0	1	2	0	0	1	2	0	0	0	0	0	6
	4:15 PM	3	3	0	0	0	1	0	0	1	0	0	0	8
	4:30 PM	1	2	1	1	1	0	0	0	0	0	0	0	6
	4:45 PM	1	5	0	0	0	0	0	1	0	0	0	0	7
	5:00 PM	1	0	0	0	1	3	0	0	0	0	0	0	5
	5:15 PM	2	1	0	0	3	0	0	0	0	0	0	0	6
	5:30 PM	1	2	0	0	1	0	0	0	0	0	0	0	4
	5:45 PM	0	3	0	0	0	1	0	0	0	0	0	0	4
	TOTAL	20	23	9	2	17	24	4	1	1	3	1	1	106

<u>DATE:</u> Wed, Nov 16, 22

LOCATION: NORTH & SOUTH: EAST & WEST:

Irvine Rancho San Joaquin Yale

PROJECT #: SC3474 LOCATION #: 405 CONTROL: NO CONTROL

			PE	DS			B)	IKES		SI	KATEBOARD	OS/SCOOTE	RS		
		AD	ULT	SCHO	OL AGE	AD	ULT	SCHO	OOL AGE	AD	ULT	SCHO	OL AGE	TOTAL	
		NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB		
	7:00 AM	1	4	0	0	1	0	0	0	0	0	0	0	6	
	7:15 AM	0	0	0	0	0	1	0	0	0	0	0	0	1	
	7:30 AM	2	1	0	0	1	3	0	0	0	0	0	0	7	
	7:45 AM	8	0	0	0	5	1	0	2	0	0	0	0	16	
	8:00 AM	3	4	0	2	0	1	0	0	0	0	0	0	10	
	8:15 AM	1	3	0	0	0	2	0	1	0	0	0	0	7	
	8:30 AM	1	0	1	0	1	1	0	0	0	0	0	0	4	
	8:45 AM	0	4	0	0	2	1	0	0	0	1	0	0	8	
co.	TOTAL	16	16	1	2	10	10	0	3	0	1	0	0	59	
COUNTS															
ᅙ	2:00 PM	1	4	0	0	4	2	1	0	0	0	0	0	12	SB - el powered wheelchair (1)
ŏ	2:15 PM	0	0	0	0	0	0	0	1	0	0	0	0	1	
Ž,	2:30 PM	0	0	0	0	1	0	0	1	0	0	0	0	2	
₹	2:45 PM	0	1	0	0	1	1	0	0	0	0	0	0	3	
CTIONALLY	3:00 PM	0	0	2	0	3	0	2	1	0	1	0	1	10	
8	3:15 PM	3	1	1	0	1	1	0	0	0	0	0	0	7	
W.	3:30 PM	2	0	0	0	3	2	1	2	0	0	0	0	10	
DIRE	3:45 PM	2	1	0	1	3	2	0	0	1	0	0	0	10	
	4:00 PM	1	6	0	1	0	0	2	0	0	0	0	0	10	
	4:15 PM	3	1	0	0	2	0	0	0	1	0	0	0	7	
	4:30 PM	5	6	0	0	2	1	1	0	0	0	0	0	15	
	4:45 PM	0	5	0	1	4	2	0	0	0	1	0	0	13	
	5:00 PM	1	0	1	0	0	1	0	0	0	0	0	0	3	
	5:15 PM	2	0	0	0	1	1	0	0	0	0	0	0	4	
	5:30 PM	1	1	0	0	4	1	0	0	0	0	0	0	7	
	5:45 PM	0	1	0	0	1	1	0	0	1	1	0	0	5	
	TOTAL	21	27	4	3	30	15	7	5	3	3	0	1	119	

<u>DATE:</u> Tue, Nov 15, 22

LOCATION: NORTH & SOUTH: EAST & WEST:

Irvine Rancho San Joaquin Yale

PROJECT #: SC3474 LOCATION #: 1 CONTROL: NO CONTROL

			PE	DS			В	IKES		Si	<b>(ATEBOARI</b>	DS/SCOOTE	ERS	
		AD	ULT	SCHO	OL AGE	AD	ULT	SCHO	OOL AGE	AD	ULT	SCHO	OL AGE	TOTA
		NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	
	7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
Г	7:15 AM	1	0	0	0	0	0	0	0	0	0	0	0	1
	7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
	7:45 AM	2	0	0	0	0	0	0	1	0	0	0	0	3
	8:00 AM	0	1	0	4	0	0	0	0	0	0	0	0	5
	8:15 AM	0	1	0	1	0	0	0	2	0	0	0	0	4
	8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
	8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
	TOTAL	3	2	0	5	0	0	0	3	0	0	0	0	13
	2:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	2:15 PM	1	0	0	0	0	0	0	0	0	0	0	0	1
	2:30 PM	1	0	0	0	0	0	0	0	0	0	0	0	1
	2:45 PM	0	0	0	0	0	0	0	0	0	1	0	0	1
	3:00 PM	0	0	1	0	0	0	2	0	0	0	0	0	3
	3:15 PM	0	0	3	0	0	1	0	0	0	0	0	0	4
	3:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	3:45 PM	0	0	2	1	0	0	0	0	0	0	0	0	3
	4:00 PM	0	1	2	0	0	0	2	0	0	0	0	0	5
	4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	4:30 PM	0	0	1	0	0	0	0	0	0	0	0	0	1
	4:45 PM	0	1	0	0	0	0	0	1	0	0	0	0	2
	5:00 PM	0	0	0	0	0	1	0	0	0	0	0	0	1
	5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	TOTAL	2	2	9	1	0	2	4	1	0	1	0	0	22

<u>DATE:</u> Wed, Nov 16, 22

LOCATION: NORTH & SOUTH: EAST & WEST:

Irvine Rancho San Joaquin Yale

PROJECT #: SC3474 LOCATION #: 405 CONTROL: NO CONTROL

	7:00 AM 7:15 AM 7:30 AM 7:45 AM 8:00 AM 8:15 AM
	8:30 AM 8:45 AM
S.	TOTAL
DIRECTIONALLY COUNTS	2:00 PM 2:15 PM 2:30 PM 2:45 PM 3:00 PM 3:15 PM 3:30 PM 3:45 PM 4:00 PM 4:15 PM 4:30 PM 4:45 PM 5:00 PM 5:15 PM 5:30 PM
	5:45 PM TOTAL
	IUIAL

	PE	DS			BIKES		SKATEBOARDS/SCOOTERS					
AD	ULT	SCHO	OL AGE	AD	ULT	SCHO	OOL AGE	AD	ULT	SCHO	OL AGE	TOTA
NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	
1	1	0	0	0	0	0	0	0	0	0	0	2
0	0	0	0	0	0	0	0	0	0	0	0	0
1	1	0	0	0	0	0	0	0	0	0	0	2
0	0	0	0	0	0	0	2	0	0	0	0	2
0	0	0	2	0	1	0	0	0	0	0	0	3
1	1	0	0	0	0	0	1	0	0	0	0	3
0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	1	0	0	0	0	0	0	0	1
3	3	0	2	1	1	0	3	0	0	0	0	13
0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	1	0	0	1	0	0	0	0	2
0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	2	0	0	0	2	0	0	0	0	0	4
0	0	1	0	0	0	0	0	0	0	0	0	1
0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0
0	2	0	0	0	0	2	0	0	0	0	0	4
2	1	0	0	0	0	0	0	0	0	0	0	3
0	3	0	0	0	0	0	0	0	0	0	0	3
0	2	0	0	1	0	0	0	0	0	0	0	3
1	0	1	0	0	0	0	0	0	0	0	0	2
0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0

## APPENDIX B- ICU Calculation Sheets

273 Yale Av. @ Michelson Dr.					
Existing Ln	А		Hour V/C	PM PK Vol	Hour V/C
	1700 5	3 0. 66 0. 33 0.	03*	14 1 57	0.01*
-	1700 2 1700 3 1700 5	7 0.		2 0 3	*
	1700 6 1700 13 1700 2	5 0.	04* 08 01	2 284 7	0.17*
WT 1		3 0.	05 11* 01	13 204 1	0.01* 0.12
Adjustment NBR .01 Overlaps Clearance .05					
Tota	al ICU	0.	24		0.25

275 Yale	e Av. @ Uni	versity 1	Dr.	
Existing		PK Hour	DM DV	Hour
Ln	Cap Vol			
NL 0 NT 0 NR 0	0 0 0	*	0 0 0	*
SL 1 ST 0	1700 76	0.04*	13	0.01*
	1700 104	0.06	21	0.01
	1700 81 3400 769 0			
	0 3400 1319 1700 35			
Overlaps Cleara			arance	.05
Tota	al ICU	0.53		0.48

ITAM page 1

273 Yale Av. @ Michelson Dr.					
Existing Ln	-7	AM PK	l Hour V/C		K Hour V/C
NT 1	1700	56 0	.01 .03* .02		
ST 1	1700 1700 1700	37 0	.01* .02 .03	24 21 29	
ET 1		35 0	.04* .08	27 168 20	
WT 1		93 0	.11*	46 166 16	0.10
Overlaps Clearance .05					
Tota	al ICU	0	.24		0.20

275 Yale	e Av. @ Uni	versity Dr.	
		ool PK Hour PM F V/C Vol	
NL 0 NT 0 NR 0	0 0 0	* 0 0 0	*
ST 0	1700 76 0 1700 104	0.04* 38 0 0.06 72	0.02*
1		0.05* 75 0.23 689 0	
	0 3400 1319 1700 35	0.39* 709 0.02 32	0.21* 0.02
Overlaps		Clearand	ce .05
Tota	al ICU	0.53	0.32

273 Yale	a Av. @	Mich	elson D	r.	
BO I-405 Ln		AM :	ne S Yai PK Hour V/C	PM P	K Hour
NT 2		236	0.02 0.07* 0.02		0.07*
ST 2		375	0.11* 0.11 0.11	117	0.04
ET 1		33	0.13* 0.02 0.04		0.03
WT 1	1700	37	0.04 0.02* 0.15	33	0.02*
Adjustment WBR .05 Overlaps Clearance .05					
Tota	al ICU		0.43		0.46

275 Yale	275 Yale Av. @ University Dr.				
	Veh OC 4-L AM C Cap Vol	PK Hour PM	M PK Hour		
NL 0 NT 0 NR 0	0 0 0	*	0 0 * 0		
ST 0	1700 191 0 1700 332		0		
	1700 239 3400 843 0				
	0 3400 1305 1700 73				
Overlaps		Cleara	ance .05		
Tota	al ICU	0.68	0.56		

273 Yale Av. @ Michelson Dr.					
BO I-405 Ln	Veh OC Cap	AM I	ne S Yai PK Hour V/C	PM P	K Hour
NT 1			0.14*		0.14*
ST 1		346	0.12* 0.20 0.12	103	0.06
ET 1		33	0.14* 0.02 0.03		0.03
	1700 1700 1700	34	0.02*	14 29 173	0.02*
Adjustment WBR .04 Overlaps Clearance .05					
Tota	al ICU		0.51		0.54

275 Yale Av. @ University Dr.				
	AM	ane S Yale PK Hour PM 1 V/C Voi	PK Hour	
NL 0 NT 0 NR 0	0 0 0	* 0	*	
ST 0	0	0.10* 19 0 0.18 140		
		0.14* 341 0.25 1481 0		
		0.39* 1022 0.04 35		
Overlaps		Clearan	ce .05	
Tota	al ICU	0.68	0.56	

273 Ya	le Av. (	Mich	nelson D	r.	
BO No I	-405 Vel		-Lane S PK Hour		
] 1	Ln Cap	Vol	V/C	Vol	V/C
NL NT	1 1700 1 1700	0		2 0	*
NR	D 1700	97	0.06	94	0.06
SL ST SR	1 1700 1 1700 D 1700	0 0 0	*	0 0 0	*
	2 1 7 0 0	ŭ			
EL ET ER	1 1700 1 1700 D 1700	0 169 139		0 311 3	0.18*
WL WT WR	1 1700 1 1700 D 1700		0.13* 0.11	81 235 0	0.05* 0.14
Adjustment NBR .02 Overlaps Clearance .05					
То	otal ICU		0.32		0.30

275 Yal	e Av. @ Uni	versity Dr.	
	405 Veh OC AM: Cap Vol	PK Hour PM	I PK Hour
NL 0 NT 0 NR 0	0 0 0	*	0 0 * 0
ST 0	1700 159 0 1700 238		0 0.02* 0 6 0.04
	1700 129 3400 901 0		
	0 3400 1334 1700 44		
Overlaps Clearance .05			
Tot	al ICU	0.61	0.55

273 Yale	e Av. 0	Mich	elson Dı	·	
BO No I-4	05 Veh	AM E	-Lane S PK Hour V/C	PM PF	K Hour
NT 1	1700 1700 1700	71 0 88	0.04*	0 0 92	* 0.05
ST 1	1700 1700 1700	0 0 0	*	0 0 0	*
ET 1		0 178 132		0 318 0	0.19*
WT 1			0.12* 0.11	75 227 0	0.04* 0.13
Adjustmen Overlaps	nt		Cle	NE arance	BR .02
Tota	al ICU		0.31		0.30

275 Y	ale Av. 0	University	y Dr.	
		OC 2-Lane AM PK Hour Vol V/C	r PM PK	Hour
NL NT NR	0 0 0	0 0 * 0	0 0 0	*
SL ST SR	0	146 0.09* 0 214 0.13	0	
1		121 0.07* 924 0.27 0		
		0 344 0.40* 42 0.02		
Overla	ps	C	learance	.05
To	otal ICU	0.61	0	.55

# APPENDIX C- HCM Synchro Worksheets

Intersection												
Intersection Delay, s/veh	14.7											
Intersection LOS	В											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	ሻ	<b>↑</b>	7	ሻ	<b>^</b>	7	ሻ	<b>↑</b>	7	ሻ	<b>†</b>	7
Traffic Vol, veh/h	65	135	21	88	193	20	13	56	33	21	37	52
Future Vol, veh/h	65	135	21	88	193	20	13	56	33	21	37	52
Peak Hour Factor	0.67	0.67	0.67	0.62	0.62	0.62	0.52	0.52	0.52	0.41	0.41	0.41
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	97	201	31	142	311	32	25	108	63	51	90	127
Number of Lanes	1	1	1	1	1	1	1	1	1	1	1	1
Approach	EB			WB			NB			SB		
Opposing Approach	WB			EB			SB			NB		
Opposing Lanes	3			3			3			3		
Conflicting Approach Left	SB			NB			EB			WB		
Conflicting Lanes Left	3			3			3			3		
Conflicting Approach Right	NB			SB			WB			EB		
Conflicting Lanes Right	3			3			3			3		
HCM Control Delay	14.1			17.7			12.1			12.1		
HCM LOS	В			С			В			В		
Lane		NBLn1	NBLn2	NBLn3	EBLn1	EBLn2	EBLn3	WBLn1	WBLn2	WBLn3	SBLn1	SBLn2
Vol Left, %		100%	0%	0%	100%	0%	0%	100%	0%	0%	100%	0%
Vol Thru, %		0%	100%	0%	0%	100%	0%	0%	100%	0%	0%	100%
Vol Right, %		0%	0%	100%	0%	0%	100%	0%	0%	100%	0%	0%
Sign Control		Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop

										022	
Vol Left, %	100%	0%	0%	100%	0%	0%	100%	0%	0%	100%	0%
Vol Thru, %	0%	100%	0%	0%	100%	0%	0%	100%	0%	0%	100%
Vol Right, %	0%	0%	100%	0%	0%	100%	0%	0%	100%	0%	0%
Sign Control	Stop										
Traffic Vol by Lane	13	56	33	65	135	21	88	193	20	21	37
LT Vol	13	0	0	65	0	0	88	0	0	21	0
Through Vol	0	56	0	0	135	0	0	193	0	0	37
RT Vol	0	0	33	0	0	21	0	0	20	0	0
Lane Flow Rate	25	108	63	97	201	31	142	311	32	51	90
Geometry Grp	8	8	8	8	8	8	8	8	8	8	8
Degree of Util (X)	0.058	0.235	0.126	0.213	0.414	0.058	0.299	0.612	0.057	0.117	0.193
Departure Headway (Hd)	8.362	7.862	7.162	7.903	7.403	6.703	7.573	7.073	6.373	8.19	7.69
Convergence, Y/N	Yes										
Сар	429	457	500	455	486	534	475	511	562	438	467
Service Time	6.109	5.609	4.909	5.645	5.145	4.445	5.31	4.81	4.11	5.934	5.434
HCM Lane V/C Ratio	0.058	0.236	0.126	0.213	0.414	0.058	0.299	0.609	0.057	0.116	0.193
HCM Control Delay	11.6	13	10.9	12.8	15.3	9.9	13.5	20.4	9.5	12	12.3
HCM Lane LOS	В	В	В	В	С	Α	В	С	Α	В	В
HCM 95th-tile Q	0.2	0.9	0.4	0.8	2	0.2	1.2	4.1	0.2	0.4	0.7

Existing AM Peak
12/20/2022
Synchro 11 Report
Page 1

Intersection												
Int Delay, s/veh	4.3											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		44			4			4	7		र्स	7
Traffic Vol, veh/h	15	26	25	24	31	2	13	90	12	2	135	10
Future Vol, veh/h	15	26	25	24	31	2	13	90	12	2	135	10
Conflicting Peds, #/hr	6	0	6	6	0	6	14	0	14	14	0	14
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	200	-	-	200
Veh in Median Storage	e,# -	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	59	59	59	77	77	77	52	52	52	39	39	39
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	25	44	42	31	40	3	25	173	23	5	346	26
Major/Minor I	Minor2			Minor1			Major1		<u> </u>	Major2		
Conflicting Flow All	632	630	366	655	633	193	386	0	0	210	0	0
Stage 1	370	370	-	237	237	-	-	-	-	-	-	_
Stage 2	262	260	-	418	396	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	393	399	679	379	397	849	1172	-	-	1361	-	-
Stage 1	650	620	-	766	709	-	-	-	-	-	-	-
Stage 2	743	693	-	612	604	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	346	378	668	311	376	835	1158	-	-	1345	-	-
Mov Cap-2 Maneuver	346	378	-	311	376	-	-	-	-	-	-	-
Stage 1	627	609	-	739	683	-	-	-	-	-	-	-
Stage 2	677	668	-	526	594	-	-	-	-	-	-	-
Approach	EB			WB			NB			SB		
HCM Control Delay, s	15.9			17.9			0.9			0.1		
HCM LOS	С			С								
Minor Lane/Major Mvm	nt	NBL	NBT	NBR	EBLn1V	VBLn1	SBL	SBT	SBR			
Capacity (veh/h)		1158	-	-	441	352	1345	-	-			
HCM Lane V/C Ratio		0.022	-	-	0.254		0.004	-	-			
HCM Control Delay (s)		8.2	0	-	15.9	17.9	7.7	0	-			
HCM Lane LOS		Α	A	-	С	С	Α	A	-			
HCM 95th %tile Q(veh	)	0.1	-	-	1	0.8	0	-	-			

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Intersection												
Intersection Delay, s/veh	12.6											
Intersection LOS	В											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	, j	<b>†</b>	7	7	<b></b>	7	Ţ	<b></b>	7	*	<b>†</b>	7
Traffic Vol, veh/h	2	284	7	13	204	1	14	1	57	2	0	3
Future Vol, veh/h	2	284	7	13	204	1	14	1	57	2	0	3

Peak Hour Factor	0.83	0.83	0.83	0.78	0.78	0.78	0.68	0.68	0.68	0.43	0.43	0.43
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	2	342	8	17	262	1	21	1	84	5	0	7
Number of Lanes	1	1	1	1	1	1	1	1	1	1	1	1
Approach	EB			WB			NB			SB		
Opposing Approach	WB			EB			SB			NB		
Opposing Lanes	3			3			3			3		
Conflicting Approach Left	SB			NB			EB			WB		
Conflicting Lanes Left	3			3			3			3		
Conflicting Approach Right	NB			SB			WB			EB		
Conflicting Lanes Right	3			3			3			3		
HCM Control Delay	14			12.2			9.4			9.2		
HCM LOS	В			В			Α			Α		

Lane	NBLn1	NBLn2	NBLn3	EBLn1	EBLn2	EBLn3	WBLn1	WBLn2	WBLn3	SBLn1	SBLn2
Vol Left, %	100%	0%	0%	100%	0%	0%	100%	0%	0%	100%	0%
Vol Thru, %	0%	100%	0%	0%	100%	0%	0%	100%	0%	0%	100%
Vol Right, %	0%	0%	100%	0%	0%	100%	0%	0%	100%	0%	0%
Sign Control	Stop										
Traffic Vol by Lane	14	1	57	2	284	7	13	204	1	2	0
LT Vol	14	0	0	2	0	0	13	0	0	2	0
Through Vol	0	1	0	0	284	0	0	204	0	0	0
RT Vol	0	0	57	0	0	7	0	0	1	0	0
Lane Flow Rate	21	1	84	2	342	8	17	262	1	5	0
Geometry Grp	8	8	8	8	8	8	8	8	8	8	8
Degree of Util (X)	0.039	0.003	0.132	0.004	0.521	0.011	0.029	0.415	0.002	0.009	0
Departure Headway (Hd)	6.881	6.381	5.681	6.084	5.583	4.881	6.221	5.719	5.018	7.077	6.577
Convergence, Y/N	Yes										
Cap	522	563	634	592	650	738	579	633	717	508	0
Service Time	4.595	4.095	3.395	3.784	3.283	2.581	3.921	3.419	2.718	4.793	4.293
HCM Lane V/C Ratio	0.04	0.002	0.132	0.003	0.526	0.011	0.029	0.414	0.001	0.01	0
HCM Control Delay	9.9	9.1	9.3	8.8	14.2	7.6	9.1	12.4	7.7	9.9	9.3
HCM Lane LOS	Α	Α	Α	Α	В	Α	Α	В	Α	Α	N
HCM 95th-tile Q	0.1	0	0.5	0	3	0	0.1	2	0	0	0

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Intersection												
Int Delay, s/veh	5.2											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		4			4			र्स	7		4	7
Traffic Vol, veh/h	11	28	13	12	12	2	27	57	17	2	11	8
Future Vol, veh/h	11	28	13	12	12	2	27	57	17	2	11	8
Conflicting Peds, #/hr	10	0	10	10	0	10	9	0	8	8	0	9
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	200	-	-	200
Veh in Median Storage	e,# -	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	71	71	71	73	73	73	70	70	70	76	76	76
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	15	39	18	16	16	3	39	81	24	3	14	11
Major/Minor I	Minor2			Minor1			Major1		<u> </u>	Major2		
Conflicting Flow All	220	220	33	231	207	99	34	0	0	113	0	0
Stage 1	29	29	-	167	167	-	-	-	-	-	-	-
Stage 2	191	191	-	64	40	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	736	678	1041	724	690	957	1578	-	-	1476	-	-
Stage 1	988	871	-	835	760	-	-	-	-	-	-	-
Stage 2	811	742	-	947	862	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	693	650	1025	653	661	943	1566	-	-	1466	-	-
Mov Cap-2 Maneuver	693	650	-	653	661	-	-	-	-	-	-	-
Stage 1	954	863	-	807	734	-	-	-	-	-	-	-
Stage 2	763	717	-	878	854	-	-	-	-	-	-	-
Approach	EB			WB			NB			SB		
HCM Control Delay, s	10.5			10.6			2			0.7		
HCM LOS	В			В								
Minor Lane/Major Mvm	nt	NBL	NBT	NBR	EBLn1V	VBL n1	SBL	SBT	SBR			
Capacity (veh/h)		1566		-	726	673	1466	-	-			
HCM Lane V/C Ratio		0.025	-	_	0.101			_	<u>-</u>			
HCM Control Delay (s)		7.4	0	_	10.5	10.6	7.5	0				
HCM Lane LOS		Α.	A	_	В	В	Α.5	A	_			
HCM 95th %tile Q(veh	)	0.1	-		0.3	0.2	0	-	_			
. Town oour round ox von	1	0.1			0.0	0.2						

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Intersection												
Intersection Delay, s/veh	12.1											
Intersection LOS	В											
Mayamant	EBL	EBT	EDD	WBL	WDT	WBR	NDI	NDT	NDD	SBL	SBT	SBR
Movement	EDL	EDI	EBR	VVDL	WBT	WDK	NBL	NBT	NBR	ODL	901	SDK
Lane Configurations			7			7	ሻ		7	ሻ		7
Traffic Vol, veh/h	27	168	20	46	166	16	15	19	44	24	21	29
Future Vol, veh/h	27	168	20	46	166	16	15	19	44	24	21	29
Peak Hour Factor	0.76	0.76	0.76	0.61	0.61	0.61	0.71	0.71	0.71	0.36	0.36	0.36
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	36	221	26	75	272	26	21	27	62	67	58	81
Number of Lanes	1	1	1	1	1	1	1	1	1	1	1	1
Annragah	EB			WB			NB			SB		
Approach												
Opposing Approach	WB			EB			SB			NB		
Opposing Lanes	3			3			3			3		
Conflicting Approach Left	SB			NB			EB			WB		
Conflicting Lanes Left	3			3			3			3		
Conflicting Approach Right	NB			SB			WB			EB		
Conflicting Lanes Right	3			3			3			3		
HCM Control Delay	12.5			13.3			10			10.4		
HCM LOS	В			В			Α			В		

Lane	NBLn1	NBLn2	NBLn3	EBLn1	EBLn2	EBLn3	WBLn1	WBLn2	WBLn3	SBLn1	SBLn2
Vol Left, %	100%	0%	0%	100%	0%	0%	100%	0%	0%	100%	0%
Vol Thru, %	0%	100%	0%	0%	100%	0%	0%	100%	0%	0%	100%
Vol Right, %	0%	0%	100%	0%	0%	100%	0%	0%	100%	0%	0%
Sign Control	Stop										
Traffic Vol by Lane	15	19	44	27	168	20	46	166	16	24	21
LT Vol	15	0	0	27	0	0	46	0	0	24	0
Through Vol	0	19	0	0	168	0	0	166	0	0	21
RT Vol	0	0	44	0	0	20	0	0	16	0	0
Lane Flow Rate	21	27	62	36	221	26	75	272	26	67	58
Geometry Grp	8	8	8	8	8	8	8	8	8	8	8
Degree of Util (X)	0.044	0.052	0.108	0.068	0.394	0.042	0.141	0.471	0.04	0.134	0.109
Departure Headway (Hd)	7.476	6.976	6.276	6.914	6.414	5.714	6.735	6.235	5.535	7.251	6.751
Convergence, Y/N	Yes										
Cap	478	512	568	517	559	624	532	577	645	493	529
Service Time	5.242	4.742	4.042	4.669	4.169	3.469	4.487	3.987	3.287	5.013	4.513
HCM Lane V/C Ratio	0.044	0.053	0.109	0.07	0.395	0.042	0.141	0.471	0.04	0.136	0.11
HCM Control Delay	10.6	10.1	9.8	10.2	13.3	8.7	10.6	14.5	8.5	11.1	10.3
HCM Lane LOS	В	В	Α	В	В	Α	В	В	Α	В	В
HCM 95th-tile Q	0.1	0.2	0.4	0.2	1.9	0.1	0.5	2.5	0.1	0.5	0.4

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Intersection												
Int Delay, s/veh	3											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		4			4			4	7		4	7
Traffic Vol, veh/h	17	26	7	14	18	3	14	84	23	2	74	10
Future Vol, veh/h	17	26	7	14	18	3	14	84	23	2	74	10
Conflicting Peds, #/hr	3	0	4	4	0	3	14	0	6	6	0	14
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	200	_	-	200
Veh in Median Storage	e,# -	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	73	73	73	78	78	78	70	70	70	31	31	31
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	23	36	10	18	23	4	20	120	33	6	239	32
Major/Minor I	Minor2			Minor1			Major1		_	Major2		
Conflicting Flow All	458	464	257	460	463	129	285	0	0	159	0	0
Stage 1	265	265	-	166	166	-	-	-	-	-	-	-
Stage 2	193	199	-	294	297	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	_	_
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	_	_	-	_	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	_	_	_	-	_	-
Follow-up Hdwy	3.518	4.018	3.318		4.018	3.318	2.218	-	-	2.218	-	_
Pot Cap-1 Maneuver	513	495	782	512	496	921	1277	-	-	1420	-	-
Stage 1	740	689	-	836	761	-	-	-	-	-	-	-
Stage 2	809	736	-	714	668	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	_
Mov Cap-1 Maneuver	477	476	770	465	477	914	1262	-	-	1413	-	-
Mov Cap-2 Maneuver	477	476	-	465	477	-	-	-	-	-	-	-
Stage 1	719	677	-	818	744	-	-	-	-	-	-	-
Stage 2	765	720	-	662	657	-	-	-	-	-	-	-
, and the second												
Approach	EB			WB			NB			SB		
HCM Control Delay, s	13.3			13.1			0.9			0.2		
HCM LOS	В			В			0.0			J.L		
Minor Lane/Major Mvm	nt	NBL	NBT	NRP	EBLn1V	VRI n1	SBL	SBT	SBR			
Capacity (veh/h)	IV.	1262	NDI	NDIN	503	492	1413	ODT	אומט			
HCM Lane V/C Ratio		0.016	_	_	0.136			_	_			
HCM Control Delay (s)		7.9	0	-	13.3	13.1	7.6	0	-			
HCM Control Delay (s)			A	-	13.3 B	13.1 B	7.6 A	A	-			
HCM 95th %tile Q(veh	١	A 0	- -	-	0.5	0.3	0	А	-			
HOW JULY WILL WINE	1	U	-	_	0.5	0.5	U	_	_			

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Intersection		
Intersection Delay, s/veh	251.5	
Intersection LOS	F	

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	Ţ	<b>†</b>	7	J.	<b>†</b>	7	,	ħβ		¥	<b>↑</b> ↑	
Traffic Vol, veh/h	218	33	64	74	37	252	35	236	36	195	375	188
Future Vol, veh/h	218	33	64	74	37	252	35	236	36	195	375	188
Peak Hour Factor	0.83	0.83	0.83	0.78	0.78	0.78	0.68	0.68	0.68	0.43	0.43	0.43
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	263	40	77	95	47	323	51	347	53	453	872	437
Number of Lanes	1	1	1	1	1	1	1	2	0	1	2	0
Approach	EB			WB			NB			SB		
Opposing Approach	WB			EB			SB			NB		
Opposing Lanes	3			3			3			3		
Conflicting Approach Left	SB			NB			EB			WB		
Conflicting Lanes Left	3			3			3			3		
Conflicting Approach Right	NB			SB			WB			EB		
Conflicting Lanes Right	3			3			3			3		
HCM Control Delay	67.7			83.3			44.7			388.4		
HCM LOS	F			F			Е			F		

Lane	NBLn1	NBLn2	NBLn3	EBLn1	EBLn2	EBLn3	WBLn1	WBLn2	WBLn3	SBLn1	SBLn2
Vol Left, %	100%	0%	0%	100%	0%	0%	100%	0%	0%	100%	0%
Vol Thru, %	0%	100%	69%	0%	100%	0%	0%	100%	0%	0%	100%
Vol Right, %	0%	0%	31%	0%	0%	100%	0%	0%	100%	0%	0%
Sign Control	Stop										
Traffic Vol by Lane	35	157	115	218	33	64	74	37	252	195	250
LT Vol	35	0	0	218	0	0	74	0	0	195	0
Through Vol	0	157	79	0	33	0	0	37	0	0	250
RT Vol	0	0	36	0	0	64	0	0	252	0	0
Lane Flow Rate	51	231	169	263	40	77	95	47	323	453	581
Geometry Grp	6	6	6	6	6	6	6	6	6	6	6
Degree of Util (X)	0.185	8.0	0.573	0.955	0.139	0.255	0.339	0.163	1.048	1.399	1.716
Departure Headway (Hd)	14.991	14.491	14.272	15.063	14.563	13.863	15.218	14.718	14.018	11.221	10.626
Convergence, Y/N	Yes										
Cap	241	252	255	242	248	261	238	245	262	327	343
Service Time	12.691	12.191	11.972	12.763	12.263	11.563	12.918	12.418	11.718	8.921	8.421
HCM Lane V/C Ratio	0.212	0.917	0.663	1.087	0.161	0.295	0.399	0.192	1.233	1.385	1.694
HCM Control Delay	21.1	57.3	34.5	88.7	19.6	21.2	25.5	20.3	109.5	226.7	359.5
HCM Lane LOS	С	F	D	F	С	С	D	С	F	F	F
HCM 95th-tile Q	0.7	6.1	3.2	8.6	0.5	1	1.4	0.6	10.8	23.2	36

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Intersection												
Int Delay, s/veh	6.1											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		4	7		4	7		414			4î.	
Traffic Vol, veh/h	21	37	35	29	37	2	14	284	14	9	459	45
Future Vol., veh/h	21	37	35	29	37	2	14	284	14	9	459	45
Conflicting Peds, #/hr	10	0	10	10	0	10	9	0	8	8	0	9
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	50	-	-	50	-	-	-	-	-	-
Veh in Median Storage,	,# -	0	-	-	0	-	-	0	-	-	0	-
Grade, %	_	0	-	-	0	-	-	0	_	-	0	-
Peak Hour Factor	71	71	71	73	73	73	70	70	70	76	76	76
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	30	52	49	40	51	3	20	406	20	12	604	59
Major/Minor N	/linor2		N	Minor1			Major1		N	Major2		
Conflicting Flow All	946	1141	351	826	1160	231	672	0	0	434	0	0
Stage 1	667	667	-	464	464		-	-	-	-	-	-
Stage 2	279	474	_	362	696	_	_	_	_	_	_	_
Critical Hdwy	7.54	6.54	6.94	7.54	6.54	6.94	4.14	-	_	4.14	_	_
Critical Hdwy Stg 1	6.54	5.54	-	6.54	5.54	-	-	-	_	-	-	_
Critical Hdwy Stg 2	6.54	5.54	-	6.54	5.54	-	-	-	-	-	_	-
Follow-up Hdwy	3.52	4.02	3.32	3.52	4.02	3.32	2.22	_	_	2.22	-	_
Pot Cap-1 Maneuver	216	199	645	264	194	771	915	-	_	1122	_	-
Stage 1	414	455	-	548	562	_	-	_	_	-	-	-
Stage 2	704	556	-	629	441	_	_	_	-	_	_	-
Platoon blocked, %								_	_		-	-
Mov Cap-1 Maneuver	161	187	635	182	183	759	908	-	-	1115	_	-
Mov Cap-2 Maneuver	161	187	-	182	183	-	-	-	-	-	-	-
Stage 1	399	444	-	529	542	-	-	-	-	-	-	-
Stage 2	612	536	-	499	430	-	-	-	-	-	-	-
, and the second												
Approach	EB			WB			NB			SB		
HCM Control Delay, s	30.2			41.5			0.5			0.2		
HCM LOS	D			E								
Minor Lane/Major Mvm	t	NBL	NBT	NBR I	EBLn1	EBLn2V	VBLn1V	VBLn2	SBL	SBT	SBR	
Capacity (veh/h)		908	-	-	177	635	183	759	1115	-	-	
HCM Lane V/C Ratio		0.022	_	_		0.078			0.011	_	_	
HCM Control Delay (s)		9.1	0.1	-	41.7	11.1	42.5	9.8	8.3	0.1	_	
HCM Lane LOS		A	A	_	E	В	E	A	A	A	_	
HCM 95th %tile Q(veh)		0.1	-	_	2.2	0.3	2.4	0	0	-	_	
(1011)												

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Intersection	
Intersection Delay, s/veh	14.3
Intersection Delay, s/veh Intersection LOS	В

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		ર્ન	7		4	7		<b>€</b> 1₽			414	
Traffic Vol, veh/h	21	37	35	29	37	2	14	284	14	9	459	45
Future Vol, veh/h	21	37	35	29	37	2	14	284	14	9	459	45
Peak Hour Factor	0.71	0.71	0.71	0.73	0.73	0.73	0.70	0.70	0.70	0.76	0.76	0.76
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	30	52	49	40	51	3	20	406	20	12	604	59
Number of Lanes	0	1	1	0	1	1	0	2	0	0	2	0
Approach	EB			WB			NB			SB		
Opposing Approach	WB			EB			SB			NB		
Opposing Lanes	2			2			2			2		
Conflicting Approach Left	SB			NB			EB			WB		
Conflicting Lanes Left	2			2			2			2		
Conflicting Approach Right	NB			SB			WB			EB		
Conflicting Lanes Right	2			2			2			2		
HCM Control Delay	11.3			12.3			13			16		
HCM LOS	В			В			В			С		

Lane	NBLn1	NBLn2	EBLn1	EBLn2	WBLn1	WBLn2	SBLn1	SBLn2	
Vol Left, %	9%	0%	36%	0%	44%	0%	4%	0%	
Vol Thru, %	91%	91%	64%	0%	56%	0%	96%	84%	
Vol Right, %	0%	9%	0%	100%	0%	100%	0%	16%	
Sign Control	Stop								
Traffic Vol by Lane	156	156	58	35	66	2	239	275	
LT Vol	14	0	21	0	29	0	9	0	
Through Vol	142	142	37	0	37	0	230	230	
RT Vol	0	14	0	35	0	2	0	45	
Lane Flow Rate	223	223	82	49	90	3	314	361	
Geometry Grp	5	5	5	5	5	5	5	5	
Degree of Util (X)	0.39	0.383	0.173	0.092	0.194	0.005	0.523	0.588	
Departure Headway (Hd)	6.302	6.193	7.606	6.704	7.726	6.783	6	5.865	
Convergence, Y/N	Yes								
Cap	568	579	470	532	463	525	599	614	
Service Time	4.067	3.957	5.381	4.477	5.505	4.561	3.757	3.621	
HCM Lane V/C Ratio	0.393	0.385	0.174	0.092	0.194	0.006	0.524	0.588	
HCM Control Delay	13.1	12.8	12	10.2	12.4	9.6	15.2	16.7	
HCM Lane LOS	В	В	В	В	В	Α	С	С	
HCM 95th-tile Q	1.8	1.8	0.6	0.3	0.7	0	3	3.8	

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Intersection		
Intersection Delay, s/veh	208	
Intersection LOS	F	

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	Ĭ	<b>†</b>	7	Ţ	<b>†</b>	7	ň	ħβ		7	ħβ	
Traffic Vol, veh/h	240	59	23	18	33	184	44	245	60	299	117	219
Future Vol, veh/h	240	59	23	18	33	184	44	245	60	299	117	219
Peak Hour Factor	0.83	0.83	0.83	0.78	0.78	0.78	0.68	0.68	0.68	0.43	0.43	0.43
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	289	71	28	23	42	236	65	360	88	695	272	509
Number of Lanes	1	1	1	1	1	1	1	2	0	1	2	0
Approach	EB			WB			NB			SB		
Opposing Approach	WB			EB			SB			NB		
Opposing Lanes	3			3			3			3		
Conflicting Approach Left	SB			NB			EB			WB		
Conflicting Lanes Left	3			3			3			3		
Conflicting Approach Right	NB			SB			WB			EB		
Conflicting Lanes Right	3			3			3			3		
HCM Control Delay	63.1			35.4			34.5			341.5		
HCM LOS	F			Е			D			F		

Lane	NBLn1	NBLn2	NBLn3	EBLn1	EBLn2	EBLn3	WBLn1	WBLn2	WBLn3	SBLn1	SBLn2
Vol Left, %	100%	0%	0%	100%	0%	0%	100%	0%	0%	100%	0%
Vol Thru, %	0%	100%	58%	0%	100%	0%	0%	100%	0%	0%	100%
Vol Right, %	0%	0%	42%	0%	0%	100%	0%	0%	100%	0%	0%
Sign Control	Stop										
Traffic Vol by Lane	44	163	142	240	59	23	18	33	184	299	78
LT Vol	44	0	0	240	0	0	18	0	0	299	0
Through Vol	0	163	82	0	59	0	0	33	0	0	78
RT Vol	0	0	60	0	0	23	0	0	184	0	0
Lane Flow Rate	65	240	208	289	71	28	23	42	236	695	181
Geometry Grp	6	6	6	6	6	6	6	6	6	6	6
Degree of Util (X)	0.206	0.733	0.618	0.945	0.223	0.082	0.078	0.137	0.72	1.993	0.495
Departure Headway (Hd)	12.455	11.955	11.658	12.984	12.484	11.784	13.209	12.709	12.009	10.318	9.818
Convergence, Y/N	Yes										
Сар	290	305	312	280	289	306	273	284	304	355	368
Service Time	10.155	9.655	9.358	10.684	10.184	9.484	10.909	10.409	9.709	8.073	7.573
HCM Lane V/C Ratio	0.224	0.787	0.667	1.032	0.246	0.092	0.084	0.148	0.776	1.958	0.492
HCM Control Delay	18.4	41.5	31.5	78.6	18.7	15.5	17	17.4	40.4	479.9	21.9
HCM Lane LOS	С	Е	D	F	С	С	С	С	Е	F	С
HCM 95th-tile Q	0.8	5.4	3.8	9	0.8	0.3	0.3	0.5	5.2	48.4	2.6

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Intersection												
Int Delay, s/veh	2.9											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		सी	7		4	7		414			4î}∍	
Traffic Vol, veh/h	12	31	14	12	13	2	33	336	20	1	154	3
Future Vol, veh/h	12	31	14	12	13	2	33	336	20	1	154	3
Conflicting Peds, #/hr	10	0	10	10	0	10	9	0	8	8	0	9
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	<u>-</u>	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	50	-	-	50	-	-	-	-	-	-
Veh in Median Storage,	# -	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	71	71	71	73	73	73	70	70	70	76	76	76
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	17	44	20	16	18	3	47	480	29	1	203	4
Major/Minor N	/linor2		N	/linor1		1	Major1		ı	Major2		
Conflicting Flow All	569	827	123	733	815	273	216	0	0	517	0	0
Stage 1	216	216	-	597	597			-	_	-	_	-
Stage 2	353	611	_	136	218	_	_	_	_	_	_	_
Critical Hdwy	7.54	6.54	6.94	7.54	6.54	6.94	4.14	_	_	4.14	_	-
Critical Hdwy Stg 1	6.54	5.54	-	6.54	5.54	-	-	_	-	-	-	-
Critical Hdwy Stg 2	6.54	5.54	-	6.54	5.54	_	-	-	-	-	_	-
Follow-up Hdwy	3.52	4.02	3.32	3.52	4.02	3.32	2.22	_	-	2.22	_	_
Pot Cap-1 Maneuver	405	305	905	309	310	725	1351	-	-	1045	-	-
Stage 1	766	723	-	456	490		-	_	-		-	_
Stage 2	637	482	-	853	721	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	364	286	891	253	290	714	1341	-	-	1038	-	-
Mov Cap-2 Maneuver	364	286	-	253	290	-	-	-	-	-	-	-
Stage 1	723	717	-	431	463	-	-	-	-	-	-	-
Stage 2	575	455	-	776	715	-	-	-	-	-	-	-
-												
Approach	EB			WB			NB			SB		
HCM Control Delay, s	17.2			19.5			0.8			0.1		
HCM LOS	С			С								
Minor Lane/Major Mvmt	t	NBL	NBT	NBR I	EBLn1 I	EBLn2V	VBLn1V	VBLn2	SBL	SBT	SBR	
Capacity (veh/h)		1341	-	-	304	891	271	714	1038	-	-	
HCM Lane V/C Ratio		0.035	-	_		0.022				_	_	
HCM Control Delay (s)		7.8	0.2	-	19.8	9.1	20.2	10.1	8.5	0	_	
HCM Lane LOS		A	A	_	С	A	C	В	A	A	_	
HCM 95th %tile Q(veh)		0.1	-	-	0.7	0.1	0.4	0	0	-	-	
75						• • • • • • • • • • • • • • • • • • • •						

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Intersection	
Intersection Delay, s/veh Intersection LOS	10.5
Intersection LOS	В
NOIOGONOTI EGG	

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		ર્ન	7		4	7		<b>€1</b> }			<b>€</b> 1₽	
Traffic Vol, veh/h	12	31	14	12	13	2	33	336	20	1	154	3
Future Vol, veh/h	12	31	14	12	13	2	33	336	20	1	154	3
Peak Hour Factor	0.71	0.71	0.71	0.73	0.73	0.73	0.70	0.70	0.70	0.76	0.76	0.76
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	17	44	20	16	18	3	47	480	29	1	203	4
Number of Lanes	0	1	1	0	1	1	0	2	0	0	2	0
Approach	EB			WB			NB			SB		
Opposing Approach	WB			EB			SB			NB		
Opposing Lanes	2			2			2			2		
Conflicting Approach Left	SB			NB			EB			WB		
Conflicting Lanes Left	2			2			2			2		
Conflicting Approach Right	NB			SB			WB			EB		
Conflicting Lanes Right	2			2			2			2		
HCM Control Delay	9.7			9.8			11.2			9.2		
HCM LOS	Α			Α			В			Α		

Lane	NBLn1	NBLn2	EBLn1	EBLn2	WBLn1	WBLn2	SBLn1	SBLn2	
Vol Left, %	16%	0%	28%	0%	48%	0%	1%	0%	
Vol Thru, %	84%	89%	72%	0%	52%	0%	99%	96%	
Vol Right, %	0%	11%	0%	100%	0%	100%	0%	4%	
Sign Control	Stop								
Traffic Vol by Lane	201	188	43	14	25	2	78	80	
LT Vol	33	0	12	0	12	0	1	0	
Through Vol	168	168	31	0	13	0	77	77	
RT Vol	0	20	0	14	0	2	0	3	
Lane Flow Rate	287	269	61	20	34	3	103	105	
Geometry Grp	5	5	5	5	5	5	5	5	
Degree of Util (X)	0.413	0.374	0.108	0.031	0.063	0.004	0.155	0.158	
Departure Headway (Hd)	5.172	5.014	6.437	5.587	6.614	5.661	5.443	5.41	
Convergence, Y/N	Yes								
Cap	692	714	552	635	537	625	655	659	
Service Time	2.924	2.767	4.225	3.375	4.41	3.457	3.212	3.179	
HCM Lane V/C Ratio	0.415	0.377	0.111	0.031	0.063	0.005	0.157	0.159	
HCM Control Delay	11.5	10.8	10	8.6	9.9	8.5	9.2	9.2	
HCM Lane LOS	В	В	Α	Α	Α	Α	Α	Α	
HCM 95th-tile Q	2	1.7	0.4	0.1	0.2	0	0.5	0.6	

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Intersection	
Intersection Delay, s/veh	558.5
Intersection LOS	F

III.OIOOOLIOII EOO	•											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	J.	<b>†</b>	7	*	<b>†</b>	7	Ť	Ą.		7	ĵ»	_
Traffic Vol, veh/h	232	33	56	60	34	248	32	230	33	203	346	196
Future Vol, veh/h	232	33	56	60	34	248	32	230	33	203	346	196
Peak Hour Factor	0.83	0.83	0.83	0.78	0.78	0.78	0.68	0.68	0.68	0.43	0.43	0.43
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	280	40	67	77	44	318	47	338	49	472	805	456
Number of Lanes	1	1	1	1	1	1	1	1	0	1	1	0
Approach	EB			WB			NB			SB		
Opposing Approach	WB			EB			SB			NB		
Opposing Lanes	3			3			2			2		
Conflicting Approach Left	SB			NB			EB			WB		
Conflicting Lanes Left	2			2			3			3		
Conflicting Approach Right	NB			SB			WB			EB		
Conflicting Lanes Right	2			2			3			3		
HCM Control Delay	57.9			57.1			133.3			903.6		
HCM LOS	F			F			F			F		

Lane	NBLn1	NBLn2	EBLn1	EBLn2	EBLn3	WBLn1	WBLn2	WBLn3	SBLn1	SBLn2	
Vol Left, %	100%	0%	100%	0%	0%	100%	0%	0%	100%	0%	
Vol Thru, %	0%	87%	0%	100%	0%	0%	100%	0%	0%	64%	
Vol Right, %	0%	13%	0%	0%	100%	0%	0%	100%	0%	36%	
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	
Traffic Vol by Lane	32	263	232	33	56	60	34	248	203	542	
LT Vol	32	0	232	0	0	60	0	0	203	0	
Through Vol	0	230	0	33	0	0	34	0	0	346	
RT Vol	0	33	0	0	56	0	0	248	0	196	
Lane Flow Rate	47	387	280	40	67	77	44	318	472	1260	
Geometry Grp	6	6	6	6	6	6	6	6	6	6	
Degree of Util (X)	0.152	1.183	0.909	0.124	0.197	0.249	0.135	0.922	1.41	3.505	
Departure Headway (Hd)	12.988	12.395	13.61	13.092	12.366	13.622	13.104	12.378	11.373	10.592	
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
Cap	278	298	268	276	292	265	275	296	326	353	
Service Time	10.688	10.095	11.31	10.792	10.066	11.322	10.804	10.078	9.073	8.292	
HCM Lane V/C Ratio	0.169	1.299	1.045	0.145	0.229	0.291	0.16	1.074	1.448	3.569	
HCM Control Delay	18	147.3	73.2	17.6	18.1	20.8	17.8	71.3	231.7	1155.2	
HCM Lane LOS	С	F	F	С	С	С	С	F	F	F	
HCM 95th-tile Q	0.5	15.1	8.1	0.4	0.7	1	0.5	8.7	23.4	110.5	

Intersection												
Int Delay, s/veh	6.6											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		ની	7		र्न	7		4			4	
Traffic Vol, veh/h	22	37	36	27	35	2	15	271	14	9	409	44
Future Vol, veh/h	22	37	36	27	35	2	15	271	14	9	409	44
Conflicting Peds, #/hr	10	0	10	10	0	10	9	0	8	8	0	9
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	50	-	-	50	-	-	-	_	-	-
Veh in Median Storage	, # -	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	71	71	71	73	73	73	70	70	70	76	76	76
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	31	52	51	37	48	3	21	387	20	12	538	58
Major/Minor I	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1075	1057	586	1100	1076	415	605	0	0	415	0	0
Stage 1	600	600	-	447	447	-	-	-	-	-	-	-
Stage 2	475	457	-	653	629	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	197	225	510	190	219	637	973	-	-	1144	-	-
Stage 1	488	490	-	591	573	-	-	-	-	-	-	-
Stage 2	570	568	-	456	475	_	_	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	153	212	502	132	207	627	966	-	-	1136	-	-
Mov Cap-2 Maneuver	153	212	-	132	207	-	-	-	-	-	-	-
Stage 1	471	479	-	571	553	-	-	-	-	-	-	-
Stage 2	500	548	-	357	464	-	-	-	-	-	-	-
Approach	EB			WB			NB			SB		
HCM Control Delay, s	29.4			46.3			0.4			0.2		
HCM LOS	D			Ε								
Minor Lane/Major Mvm	nt	NBL	NBT	NBR	EBLn1	EBLn2V	VBLn1V	VBLn2	SBL	SBT	SBR	
Capacity (veh/h)		966			185	502	166	627	1136			
HCM Lane V/C Ratio		0.022	_	_			0.512		0.01	_	_	
HCM Control Delay (s)		8.8	0	_	39.4	13	47.4	10.8	8.2	0	_	
HCM Lane LOS		A	A	_	E	В	Ε	В	A	A	_	
HCM 95th %tile Q(veh)	)	0.1	-	-	2.1	0.3	2.5	0	0	-	-	

Intersection												
Intersection Delay, s/veh	27.5											
Intersection LOS	D											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		ર્ન	7		ર્ન	7		4			4	
Traffic Vol, veh/h	22	37	36	27	35	2	15	271	14	9	409	44
Future Vol, veh/h	22	37	36	27	35	2	15	271	14	9	409	44
Peak Hour Factor	0.71	0.71	0.71	0.73	0.73	0.73	0.70	0.70	0.70	0.76	0.76	0.76
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	31	52	51	37	48	3	21	387	20	12	538	58
Number of Lanes	0	1	1	0	1	1	0	1	0	0	1	0
Approach	EB			WB			NB			SB		
Opposing Approach	WB			EB			SB			NB		
Opposing Lanes	2			2			1			1		
Conflicting Approach Left	SB			NB			EB			WB		
Conflicting Lanes Left	1			1			2			2		
Conflicting Approach Right	NB			SB			WB			EB		
Conflicting Lanes Right	1			1			2			2		
HCM Control Delay	11.5			12.3			19.6			38.8		
HCM LOS	В			В			С			Е		
	_						0			_		
							U			_		
Lane		NBLn1	EBLn1	EBLn2	WBLn1	WBLn2	SBLn1			_		
		5%	37%	EBLn2	44%	0%	SBLn1					
Lane		5% 90%	37% 63%	EBLn2 0% 0%	44% 56%	0% 0%	SBLn1 2% 89%					
Lane Vol Left, %		5%	37%	EBLn2	44%	0%	SBLn1					
Lane Vol Left, % Vol Thru, %		5% 90%	37% 63% 0% Stop	EBLn2 0% 0% 100% Stop	44% 56% 0% Stop	0% 0%	SBLn1 2% 89% 10% Stop					
Lane Vol Left, % Vol Thru, % Vol Right, % Sign Control Traffic Vol by Lane		5% 90% 5% Stop 300	37% 63% 0% Stop 59	EBLn2 0% 0% 100%	44% 56% 0% Stop 62	0% 0% 100%	SBLn1 2% 89% 10% Stop 462					
Lane Vol Left, % Vol Thru, % Vol Right, % Sign Control Traffic Vol by Lane LT Vol		5% 90% 5% Stop 300 15	37% 63% 0% Stop 59 22	EBLn2 0% 0% 100% Stop	44% 56% 0% Stop 62 27	0% 0% 100% Stop	SBLn1 2% 89% 10% Stop 462 9					
Lane Vol Left, % Vol Thru, % Vol Right, % Sign Control Traffic Vol by Lane LT Vol Through Vol		5% 90% 5% Stop 300 15 271	37% 63% 0% Stop 59	EBLn2 0% 0% 100% Stop 36 0	44% 56% 0% Stop 62	0% 0% 100% Stop 2 0	SBLn1 2% 89% 10% Stop 462 9 409					
Lane Vol Left, % Vol Thru, % Vol Right, % Sign Control Traffic Vol by Lane LT Vol Through Vol RT Vol		5% 90% 5% Stop 300 15 271	37% 63% 0% Stop 59 22 37	EBLn2 0% 0% 100% Stop 36 0 0	44% 56% 0% Stop 62 27 35	0% 0% 100% Stop 2 0 0	SBLn1 2% 89% 10% Stop 462 9 409 444					
Lane Vol Left, % Vol Thru, % Vol Right, % Sign Control Traffic Vol by Lane LT Vol Through Vol RT Vol Lane Flow Rate		5% 90% 5% Stop 300 15 271 14 429	37% 63% 0% Stop 59 22 37 0	EBLn2  0%  0%  100%  Stop  36  0  36  51	44% 56% 0% Stop 62 27 35 0	0% 0% 100% Stop 2 0 0 2 3	SBLn1 2% 89% 10% Stop 462 9 409 44 608					
Lane Vol Left, % Vol Thru, % Vol Right, % Sign Control Traffic Vol by Lane LT Vol Through Vol RT Vol Lane Flow Rate Geometry Grp		5% 90% 5% Stop 300 15 271 14 429	37% 63% 0% Stop 59 22 37 0 83	EBLn2  0%  0%  100%  Stop  36  0  36  51  5	44% 56% 0% Stop 62 27 35 0 85	0% 0% 100% Stop 2 0 0 2 3	SBLn1 2% 89% 10% Stop 462 9 409 44 608 2					
Lane Vol Left, % Vol Thru, % Vol Right, % Sign Control Traffic Vol by Lane LT Vol Through Vol RT Vol Lane Flow Rate Geometry Grp Degree of Util (X)		5% 90% 5% Stop 300 15 271 14 429 2	37% 63% 0% Stop 59 22 37 0 83 5	EBLn2  0%  0%  100%  Stop  36  0  36  51  5  0.097	44% 56% 0% Stop 62 27 35 0 85 5	0% 0% 100% Stop 2 0 0 2 3 5	SBLn1 2% 89% 10% Stop 462 9 409 44 608 2 0.905					
Lane Vol Left, % Vol Thru, % Vol Right, % Sign Control Traffic Vol by Lane LT Vol Through Vol RT Vol Lane Flow Rate Geometry Grp Degree of Util (X) Departure Headway (Hd)		5% 90% 5% Stop 300 15 271 14 429 2 0.671 5.637	37% 63% 0% Stop 59 22 37 0 83 5 0.179 7.771	EBLn2  0%  0%  100%  Stop  36  0  36  51  5  0.097  6.856	44% 56% 0% Stop 62 27 35 0 85 5 0.187 7.927	0% 0% 100% Stop 2 0 0 2 3 5 0.005 6.978	SBLn1 2% 89% 10% Stop 462 9 409 44 608 2 0.905 5.357					
Lane  Vol Left, %  Vol Thru, %  Vol Right, %  Sign Control  Traffic Vol by Lane  LT Vol  Through Vol  RT Vol  Lane Flow Rate  Geometry Grp  Degree of Util (X)  Departure Headway (Hd)  Convergence, Y/N		5% 90% 5% Stop 300 15 271 14 429 2 0.671 5.637 Yes	37% 63% 0% Stop 59 22 37 0 83 5 0.179 7.771 Yes	EBLn2  0%  0%  100%  Stop  36  0  0  36  51  5  0.097  6.856  Yes	44% 56% 0% Stop 62 27 35 0 85 5 0.187 7.927 Yes	0% 0% 100% Stop 2 0 0 2 3 5 0.005 6.978 Yes	SBLn1 2% 89% 10% Stop 462 9 409 44 608 2 0.905 5.357 Yes					
Lane  Vol Left, %  Vol Thru, %  Vol Right, %  Sign Control  Traffic Vol by Lane  LT Vol  Through Vol  RT Vol  Lane Flow Rate  Geometry Grp  Degree of Util (X)  Departure Headway (Hd)  Convergence, Y/N  Cap		5% 90% 5% Stop 300 15 271 14 429 2 0.671 5.637 Yes 634	37% 63% 0% Stop 59 22 37 0 83 5 0.179 7.771 Yes 465	EBLn2  0%  0%  100%  Stop  36  0  0  36  51  5  0.097  6.856  Yes  525	44% 56% 0% Stop 62 27 35 0 85 5 0.187 7.927 Yes 455	0% 0% 100% Stop 2 0 0 2 3 5 0.005 6.978 Yes 515	SBLn1 2% 89% 10% Stop 462 9 409 44 608 2 0.905 5.357 Yes 669					
Lane  Vol Left, %  Vol Thru, %  Vol Right, %  Sign Control  Traffic Vol by Lane  LT Vol  Through Vol  RT Vol  Lane Flow Rate  Geometry Grp  Degree of Util (X)  Departure Headway (Hd)  Convergence, Y/N  Cap  Service Time		5% 90% 5% Stop 300 15 271 14 429 2 0.671 5.637 Yes 634 3.731	37% 63% 0% Stop 59 22 37 0 83 5 0.179 7.771 Yes 465 5.477	EBLn2  0%  0%  100%  Stop  36  0  0  36  51  5  0.097  6.856  Yes  525  4.561	44% 56% 0% Stop 62 27 35 0 85 5 0.187 7.927 Yes 455 5.634	0% 0% 100% Stop 2 0 0 2 3 5 0.005 6.978 Yes 515 4.685	SBLn1 2% 89% 10% Stop 462 9 409 44 608 2 0.905 5.357 Yes 669 3.44					
Lane  Vol Left, %  Vol Thru, %  Vol Right, %  Sign Control  Traffic Vol by Lane  LT Vol  Through Vol  RT Vol  Lane Flow Rate  Geometry Grp  Degree of Util (X)  Departure Headway (Hd)  Convergence, Y/N  Cap  Service Time  HCM Lane V/C Ratio		5% 90% 5% Stop 300 15 271 14 429 2 0.671 5.637 Yes 634 3.731 0.677	37% 63% 0% Stop 59 22 37 0 83 5 0.179 7.771 Yes 465 5.477 0.178	EBLn2  0%  0%  100%  Stop  36  0  0  36  51  5  0.097  6.856  Yes  525  4.561  0.097	44% 56% 0% Stop 62 27 35 0 85 5 0.187 7.927 Yes 455 5.634 0.187	0% 0% 100% Stop 2 0 0 2 3 5 0.005 6.978 Yes 515 4.685 0.006	SBLn1  2%  89%  10%  Stop  462  9  409  44  608  2  0.905  5.357  Yes  669  3.44  0.909					
Lane  Vol Left, %  Vol Thru, %  Vol Right, %  Sign Control  Traffic Vol by Lane  LT Vol  Through Vol  RT Vol  Lane Flow Rate  Geometry Grp  Degree of Util (X)  Departure Headway (Hd)  Convergence, Y/N  Cap  Service Time  HCM Lane V/C Ratio  HCM Control Delay		5% 90% 5% Stop 300 15 271 14 429 2 0.671 5.637 Yes 634 3.731 0.677	37% 63% 0% Stop 59 22 37 0 83 5 0.179 7.771 Yes 465 5.477 0.178 12.2	EBLn2  0%  0%  100%  Stop  36  0  36  51  5  0.097  6.856  Yes  525  4.561  0.097  10.3	44% 56% 0% Stop 62 27 35 0 85 5 0.187 7.927 Yes 455 5.634 0.187 12.4	0% 0% 100% Stop 2 0 0 2 3 5 0.005 6.978 Yes 515 4.685 0.006 9.7	SBLn1  2%  89%  10%  Stop  462  9  409  44  608  2  0.905  5.357  Yes  669  3.44  0.909  38.8					
Lane  Vol Left, %  Vol Thru, %  Vol Right, %  Sign Control  Traffic Vol by Lane  LT Vol  Through Vol  RT Vol  Lane Flow Rate  Geometry Grp  Degree of Util (X)  Departure Headway (Hd)  Convergence, Y/N  Cap  Service Time  HCM Lane V/C Ratio		5% 90% 5% Stop 300 15 271 14 429 2 0.671 5.637 Yes 634 3.731 0.677	37% 63% 0% Stop 59 22 37 0 83 5 0.179 7.771 Yes 465 5.477 0.178	EBLn2  0%  0%  100%  Stop  36  0  0  36  51  5  0.097  6.856  Yes  525  4.561  0.097	44% 56% 0% Stop 62 27 35 0 85 5 0.187 7.927 Yes 455 5.634 0.187	0% 0% 100% Stop 2 0 0 2 3 5 0.005 6.978 Yes 515 4.685 0.006	SBLn1  2%  89%  10%  Stop  462  9  409  44  608  2  0.905  5.357  Yes  669  3.44  0.909					

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	7	<b>†</b>	7	¥	<b></b>	7	Ĭ	ĵ»		Ţ	f)	
Traffic Vol, veh/h	247	57	19	14	29	173	41	243	56	303	103	222
Future Vol, veh/h	247	57	19	14	29	173	41	243	56	303	103	222
Peak Hour Factor	0.83	0.83	0.83	0.78	0.78	0.78	0.68	0.68	0.68	0.43	0.43	0.43
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	298	69	23	18	37	222	60	357	82	705	240	516
Number of Lanes	1	1	1	1	1	1	1	1	0	1	1	0
Approach	EB			WB			NB			SB		
Opposing Approach	WB			EB			SB			NB		
Opposing Lanes	3			3			2			2		
Conflicting Approach Left	SB			NB			EB			WB		
Conflicting Lanes Left	2			2			3			3		
Conflicting Approach Right	NB			SB			WB			EB		
Conflicting Lanes Right	2			2			3			3		
HCM Control Delay	57.3			30.1			147.9			456.8		
HCM LOS	F			D			F			F		

Lane	NBLn1	NBLn2	EBLn1	EBLn2	EBLn3	WBLn1	WBLn2	WBLn3	SBLn1	SBLn2	
Vol Left, %	100%	0%	100%	0%	0%	100%	0%	0%	100%	0%	
Vol Thru, %	0%	81%	0%	100%	0%	0%	100%	0%	0%	32%	
Vol Right, %	0%	19%	0%	0%	100%	0%	0%	100%	0%	68%	
Sign Control	Stop										
Traffic Vol by Lane	41	299	247	57	19	14	29	173	303	325	
LT Vol	41	0	247	0	0	14	0	0	303	0	
Through Vol	0	243	0	57	0	0	29	0	0	103	
RT Vol	0	56	0	0	19	0	0	173	0	222	
Lane Flow Rate	60	440	298	69	23	18	37	222	705	756	
Geometry Grp	6	6	6	6	6	6	6	6	6	6	
Degree of Util (X)	0.182	1.249	0.913	0.201	0.063	0.058	0.115	0.642	1.973	1.913	
Departure Headway (Hd)	11.547	10.911	12.435	11.917	11.191	13.035	12.514	11.784	10.702	9.693	
Convergence, Y/N	Yes										
Cap	313	339	295	303	322	276	288	308	345	385	
Service Time	9.247	8.611	10.135	9.617	8.891	10.735	10.214	9.484	8.402	7.393	
HCM Lane V/C Ratio	0.192	1.298	1.01	0.228	0.071	0.065	0.128	0.721	2.043	1.964	
HCM Control Delay	16.8	165.9	69.7	17.6	14.6	16.5	16.8	33.4	472	442.6	
HCM Lane LOS	С	F	F	С	В	С	С	D	F	F	
HCM 95th-tile Q	0.7	18.6	8.5	0.7	0.2	0.2	0.4	4.1	46.3	47.9	

Intersection												
Int Delay, s/veh	2.8											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		4	7		4	7		4			4	
Traffic Vol, veh/h	12	31	14	11	12	1	30	327	19	1	134	2
Future Vol, veh/h	12	31	14	11	12	1	30	327	19	1	134	2
Conflicting Peds, #/hr	10	0	10	10	0	10	9	0	8	8	0	9
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	_	None	-	_	None	-	-	None	-	-	None
Storage Length	-	-	50	-	-	50	-	-	-	-	-	-
Veh in Median Storage	e,# -	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	71	71	71	73	73	73	70	70	70	76	76	76
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	17	44	20	15	16	1	43	467	27	1	176	3
Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	774	777	197	797	765	499	188	0	0	502	0	0
Stage 1	189	189	137	575	575	-	-	-	-	-	-	-
Stage 2	585	588	_	222	190	_	_	_	_	_	_	_
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12		_	4.12	_	_
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	U.ZZ	- 1.12	_	_	- 1.12	_	_
Critical Hdwy Stg 2	6.12	5.52	_	6.12	5.52	_		_		_	_	_
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	_	_	2.218	_	_
Pot Cap-1 Maneuver	316	328	844	305	333	572	1386	-	_	1062	_	-
Stage 1	813	744	-	503	503	-		_	_	- 1002	_	_
Stage 2	497	496	-	780	743	-	_	-	_	-	_	-
Platoon blocked, %								_	_		_	_
Mov Cap-1 Maneuver	288	309	831	253	314	563	1376	_	-	1055	-	-
Mov Cap-2 Maneuver	288	309	-	253	314	-		_	_	-	_	_
Stage 1	772	738	-	478	478	-	_	-	-	-	-	-
Stage 2	454	471	_	710	737	_	_	_	_	_	_	_
Approach	EB			WB			NB			SB		
HCM Control Delay, s	17.2			19.1			0.6			0.1		
HCM LOS	C			C			0.0			<b>U.</b> 1		
Minor Lane/Major Mvn	nt	NBL	NBT	NRP	FRI n1	FRL n2\	VBLn1V	VRI n2	SBL	SBT	SBR	
Capacity (veh/h)	iit.	1376	-	NDI	303	831	282	563	1055	ODT	OBIX	
HCM Lane V/C Ratio		0.031	-	-			0.112			-	-	
HCM Control Delay (s	١	7.7	0	-	19.8	9.4	19.4	11.4	8.4	0	-	
HCM Lane LOS	)	Α.	A	-	19.6 C	9.4 A	19.4 C	11.4 B	0.4 A	A	-	
	.)			-	0.7	0.1	0.4	0	0		-	
HCM 95th %tile Q(veh	1)	0.1	-	-	0.7	0.1	0.4	U	U	-	-	

Intersection												
Intersection Delay, s/veh	13.8											
Intersection LOS	В											
intersection Los	ט											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		ની	7		र्स	7		4			4	
Traffic Vol, veh/h	12	31	14	11	12	1	30	327	19	1	134	2
Future Vol, veh/h	12	31	14	11	12	1	30	327	19	1	134	2
Peak Hour Factor	0.71	0.71	0.71	0.73	0.73	0.73	0.70	0.70	0.70	0.76	0.76	0.76
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	17	44	20	15	16	1	43	467	27	1	176	3
Number of Lanes	0	1	1	0	1	1	0	1	0	0	1	0
Approach	EB			WB			NB			SB		
Opposing Approach	WB			EB			SB			NB		
Opposing Lanes	2			2			1			1		
Conflicting Approach Left	SB			NB			EB			WB		
Conflicting Lanes Left	1			1			2			2		
Conflicting Approach Right	NB			SB			WB			EB		
Conflicting Lanes Right	1			1			2			2		
HCM Control Delay	9.6			9.6			16.1			9.5		
HCM LOS	Α			Α			С			Α		
Lane		NBLn1	EBLn1	EBLn2	WBLn1	WBLn2	SBLn1					
Vol Left, %		8%	28%	0%	48%	0%	1%					
Vol Thru, %		87%	72%	0%	52%	0%	98%					
Vol Right, %		5%	0%	100%	0%	100%	1%					
Sign Control		Stop	Stop	Stop	Stop	Stop	Stop					
Traffic Vol by Lane		376	43	14	23	1	137					
LT Vol		30	12	0	11	0	1					
Through Vol		327	31	0	12	0	134					
RT Vol		19	0	14	0	1	2					
Lane Flow Rate		537	61	20	32	1	180					
Geometry Grp		2	5	5	5	5	2					
Degree of Util (X)		0.667	0.107	0.03	0.058	0.002	0.243					
Departure Headway (Hd)		4.469	6.351	5.497	6.639	5.582	4.852					
Convergence, Y/N		Yes	Yes	Yes	Yes	Yes	Yes					
Сар		806	560	644	543	634	735					
Service Time		2.511	4.144	3.289	4.339	3.381	2.913					
HCM Lane V/C Ratio		0.666	0.109	0.031	0.059	0.002	0.245					
HCM Control Delay		16.1	9.9	8.5	9.7	8.4	9.5					
HCM Lane LOS		С	Α	Α	Α	Α	Α					
							0.0					

5.2

0.4

0.1

0.2

0

0.9

HCM 95th-tile Q

IIICI3CCIOII LOO	U											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	7	<b>†</b>	7	ň	<b>†</b>	7	7	f.		Ť	ĵ»	
Traffic Vol, veh/h	50	119	139	229	173	12	22	94	56	22	39	55
Future Vol, veh/h	50	119	139	229	173	12	22	94	56	22	39	55
Peak Hour Factor	0.83	0.83	0.83	0.78	0.78	0.78	0.68	0.68	0.68	0.43	0.43	0.43
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	60	143	167	294	222	15	32	138	82	51	91	128
Number of Lanes	1	1	1	1	1	1	1	1	0	1	1	0
Approach	EB			WB			NB			SB		
Opposing Approach	WB			EB			SB			NB		
Opposing Lanes	3			3			2			2		
Conflicting Approach Left	SB			NB			EB			WB		
Conflicting Lanes Left	2			2			3			3		
Conflicting Approach Right	NB			SB			WB			EB		
Conflicting Lanes Right	2			2			3			3		
HCM Control Delay	15			24.2			19.1			18.1		
HCM LOS	В			С			С			С		

Lane	NBLn1	NBLn2	EBLn1	EBLn2	EBLn3	WBLn1	WBLn2	WBLn3	SBLn1	SBLn2	
Vol Left, %	100%	0%	100%	0%	0%	100%	0%	0%	100%	0%	
Vol Thru, %	0%	63%	0%	100%	0%	0%	100%	0%	0%	41%	
Vol Right, %	0%	37%	0%	0%	100%	0%	0%	100%	0%	59%	
Sign Control	Stop										
Traffic Vol by Lane	22	150	50	119	139	229	173	12	22	94	
LT Vol	22	0	50	0	0	229	0	0	22	0	
Through Vol	0	94	0	119	0	0	173	0	0	39	
RT Vol	0	56	0	0	139	0	0	12	0	55	
Lane Flow Rate	32	221	60	143	167	294	222	15	51	219	
Geometry Grp	6	6	6	6	6	6	6	6	6	6	
Degree of Util (X)	0.083	0.519	0.152	0.341	0.364	0.7	0.497	0.031	0.131	0.503	
Departure Headway (Hd)	9.239	8.466	9.071	8.554	7.831	8.589	8.074	7.353	9.205	8.281	
Convergence, Y/N	Yes										
Сар	388	426	396	420	459	423	446	487	390	435	
Service Time	6.987	6.214	6.82	6.303	5.579	6.335	5.82	5.099	6.952	6.028	
HCM Lane V/C Ratio	0.082	0.519	0.152	0.34	0.364	0.695	0.498	0.031	0.131	0.503	
HCM Control Delay	12.8	20	13.4	15.7	15	29.1	18.6	10.3	13.3	19.2	
HCM Lane LOS	В	С	В	С	В	D	С	В	В	С	
HCM 95th-tile Q	0.3	2.9	0.5	1.5	1.6	5.2	2.7	0.1	0.4	2.8	

Intersection												
Int Delay, s/veh	5.1											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		ની	7		र्स	7		414			413+	
Traffic Vol, veh/h	21	36	34	33	43	2	19	136	18	13	330	64
Future Vol, veh/h	21	36	34	33	43	2	19	136	18	13	330	64
Conflicting Peds, #/hr	10	0	10	10	0	10	9	0	8	8	0	9
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	50	-	-	50	-	-	-	-	-	-
Veh in Median Storage	,# -	0	-	-	0	-	-	0	-	-	0	-
Grade, %	_	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	71	71	71	73	73	73	70	70	70	76	76	76
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	30	51	48	45	59	3	27	194	26	17	434	84
Major/Minor N	Minor2		N	/linor1			Major1		_	Major2		
Conflicting Flow All	710	801	278	556	830	128	527	0	0	228	0	0
Stage 1	519	519	-	269	269	120	JZ1	-	-	-	-	-
Stage 2	191	282	_	287	561			_	_	_	_	_
Critical Hdwy	7.54	6.54	6.94	7.54	6.54	6.94	4.14		_	4.14	_	_
Critical Hdwy Stg 1	6.54	5.54	-	6.54	5.54	-		_	_		_	_
Critical Hdwy Stg 2	6.54	5.54	_	6.54	5.54			_	_	_	_	_
Follow-up Hdwy	3.52	4.02	3.32	3.52	4.02	3.32	2.22	_	_	2.22	_	_
Pot Cap-1 Maneuver	321	316	719	414	304	898	1036	-	_	1337	_	-
Stage 1	508	531	-	713	685	-		_	_	-	_	_
Stage 2	792	676	_	696	508	_	_	-	_	-	_	_
Platoon blocked, %					300			_	-		-	_
Mov Cap-1 Maneuver	256	297	708	319	285	885	1028	-	_	1328	-	_
Mov Cap-2 Maneuver	256	297	-	319	285	-	-	_	_	-	_	_
Stage 1	489	518	-	687	660	_	_	-	-	-	-	_
Stage 2	692	651	-	570	495	_	_	_	_	_	_	_
- 1-13 <b></b>				- · •	,,,,							
Approach	EB			WB			NB			SB		
HCM Control Delay, s	18.3			22.9			1			0.3		
HCM LOS	10.5 C			22.9 C						0.0		
TOW LOO				U								
Minor Long/Major Mayer		NDI	NDT	NDD	EDI 51	EDI 201	MDI ~ 11	MDI 20	CDI	CDT	SBR	
Minor Lane/Major Mvm	ı	NBL	NBT	ואסויו		EBLn2V			SBL	SBT	אמט	
Capacity (veh/h)		1028	-	-	280	708	299	885	1328	-	-	
HCM Control Polov (a)		0.026	- 0.1	-		0.068				0.4	-	
HCM Control Delay (s)		8.6	0.1	-	22.9	10.5	23.3	9.1	7.7	0.1	-	
HCM Lane LOS		Α	Α	-	C	В	C	A	A	Α	-	
HCM 95th %tile Q(veh)		0.1	-	-	1.2	0.2	1.5	0	0	-	-	

Intersection	
Intersection Delay, s/veh	14.9
Intersection LOS	В

	_											/
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	7	<b>†</b>	7	ň	<b>†</b>	7	ň	f)		ň	f)	
Traffic Vol, veh/h	2	309	3	81	234	1	18	1	77	2	0	3
Future Vol, veh/h	2	309	3	81	234	1	18	1	77	2	0	3
Peak Hour Factor	0.83	0.83	0.83	0.78	0.78	0.78	0.68	0.68	0.68	0.43	0.43	0.43
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	2	372	4	104	300	1	26	1	113	5	0	7
Number of Lanes	1	1	1	1	1	1	1	1	0	1	1	0
Approach	EB			WB			NB			SB		
Opposing Approach	WB			EB			SB			NB		
Opposing Lanes	3			3			2			2		
Conflicting Approach Left	SB			NB			EB			WB		
Conflicting Lanes Left	2			2			3			3		
Conflicting Approach Right	NB			SB			WB			EB		
Conflicting Lanes Right	2			2			3			3		
HCM Control Delay	18.1			13.7			10.4			9.9		
HCM LOS	С			В			В			Α		

Lane	NBLn1	NBLn2	EBLn1	EBLn2	EBLn3	WBLn1	WBLn2	WBLn3	SBLn1	SBLn2	
Vol Left, %	100%	0%	100%	0%	0%	100%	0%	0%	100%	0%	
Vol Thru, %	0%	1%	0%	100%	0%	0%	100%	0%	0%	0%	
Vol Right, %	0%	99%	0%	0%	100%	0%	0%	100%	0%	100%	
Sign Control	Stop										
Traffic Vol by Lane	18	78	2	309	3	81	234	1	2	3	
LT Vol	18	0	2	0	0	81	0	0	2	0	
Through Vol	0	1	0	309	0	0	234	0	0	0	
RT Vol	0	77	0	0	3	0	0	1	0	3	
Lane Flow Rate	26	115	2	372	4	104	300	1	5	7	
Geometry Grp	6	6	6	6	6	6	6	6	6	6	
Degree of Util (X)	0.054	0.196	0.004	0.624	0.005	0.188	0.501	0.002	0.01	0.013	
Departure Headway (Hd)	7.353	6.159	6.534	6.031	5.326	6.514	6.01	5.305	7.719	6.513	
Convergence, Y/N	Yes										
Cap	487	582	548	599	671	550	600	673	462	547	
Service Time	5.107	3.914	4.274	3.771	3.066	4.254	3.751	3.046	5.486	4.279	
HCM Lane V/C Ratio	0.053	0.198	0.004	0.621	0.006	0.189	0.5	0.001	0.011	0.013	
HCM Control Delay	10.5	10.4	9.3	18.3	8.1	10.8	14.7	8.1	10.6	9.4	
HCM Lane LOS	В	В	Α	С	Α	В	В	Α	В	Α	
HCM 95th-tile Q	0.2	0.7	0	4.3	0	0.7	2.8	0	0	0	

Intersection												
Int Delay, s/veh	4.5											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		ની	7		र्न	7		र्सीक			414	
Traffic Vol, veh/h	11	30	13	17	17	2	34	72	21	1	76	7
Future Vol, veh/h	11	30	13	17	17	2	34	72	21	1	76	7
Conflicting Peds, #/hr	10	0	10	10	0	10	9	0	8	8	0	9
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	50	-	-	50	-	-	-	-	-	-
Veh in Median Storage,	,# -	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	71	71	71	73	73	73	70	70	70	76	76	76
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	15	42	18	23	23	3	49	103	30	1	100	9
Major/Minor N	/linor2		N	/linor1			Major1		ľ	Major2		
Conflicting Flow All	287	355	74	307	344	85	118	0	0	141	0	0
Stage 1	116	116	-	224	224	-	-	-	-	-	-	-
Stage 2	171	239	-	83	120	-	_	-	-	_	-	-
Critical Hdwy	7.54	6.54	6.94	7.54	6.54	6.94	4.14	-	-	4.14	-	-
Critical Hdwy Stg 1	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Follow-up Hdwy	3.52	4.02	3.32	3.52	4.02	3.32	2.22	-	-	2.22	-	-
Pot Cap-1 Maneuver	643	569	973	622	577	957	1468	-	-	1440	-	-
Stage 1	876	799	-	758	717	-	-	-	-	-	-	-
Stage 2	814	706	-	916	796	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	593	541	958	549	548	943	1457	-	-	1430	-	-
Mov Cap-2 Maneuver	593	541	-	549	548	-	-	-	-	-	-	-
Stage 1	838	793	-	726	686	-	-	-	-	-	-	-
Stage 2	750	676	-	843	790	-	-	-	-	-	-	-
Approach	EB			WB			NB			SB		
HCM Control Delay, s	11.5			12			2.1			0.1		
HCM LOS	В			В								
	_											
Minor Lane/Major Mvmt		NBL	NBT	NRD	ERI n1	EBLn2\	MRI n1V	VRI n2	SBL	SBT	SBR	
				ואסולו					1430	SDI	אמט	
Capacity (veh/h) HCM Lane V/C Ratio		1457	-	-	554	958 0.019	548	943		-	-	
		0.033	0.1	-	12.3		12.2			-	-	
HCM Control Delay (s) HCM Lane LOS		7.6	0.1	-		8.8		8.8	7.5	0	-	
		A	Α	-	0.3	0.1	0.3	A	A	Α	-	
HCM 95th %tile Q(veh)		0.1	-	-	0.3	0.1	0.3	0	0	-	-	

Intersection												
Intersection Delay, s/veh	17.6											
Intersection LOS	С											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	¥	<b>†</b>	7	, N	<b>†</b>	7	J.	f)		J.	f)	
Traffic Vol, veh/h	53	125	132	202	178	13	20	87	52	22	39	55
Future Vol, veh/h	53	125	132	202	178	13	20	87	52	22	39	55
Peak Hour Factor	0.83	0.83	0.83	0.78	0.78	0.78	0.68	0.68	0.68	0.43	0.43	0.43
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	64	151	159	259	228	17	29	128	76	51	91	128
Number of Lanes	1	1	1	1	1	1	1	1	0	1	1	0
Approach	EB			WB			NB			SB		
Opposing Approach	WB			EB			SB			NB		
Opposing Lanes	3			3			2			2		
Conflicting Approach Left	SB			NB			EB			WB		
Conflicting Lanes Left	2			2			3			3		
Conflicting Approach Right	NB			SB			WB			EB		
Conflicting Lanes Right	2			2			3			3		
HCM Control Delay	14.4			20.4			17.3			17.1		
HCM LOS	В			С			С			С		

Lane	NBLn1	NBLn2	EBLn1	EBLn2	EBLn3	WBLn1	WBLn2	WBLn3	SBLn1	SBLn2	
Vol Left, %	100%	0%	100%	0%	0%	100%	0%	0%	100%	0%	
Vol Thru, %	0%	63%	0%	100%	0%	0%	100%	0%	0%	41%	
Vol Right, %	0%	37%	0%	0%	100%	0%	0%	100%	0%	59%	
Sign Control	Stop										
Traffic Vol by Lane	20	139	53	125	132	202	178	13	22	94	
LT Vol	20	0	53	0	0	202	0	0	22	0	
Through Vol	0	87	0	125	0	0	178	0	0	39	
RT Vol	0	52	0	0	132	0	0	13	0	55	
Lane Flow Rate	29	204	64	151	159	259	228	17	51	219	
Geometry Grp	6	6	6	6	6	6	6	6	6	6	
Degree of Util (X)	0.073	0.466	0.155	0.344	0.331	0.6	0.496	0.033	0.126	0.483	
Departure Headway (Hd)	8.977	8.205	8.728	8.213	7.492	8.344	7.831	7.112	8.878	7.957	
Convergence, Y/N	Yes										
Cap	397	437	409	435	477	430	459	500	402	450	
Service Time	6.777	6.004	6.528	6.012	5.291	6.136	5.622	4.903	6.677	5.755	
HCM Lane V/C Ratio	0.073	0.467	0.156	0.347	0.333	0.602	0.497	0.034	0.127	0.487	
HCM Control Delay	12.5	18	13.1	15.3	14	23	18.2	10.1	13	18.1	
HCM Lane LOS	В	С	В	С	В	С	С	В	В	С	
HCM 95th-tile Q	0.2	2.4	0.5	1.5	1.4	3.8	2.7	0.1	0.4	2.6	

Intersection												
Intersection Int Delay, s/veh	5.4											
int Delay, Siven												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		सी	7		र्स	7		4			4	
Traffic Vol, veh/h	21	36	35	31	41	2	18	128	17	13	294	66
Future Vol, veh/h	21	36	35	31	41	2	18	128	17	13	294	66
Conflicting Peds, #/hr	10	0	10	10	0	10	9	0	8	8	0	9
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	_	-	50	-	-	50	-	-	-	-	-	-
Veh in Median Storage	е,# -	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	71	71	71	73	73	73	70	70	70	76	76	76
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	30	51	49	42	56	3	26	183	24	17	387	87
Major/Minor	Minor2			Minor1			Major1			Major2		
		741	450	780	772	213	483	0	0		0	0
Conflicting Flow All	761						403		U	215		0
Stage 1	474	474 267	-	255	255	-	-	-	-	-	-	-
Stage 2	287 7.12	6.52	6.22	525 7.12	517 6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy			0.22	6.12		0.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12 6.12	5.52	-	6.12	5.52 5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2		5.52	3.318			2 240	2.218	-	-	2.218	-	-
Follow-up Hdwy	3.518	4.018		3.518	4.018	3.318		-	-		-	-
Pot Cap-1 Maneuver	322	344	609	313	330	827	1080	-	-	1355	-	-
Stage 1	571	558	-	749	696	-	-	-	-	-	-	-
Stage 2	720	688	-	536	534	-	-	-	-	-	-	-
Platoon blocked, %	000	201	E00	044	244	04.5	1070	-	-	1246	-	-
Mov Cap-1 Maneuver	263	324	599	241	311	815	1072	-	-	1346	-	-
Mov Cap-2 Maneuver	263	324	-	241	311	-	-	-	-	-	-	-
Stage 1	552	545	-	724	672	-	-	-	-	-	-	-
Stage 2	635	665	-	435	521	-	-	-	-	-	-	-
Approach	EB			WB			NB			SB		
HCM Control Delay, s	17.7			24.7			0.9			0.3		
HCM LOS	С			С								
Minor Long/Major M.	-1	ND	NDT	NDD	EDL =4	EDIO	MDL = 41	VDI O	CDI	CDT	CDD	
Minor Lane/Major Mvn	nt	NBL	NBT			EBLn2\			SBL	SBT	SBR	
Capacity (veh/h)		1072	-	-	298	599	276	815	1346	-	-	
HCM Lane V/C Ratio		0.024	-	-		0.082				-	-	
HCM Control Delay (s)		8.4	0	-	21.5	11.5	25.1	9.4	7.7	0	-	
HCM Lane LOS		Α	Α	-	С	В	D	Α	Α	Α	-	
HCM 95th %tile Q(veh	1)	0.1	-	-	1.1	0.3	1.6	0	0	-	-	

ntersection	
ntersection Delay, s/veh	15
ntersection LOS	В

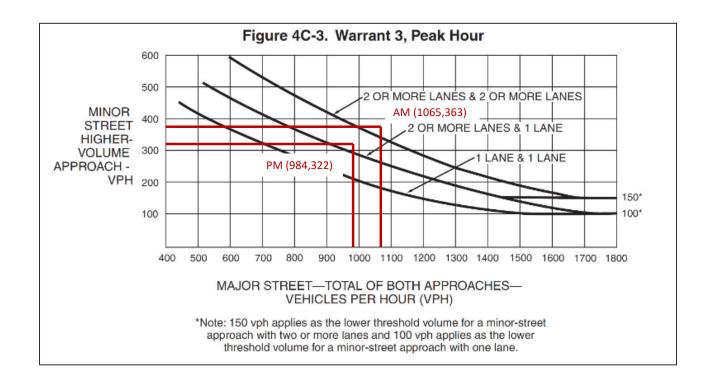
Intersection Loo	U											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	7	<b>†</b>	7	ň	<b>†</b>	7	ň	f)		ň	f)	
Traffic Vol, veh/h	2	316	0	75	226	1	17	1	74	2	0	3
Future Vol, veh/h	2	316	0	75	226	1	17	1	74	2	0	3
Peak Hour Factor	0.83	0.83	0.83	0.78	0.78	0.78	0.68	0.68	0.68	0.43	0.43	0.43
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	2	381	0	96	290	1	25	1	109	5	0	7
Number of Lanes	1	1	1	1	1	1	1	1	0	1	1	0
Approach	EB			WB			NB			SB		
Opposing Approach	WB			EB			SB			NB		
Opposing Lanes	3			3			2			2		
Conflicting Approach Left	SB			NB			EB			WB		
Conflicting Lanes Left	2			2			3			3		
Conflicting Approach Right	NB			SB			WB			EB		
Conflicting Lanes Right	2			2			3			3		
HCM Control Delay	18.4			13.4			10.4			9.9		
HCM LOS	С			В			В			Α		

Lane	NBLn1	NBLn2	EBLn1	EBLn2	EBLn3	WBLn1	WBLn2	WBLn3	SBLn1	SBLn2	
Vol Left, %	100%	0%	100%	0%	0%	100%	0%	0%	100%	0%	
Vol Thru, %	0%	1%	0%	100%	100%	0%	100%	0%	0%	0%	
Vol Right, %	0%	99%	0%	0%	0%	0%	0%	100%	0%	100%	
Sign Control	Stop										
Traffic Vol by Lane	17	75	2	316	0	75	226	1	2	3	
LT Vol	17	0	2	0	0	75	0	0	2	0	
Through Vol	0	1	0	316	0	0	226	0	0	0	
RT Vol	0	74	0	0	0	0	0	1	0	3	
Lane Flow Rate	25	110	2	381	0	96	290	1	5	7	
Geometry Grp	6	6	6	6	6	6	6	6	6	6	
Degree of Util (X)	0.051	0.19	0.004	0.632	0	0.174	0.484	0.002	0.01	0.013	
Departure Headway (Hd)	7.403	6.2	6.478	5.975	5.975	6.519	6.015	5.309	7.768	6.55	
Convergence, Y/N	Yes										
Cap	483	577	552	605	0	550	600	673	459	544	
Service Time	5.159	3.955	4.217	3.714	3.714	4.261	3.756	3.05	5.536	4.317	
HCM Lane V/C Ratio	0.052	0.191	0.004	0.63	0	0.175	0.483	0.001	0.011	0.013	
HCM Control Delay	10.6	10.4	9.2	18.5	8.7	10.6	14.3	8.1	10.6	9.4	
HCM Lane LOS	В	В	Α	С	N	В	В	Α	В	Α	
HCM 95th-tile Q	0.2	0.7	0	4.4	0	0.6	2.6	0	0	0	

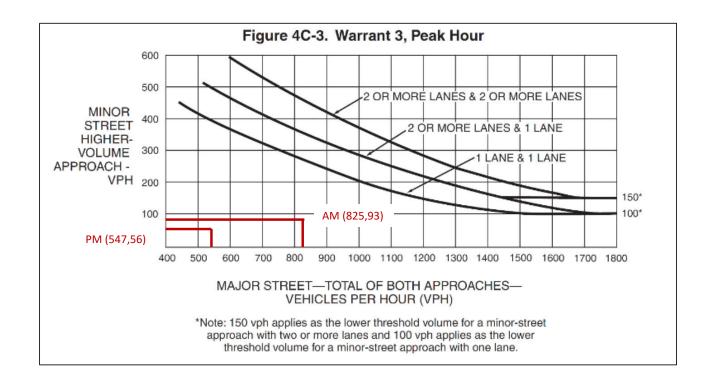
Intersection												
Int Delay, s/veh	4.6											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		ર્ન	7		ર્ન	7		4			4	
Traffic Vol, veh/h	11	30	14	16	17	2	32	69	20	1	66	7
Future Vol, veh/h	11	30	14	16	17	2	32	69	20	1	66	7
Conflicting Peds, #/hr	10	0	10	10	0	10	9	0	8	8	0	9
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-		-	-	None	-	-	None
Storage Length	-	-	50	-	-	50	-	-	-	-	-	-
Veh in Median Storage	e,# -	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	71	71	71	73	73	73	70	70	70	76	76	76
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	15	42	20	22	23	3	46	99	29	1	87	9
Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	332	331	111	349	321	132	105	0	0	136	0	0
Stage 1	103	103	-	214	214	-	-	-	-	-	-	-
Stage 2	229	228	_	135	107	_	_	_	_	_	_	_
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	_	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52		6.12	5.52	-		_	_	-	_	_
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	_	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	_	2.218	_	_
Pot Cap-1 Maneuver	621	588	942	606	596	917	1486	_	_	1448	_	_
Stage 1	903	810	-	788	725	-	-	_	_	-	-	_
Stage 2	774	715	-	868	807	-	_	-	_	-	_	-
Platoon blocked, %				300				_	_		_	_
Mov Cap-1 Maneuver	574	560	927	536	567	903	1475	_	_	1438	_	-
Mov Cap-2 Maneuver	574	560	-	536	567	-	-	_	_		-	_
Stage 1	866	804	-	756	695	_	_	_	_	_	_	-
Stage 2	714	686	_	797	801	_	_	_	_	_	_	_
<b>g</b>		300			301							
Approach	EB			WB			NB			SB		
HCM Control Delay, s	11.3			11.9			2			0.1		
HCM LOS	11.3 B			В			_			V. 1		
110111 200												
Minor Lane/Major Mvm	nt	NBL	NBT	NRP	FRI n1	EBLn2\	WRI n1\	WRI n2	SBL	SBT	SBR	
Capacity (veh/h)	IL.	1475		NDI	564	927	552	903	1438	ODT	ODIN	
HCM Lane V/C Ratio			-	-		0.021			0.001	-		
		0.031	-	<del>-</del>	12.1	0.021	12.1			- 0	-	
HCM Control Delay (s) HCM Lane LOS		7.5	0	-				9	7.5	0	-	
	\	Α	Α	-	В	A	В	A	A	Α	-	
HCM 95th %tile Q(veh	)	0.1	-	-	0.3	0.1	0.3	0	0	-	-	

# APPENDIX D- Traffic Signal Warrants

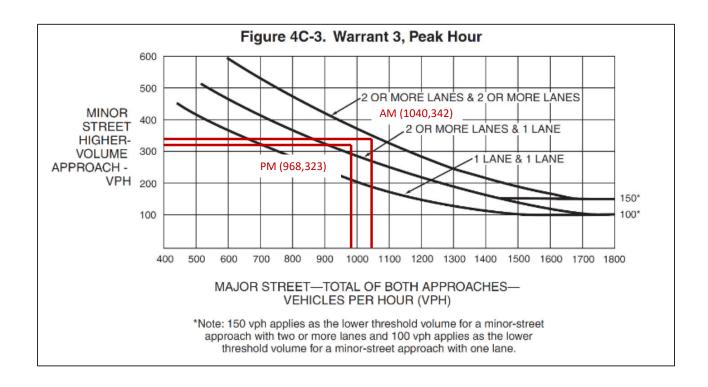
## Buildout Year I-405 Vehicular OC With 4-Lane Yale Ave AM/PM Peaks at Yale Ave / Michelson Dr



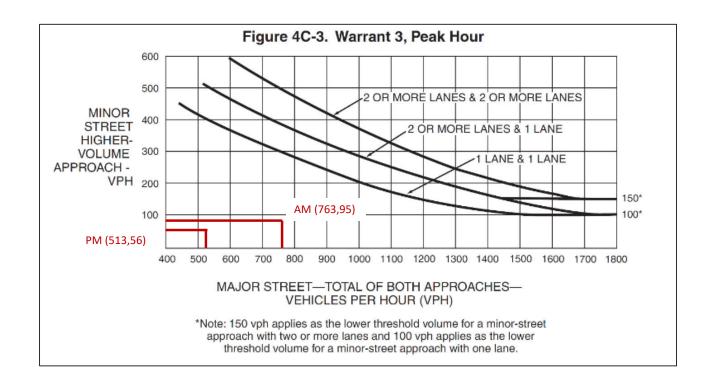
## Buildout Year I-405 Vehicular OC With 4-Lane Yale Ave AM/PM Peaks at Yale Ave / Royce Rd



## Buildout Year I-405 Vehicular OC With 2-Lane Yale Ave AM/PM Peaks at Yale Ave / Michelson Dr



## Buildout Year I-405 Vehicular OC With 2-Lane Yale Ave AM/PM Peaks at Yale Ave / Royce Rd





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Attachment F	– Yale Avenue	and Universit	y Drive Bike a	nd Pedestrian 1	Traffic Analysis

# **Technical Memorandum**

To: City of Irvine From: Iteris, Inc.

Date: April 25, 2024

RE: South Yale Corridor Improvements Traffic Analysis (Bicycle Scramble for Yale/University)

This memorandum analyzes the traffic impacts of the addition of a bicycle scramble phase or bicycle/pedestrian scramble phase at the intersection of Yale Avenue/University Drive in the City of Irvine.

A diagonal bicycle crossing signal phase has been proposed at the intersection of Yale Avenue and University Drive in the City of Irvine. The City typically uses Intersection Capacity Utilization (ICU) analysis to evaluate intersection capacity. However, this diagonal bicycle crossing signal phase at this intersection would not have an effect on the ICU analysis, but the signal operations. Therefore, the City would like to analyze the intersection using the Highway Capacity Manual 6 (HCM) methodology, using Synchro software version 11.

## **Study Background**

#### 1.1 Study Scenarios

A total of three (3) study scenarios were identified and analyzed. The scenarios include:

- 1. Future Year No Build Scenario
  - Current signal timing will be used for no build conditions.
- 2. Future Year Build Scenario Alternative 1
  - Proposed conditions Alternative 1 includes exclusive bicycle only phase (bicycle scramble). A bicycle
    phase will be added to the existing signal timing, which is in addition to the existing pedestrian
    phases.
- Future Year Build Scenario Alternative 2
  - Proposed conditions Alternative 2 includes exclusive bicycle and pedestrian phase (bicycle/pedestrian scramble). An exclusive bicycle and pedestrian phase will be added to the existing signal phasing assuming pedestrian travel at 3.5 feet per second. Additionally, the pedestrian phase concurrent with Yale Avenue motor vehicle phase (west leg of the intersection) will be removed. The crosswalks would not be modified, but the signal phasing would provide bicycle and pedestrian travel only during the exclusive scramble phase when actuated by a pedestrian or cyclist.

#### 1.2 Study Periods

Traffic operations were evaluated for all 3 scenarios during the weekday AM (7:00AM – 9:00AM) and PM (4:00PM – 6:00PM) peak hours under typical weekday conditions.

## **Traffic Volume Input**

#### 1.3 Data Source

Traffic volumes used at the study intersection were obtained from the South Yale Corridor Improvements Traffic Analysis, prepared by Iteris in May 2023. And are based on the Irvine Transportation Analysis Model (ITAM). In the South Yale Corridor Improvements Traffic Analysis, four future scenarios were analyzed. Traffic volumes for Buildout Year No I-405 Vehicular Overcrossing (OC) with Two-lane Yale Avenue was used for the purpose of this analysis, since the future scenario analyzes the removal of street modification of Yale Avenue, keeping Yale Avenue two-lane

Commuter Street between University Drive and Michelson Drive. I-405 OC along Yale Avenue will remain as pedestrians and bicycles only. **Figure 1** illustrates the South Yale Corridor under Buildout Year No I-405 Vehicular OC with Two-lane Yale Avenue. **Table 1** summarizes the intersection traffic volumes for all scenarios.

Figure 1: South Yale Corridor (Buildout Year No I-405 Vehicular OC with Two-lane Yale Avenue)

**Table 2: Buildout Intersection Traffic Volumes (All Scenarios)** 

#	Intersection	Time Period	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
1	Yale Avenue and University Drive	AM Peak Hour	Doe	s Not i	Exist	146	-	214	121	924	-	-	1,344	42
	,	PM Peak Hour				22	-	74	101	1,650	-	-	1,021	20

#### Note:

NB: Northbound, SB: Southbound, EB: Eastbound, WB: Westbound

L: Left, T: Through, R: Right

It should be noted that traffic volumes for the intersection of Yale Avenue/University are consistent across all 3 scenarios for their respective AM and PM peak hours. The 3 study scenarios only involve the addition of bicycle scramble or bicycle/pedestrian scramble of the intersection, without considering any future street upgrade of Yale Avenue from an existing two-lane commuter street to a four-lane secondary arterial between Michelson Drive and University Drive.

## **Traffic Operations Analysis**

Traffic operations for the three alternatives are documented in this section of the technical memorandum for the intersection of Yale Avenue/University Drive consistent with the current *City of Irvine Traffic Study Guidelines, dated December 2020.* 

#### 1.4 Intersection Analysis Methodology

The Highway Capacity Manual (HCM) 6<sup>th</sup> Edition methodology will be used to evaluate the study intersections. This approach defines the level of service (LOS) by the average vehicle delay in seconds for the turning movements and intersection characteristics at signalized and unsignalized intersections. LOS A represents free-flow activity and LOS F represents overcapacity operation. Traffic operations analysis for HCM methodologies will be completed using Synchro 11 traffic analysis software. Signal timing for future year no build scenario is based on the existing signal timing, which was confirmed on February 6, 2024.

The length of the proposed bicycle crossing or bicycle/pedestrian crossing was provided by Mark Thomas. The diagonal length of crossing was provided as 130 feet. Signal timing for the exclusive bicycle only phase (bicycle scramble) and exclusive bicycle/pedestrian phase (bicycle/pedestrian scramble) was based on the Caltrans speed for bicycles and pedestrians and California Manual on Uniform Traffic Control Devices (CA MUTCD). Following are the Caltrans and CA MUTCD suggested speed for bicycles and pedestrians:

- Bicycle Speed: 14.7 feet/sec
  - As a note, the minimum green time for bicycle was calculated using a 10 second startup time to provide adequate/additional time for less experienced cyclists
- Pedestrian Speed: 3.5 feet/sec

LOS definitions for signalized intersections are provided in Table 2.

**Table 2: Level of Service Definitions** 

LOS	Description
А	At this LOS, traffic volumes are low, and speed is not restricted by other vehicles. All
A	signal cycles clear with no vehicles waiting through more than one original cycle.
	At this LOS, traffic volumes begin to be affected by other traffic. Between one and ten
В	percent of the signal cycles have one or more vehicles which wait through more than
	one signal cycle during peak traffic periods.
	At this LOS, operating speeds and maneuverability are closely controlled by other traffic.
С	Between 11 and 30 percent of the signal cycles have one or more vehicles which wait
	through more than one signal cycle during peak traffic periods.
D	At this LOS, traffic will operate at tolerable operating speeds, although with restricted
	maneuverability.
	Traffic will experience restricted speeds, vehicles will frequently have to wait through
E	two or more cycles at signalized intersections, and any additional traffic will result in
	breakdown of the traffic carrying ability of the system.
	Long queues of traffic, unstable flow, stoppages of long duration with traffic volumes
F	and traffic, speed can drop to zero. Traffic volumes will be less than the volume which
	occurs at LOS E.

**Table 3** and **Table 4** list the signal timing for each phase for all analysis scenarios during AM and PM peak hours, separately. Please note that the total cycle length for each scenario remains consistent.

Table 3: Signal Timing (Total Spilt) for All Analysis Scenarios (AM Peak Hour)

#	Intersection	Analysis Scenario			AM Pe	eak Hour		
			EBL	EBT	WBT	SBL	BIKE/PED	Total Cycle Length
		Future Year No Build	30.0	140.0	110.0	60.0	-	200.0
1	Yale Avenue and University Drive	Future Year Build Alternative 1 (Exclusive Bicycle Only Phase)	50.0	130.0	80.0	50.0	20.0	200.0
	Offiversity Drive	Future Year Build Alternative 2 (Exclusive Bicycle and Pedestrian Phase)	23.0	125.0	102.0	25.0	50.0	200.0

#### Note:

 $\textit{NB: Northbound, SB: Southbound, EB: Eastbound, WB: Westbound. All timings \ are \ in \ seconds.}$ 

L: Left, T: Through, R: Right

Table 4: Signal Timing (Total Spilt) for All Analysis Scenarios (PM Peak Hour)

#	Intersection	Analysis Scenario			PM Pe	eak Hour		
			EBL	EBT	WBT	SBL	BIKE/PED	Total Cycle Length
		Future Year No Build	20.0	106.0	86.0	34.0	-	140.0
1	Yale Avenue and University Drive	Future Year Build Alternative 1 (Exclusive Bicycle Only Phase)	25.0	86.0	61.0	34.0	20.0	140.0
	Offiversity Drive	Future Year Build Alternative 2 (Exclusive Bicycle and Pedestrian Phase)	20.0	56.0	36.0	34.0	50.0	140.0

#### Note:

NB: Northbound, SB: Southbound, EB: Eastbound, WB: Westbound. All timings are in seconds.

L: Left, T: Through, R: Right

According to the City of Irvine Traffic Study Guidelines, LOS D shall be considered acceptable for the study area. A traffic LOS impact occurs when the intersection operates at an acceptable LOS in the baseline condition and the project causes the location to become deficient. If an intersection is determined to have an LOS impact, then the project will be required to mitigate the intersection, at a minimum, back to the baseline condition.

**Table 5** summarizes the intersection LOS results for all analysis scenarios during AM and PM peak hours. Synchro worksheets are provided in **Appendix A**.

**Table 5: Intersection LOS for All Analysis Scenarios** 

#	Intersection	Analysis Scenario	AM Pe	ak Hour	PM Pea	ak Hour
			Intersection Delay (s)	LOS	Intersection Delay (s)	LOS
		Future Year No Build	25.7	С	13.3	В
1	Yale Avenue and University Drive	Future Year Build Alternative 1 (Exclusive Bicycle Only Phase)	33.9	С	19.8	В
	Offiverally Drive	Future Year Build Alternative 2 (Exclusive Bicycle and Pedestrian Phase)	53.1	D	32.8	С

**Note:** Permissive + Overlap phasing has been added to SBR Alternative 2 in this analysis.

As indicated in **Table 5**, the study intersection is anticipated to operate at LOS D or better during both AM and PM peak hours for all analysis scenarios, with the addition of permissive + overlap phasing for the southbound right turn (SBR) movement in Alternative 2. The additional intersection delay associated with Alternative 1 and Alternative 2 are solely related to the addition of exclusive non-vehicular phase, reducing the vehicular green time, and maintaining the overall cycle length.

In conclusion, the addition of an exclusive bicycle only phase (bicycle scramble) or the addition of an exclusive bicycle and pedestrian phase (bicycle/pedestrian scramble) will not result in any deficient level of service at the study intersection. However, it should be noted that any increase in active transportation cycle length will degrade the vehicular delay at an intersection. The intersection of Yale Avenue/University Drive will continue to operate at a satisfactory LOS based on traffic volumes from "Buildout Year No I-405 Vehicular Overcrossing with Two-lane Yale Avenue" scenario in the South Yale Corridor Improvements Traffic Analysis.

# Appendix A

### Future Year No Build

	•	<b>→</b>	•	*	-	1
Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	<u> </u>			VVDIX	JDL 1	7 JUIC
Traffic Volume (vph)	121	<b>↑↑</b> 924	<b>↑↑</b> 1344	<b>1</b> 42	146	214
Future Volume (vph)	121	924	1344	42	146	214
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	145			225	0	150
Storage Lanes	1			1	1	1
Taper Length (ft)	75				25	
Lane Util. Factor	1.00	0.95	0.95	1.00	1.00	1.00
Ped Bike Factor				0.94		0.90
Frt				0.850		0.850
Flt Protected	0.950				0.950	
Satd. Flow (prot)	1770	3539	3539	1583	1770	1583
Flt Permitted	0.950				0.950	
Satd. Flow (perm)	1770	3539	3539	1489	1770	1431
Right Turn on Red				Yes		Yes
Satd. Flow (RTOR)				22		227
Link Speed (mph)		55	50		40	
Link Distance (ft)		583	683		620	
Travel Time (s)		7.2	9.3		10.6	
Confl. Peds. (#/hr)		1.2	3.3	7	10.0	23
				12		45
Confl. Bikes (#/hr)	0.00	0.00	0.00		0.00	
Peak Hour Factor	0.82	0.82	0.88	0.88	0.80	0.80
Adj. Flow (vph)	148	1127	1527	48	183	268
Shared Lane Traffic (%)						
Lane Group Flow (vph)	148	1127	1527	48	183	268
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		12	12		12	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	1.50	1.50	9	15	9
Number of Detectors	13	2	2	1	1	1
Detector Template	Left	_	_	•	Left	*
·		Thru	Thru	Right		Right
Leading Detector (ft)	20	100	100	20	20	20
Trailing Detector (ft)	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0
Detector 1 Size(ft)	20	6	6	20	20	20
Detector 1 Type	CI+Ex	CI+Ex	CI+Ex	Cl+Ex	CI+Ex	CI+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)		94	94			
Detector 2 Size(ft)		6	6			
Detector 2 Type		CI+Ex	Cl+Ex			
Detector 2 Channel		51 · LA	51. LX			
Detector 2 Extend (s)		0.0	0.0			
Detector 2 Externa (8)		0.0	0.0			

	٠	<b>→</b>	+	•	1	4	
Lane Group	EBL	EBT	WBT	WBR	SBL	SBR	
Turn Type	Prot	NA	NA	Perm	Prot	Perm	
Protected Phases	5	2	6		4		
Permitted Phases				6		4	
Detector Phase	5	2	6	6	4	4	
Switch Phase							
Minimum Initial (s)	14.0	10.0	9.0	9.0	14.0	14.0	
Minimum Split (s)	19.2	17.4	29.4	29.4	32.9	32.9	
Total Split (s)	30.0	140.0	110.0	110.0	60.0	60.0	
Total Split (%)	15.0%	70.0%	55.0%	55.0%	30.0%	30.0%	
Maximum Green (s)	24.8	132.6	102.6	102.6	54.1	54.1	
Yellow Time (s)	3.2	5.4	5.4	5.4	3.9	3.9	
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	5.2	7.4	7.4	7.4	5.9	5.9	
Lead/Lag	Lead		Lag	Lag			
Lead-Lag Optimize?	Yes		Yes	Yes			
Vehicle Extension (s)	3.0	2.0	2.0	2.0	2.0	2.0	
Recall Mode	None	C-Max	C-Max	C-Max	None	None	
Walk Time (s)			5.0	5.0	5.0	5.0	
Flash Dont Walk (s)			17.0	17.0	22.0	22.0	
Pedestrian Calls (#/hr)			7	7	23	23	
Act Effct Green (s)	21.9	161.1	134.0	134.0	25.6	25.6	
Actuated g/C Ratio	0.11	0.81	0.67	0.67	0.13	0.13	
v/c Ratio	0.76	0.40	0.64	0.05	0.81	0.70	
Control Delay	110.3	6.4	22.3	8.6	110.0	25.1	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	110.3	6.4	22.3	8.6	110.0	25.1	
LOS	F	Α	С	Α	F	С	
Approach Delay		18.5	21.9		59.6		
Approach LOS		В	С		Е		
Intersection Summary							
Area Type:	Other						
Cycle Length: 200							
Actuated Cycle Length: 20	0						
Offset: 124 (62%), Referen		e 2:EBT	and 6:WE	BT, Start c	of 1st Gree	en	
Natural Cycle: 105				•			
Control Type: Actuated-Co	ordinated						
Maximum v/c Ratio: 0.81							
Intersection Signal Delay: 2	25.7			lr	ntersection	n LOS: C	
Intersection Capacity Utiliz						of Service [	D
Analysis Period (min) 15							
Splits and Phases: 1: Ur	niversity Dr 8	& Yale Av	re				
A Marie Control	,						
<b>→</b> Ø2 (R)							
140 s							
<i>▶</i>   ←	ac (n)						
Ø5	Ø6 (R)						

	۶	<b>→</b>	•	*	-	1
Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	7	<b>^</b>	**	7	7	7
Traffic Volume (vph)	101	1650	1021	20	22	74
Future Volume (vph)	101	1650	1021	20	22	74
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
		1900	1900			
Storage Length (ft)	145			225	0	150
Storage Lanes	1			1	1	1
Taper Length (ft)	75	0.05	0.05	4.00	25	4.00
Lane Util. Factor	1.00	0.95	0.95	1.00	1.00	1.00
Ped Bike Factor				0.96		0.95
Frt				0.850		0.850
Flt Protected	0.950				0.950	
Satd. Flow (prot)	1770	3539	3539	1583	1770	1583
Flt Permitted	0.950				0.950	
Satd. Flow (perm)	1770	3539	3539	1522	1770	1512
Right Turn on Red				Yes		Yes
Satd. Flow (RTOR)				22		93
Link Speed (mph)		55	50		40	
Link Distance (ft)		583	683		620	
Travel Time (s)		7.2	9.3		10.6	
Confl. Peds. (#/hr)		1.4	9.0	4	10.0	9
Confl. Bikes (#/hr)				10		18
, ,	0.92	0.92	0.93	0.93	0.80	0.80
Peak Hour Factor						
Adj. Flow (vph)	110	1793	1098	22	28	93
Shared Lane Traffic (%)						
Lane Group Flow (vph)	110	1793	1098	22	28	93
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		12	12		12	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15			9	15	9
Number of Detectors	1	2	2	1	1	1
Detector Template	Left	Thru	Thru	Right	Left	Right
Leading Detector (ft)	20	100	100	20	20	20
	0	0	0	0	0	0
Trailing Detector (ft)						
Detector 1 Position(ft)	0	0	0	0	0	0
Detector 1 Size(ft)	20	6	6	20	20	20
Detector 1 Type	CI+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	CI+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)		94	94			
Detector 2 Size(ft)		6	6			
Detector 2 Type		Cl+Ex	Cl+Ex			
Detector 2 Channel						
Detector 2 Extend (s)		0.0	0.0			
Detector 2 Exterio (5)		0.0	0.0			

	۶	<b>→</b>	•	*	-	1
Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Turn Type	Prot	NA	NA	Perm	Prot	Perm
Protected Phases	5	2	6		4	
Permitted Phases				6		4
Detector Phase	5	2	6	6	4	4
Switch Phase						
Minimum Initial (s)	14.0	10.0	9.0	9.0	14.0	14.0
Minimum Split (s)	19.2	17.4	29.4	29.4	32.9	32.9
Total Split (s)	20.0	106.0	86.0	86.0	34.0	34.0
Total Split (%)	14.3%	75.7%	61.4%	61.4%	24.3%	24.3%
Maximum Green (s)	14.8	98.6	78.6	78.6	28.1	28.1
Yellow Time (s)	3.2	5.4	5.4	5.4	3.9	3.9
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.2	7.4	7.4	7.4	5.9	5.9
Lead/Lag	Lead		Lag	Lag	3.0	0.0
Lead-Lag Optimize?	Yes		Yes	Yes		
Vehicle Extension (s)	3.0	2.0	2.0	2.0	2.0	2.0
Recall Mode	None	C-Max	C-Max	C-Max	None	None
Walk Time (s)	. 10110	- Max	5.0	5.0	5.0	5.0
Flash Dont Walk (s)			17.0	17.0	22.0	22.0
Pedestrian Calls (#/hr)			4	4	9	9
Act Effct Green (s)	14.8	110.1	90.1	90.1	16.6	16.6
Actuated g/C Ratio	0.11	0.79	0.64	0.64	0.12	0.12
v/c Ratio	0.59	0.73	0.48	0.04	0.12	0.12
Control Delay	72.9	8.4	14.5	4.4	54.6	13.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	72.9	8.4	14.5	4.4	54.6	13.5
LOS	72.3 E	Α	14.3 B	Α.	04.0 D	15.5 B
Approach Delay	<u> </u>	12.2	14.3	Α	23.0	U
Approach LOS		12.2 B	14.3 B		23.0 C	
Intersection Summary						
Area Type:	Other					
Cycle Length: 140						
Actuated Cycle Length: 140						
Offset: 104 (74%), Referen	ced to phas	e 2:EBT	and 6:WE	BT, Start o	of 1st Gree	en
Natural Cycle: 85						
Control Type: Actuated-Co	ordinated					
Maximum v/c Ratio: 0.64						
Intersection Signal Delay: 1	13.3			Ir	ntersection	n LOS: B
Intersection Capacity Utiliza				I	CU Level	of Service
Analysis Period (min) 15						
Splits and Phases: 1: Un	niversity Dr	& Yale Av	re			
<b>→</b> Ø2 (R)						
106 s						
4 42						
	96 (R)					
00 c	ACCOUNTS.					

Future Year Build Alternative 1 (Exclusive Bicycle Only Phase)

	•	-	•	*	1	1	
Lane Group	EBL	EBT	WBT	WBR	SBL	SBR	Ø9
Lane Configurations	*	<b>^</b>	<b>^</b>	7	*	7	
Traffic Volume (vph)	121	924	1344	42	146	214	
Future Volume (vph)	121	924	1344	42	146	214	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	
Storage Length (ft)	145	1000	1000	225	0	150	
Storage Lanes	1			1	1	1	
Taper Length (ft)	75			•	25		
Lane Util. Factor	1.00	0.95	0.95	1.00	1.00	1.00	
Ped Bike Factor	1.00	0.50	0.50	0.94	1.00	0.94	
Frt				0.850		0.850	
Flt Protected	0.950			0.000	0.950	0.000	
Satd. Flow (prot)	1770	3539	3539	1583	1770	1583	
Flt Permitted	0.950	0000	0000	1000	0.950	1000	
Satd. Flow (perm)	1770	3539	3539	1484	1770	1485	
Right Turn on Red	1770	5553	3333	Yes	1770	Yes	
Satd. Flow (RTOR)				17		237	
Link Speed (mph)		55	50	17	40	231	
Link Distance (ft)		583	683		620		
Travel Time (s)		7.2	9.3		10.6		
Confl. Peds. (#/hr)		1.2	9.3	7	10.0	23	
Confl. Bikes (#/hr)				12		23	
Peak Hour Factor	0.82	0.82	0.88	0.88	0.80	0.80	
	148	1127	1527	48	183	268	
Adj. Flow (vph)	140	1121	1021	40	103	200	
Shared Lane Traffic (%)	148	1127	1527	48	183	268	
Lane Group Flow (vph)	No					No	
Enter Blocked Intersection		No	No	No	No		
Lane Alignment	Left	Left 12	Left 12	Right	Left 12	Right	
Median Width(ft)							
Link Offset(ft)		0	0		0		
Crosswalk Width(ft)		16	16		16		
Two way Left Turn Lane	1.00	1.00	1.00	1.00	1.00	1.00	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	
Turning Speed (mph)	15	0	0	9	15	9	
Number of Detectors	1	2	2	Dialet	1	1 Diamet	
Detector Template	Left	Thru	Thru	Right	Left	Right	
Leading Detector (ft)	20	100	100	20	20	20	
Trailing Detector (ft)	0	0	0	0	0	0	
Detector 1 Position(ft)	0	0	0	0	0	0	
Detector 1 Size(ft)	20	6	6	20	20	20	
Detector 1 Type	CI+Ex	Cl+Ex	CI+Ex	Cl+Ex	CI+Ex	CI+Ex	
Detector 1 Channel							
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 2 Position(ft)		94	94				
Detector 2 Size(ft)		6	6				
Detector 2 Type		Cl+Ex	CI+Ex				
Detector 2 Channel							
Detector 2 Extend (s)		0.0	0.0				

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Lane Group	EBL	EBT	WBT	WBR	SBL	SBR	Ø9		
Turn Type	Prot	NA	NA	Perm	Prot	Perm			
Protected Phases	5	2	6		4		9		
Permitted Phases				6		4			
Detector Phase	5	2	6	6	4	4			
Switch Phase									
Minimum Initial (s)	14.0	10.0	9.0	9.0	14.0	14.0	15.0		
Minimum Split (s)	19.2	17.4	29.4	29.4	32.9	32.9	20.0		
Total Split (s)	50.0	130.0	80.0	80.0	50.0	50.0	20.0		
Total Split (%)	25.0%	65.0%	40.0%	40.0%	25.0%	25.0%	10%		
Maximum Green (s)	44.8	122.6	72.6	72.6	44.1	44.1	15.0		
Yellow Time (s)	3.2	5.4	5.4	5.4	3.9	3.9	3.0		
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0		
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	2.0		
Total Lost Time (s)	5.2	7.4	7.4	7.4	5.9	5.9			
Lead/Lag	Lead	7.7	Lag	Lag	0.5	0.0			
Lead-Lag Optimize?	Yes		Yes	Yes					
Vehicle Extension (s)	3.0	2.0	2.0	2.0	2.0	2.0	2.0		
Recall Mode	None	C-Max	C-Max	C-Max	None	None	None		
Walk Time (s)	None	O-IVIAX	5.0	5.0	5.0	5.0	5.0		
Flash Dont Walk (s)			17.0	17.0	22.0	22.0	6.0		
Pedestrian Calls (#/hr)			7	7	23	23	45		
Act Effct Green (s)	22.1	145.2	117.9	117.9	25.5	25.5	40		
Actuated g/C Ratio	0.11	0.73	0.59	0.59	0.13	0.13			
v/c Ratio	0.11	0.73	0.59	0.05	0.13	0.13			
	109.2	12.9	35.6	15.7	110.5	21.5			
Control Delay	0.0	0.0	0.0	0.0	0.0	0.0			
Queue Delay	109.2	12.9	35.6	15.7	110.5	21.5			
Total Delay LOS			33.0 D		F	21.5 C			
	F	B		В		C			
Approach Delay		24.1	35.0		57.6				
Approach LOS		С	С		E				
Intersection Summary	<b>-</b>								
Area Type:	Other								
Cycle Length: 200									
Actuated Cycle Length: 20									
Offset: 124 (62%), Referen	nced to phas	se 2:EBT	and 6:WE	BT, Start o	of 1st Gree	en			
Natural Cycle: 135									
Control Type: Actuated-Co	oordinated								
Maximum v/c Ratio: 0.81									
Intersection Signal Delay:					ntersection				
Intersection Capacity Utiliz	zation 81.7%	)		I(	CU Level	of Service	D D		
Analysis Period (min) 15									
Splits and Phases: 1: U	niversity Dr	& Yale Av	/e						
J → Ø2 (R)							4	<b>№</b> Ø4	#Aø9
130 s							50 s		20 s
<b>*</b>	4	*							
Ø5		Ø6 (R)							
50 s	80	S							1

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Lane Group	EBL	EBT	WBT	WBR	SBL	SBR	Ø9
Lane Configurations	7	<b>^</b>	<b>^</b>	7	*	7	
Traffic Volume (vph)	101	1650	1021	20	22	74	
Future Volume (vph)	101	1650	1021	20	22	74	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	
Storage Length (ft)	145	1000	1000	225	0	150	
Storage Lanes	1			1	1	1	
Taper Length (ft)	75			•	25	•	
Lane Util. Factor	1.00	0.95	0.95	1.00	1.00	1.00	
Ped Bike Factor	1.00	0.00	0.00	0.96	1.00	0.97	
Frt				0.850		0.850	
Flt Protected	0.950			0.000	0.950	0.000	
Satd. Flow (prot)	1770	3539	3539	1583	1770	1583	
Flt Permitted	0.950	0000	0000	1000	0.950	1000	
Satd. Flow (perm)	1770	3539	3539	1517	1770	1543	
Right Turn on Red	1110	0000	0000	Yes	1110	Yes	
Satd. Flow (RTOR)				16		93	
Link Speed (mph)		55	50	10	40	30	
Link Distance (ft)		583	683		620		
Travel Time (s)		7.2	9.3		10.6		
Confl. Peds. (#/hr)		1.2	9.5	4	10.0	9	
Confl. Bikes (#/hr)				10		9	
Peak Hour Factor	0.92	0.92	0.93	0.93	0.80	0.80	
Adj. Flow (vph)	110	1793	1098	22	28	93	
Shared Lane Traffic (%)	110	1793	1090	22	20	33	
Lane Group Flow (vph)	110	1793	1098	22	28	93	
Enter Blocked Intersection	No	No	No	No	No	No	
Lane Alignment	Left	Left	Left	Right	Left	Right	
Median Width(ft)	Leit	12	12	Rigiit	12	Rigiil	
Link Offset(ft)		0	0		0		
Crosswalk Width(ft)		16	16		16		
` ,		10	10		10		
Two way Left Turn Lane	1 00	1.00	1.00	1.00	1.00	1 00	
Headway Factor	1.00 15	1.00	1.00	1.00	1.00 15	1.00	
Turning Speed (mph)		2	2	9		9	
Number of Detectors	1	2 Thru	2 Thru	1 Diaht	1		
Detector Template	Left	Thru	Thru	Right	Left	Right	
Leading Detector (ft)	20	100	100	20	20	20	
Trailing Detector (ft)	0	0	0	0	0	0	
Detector 1 Position(ft)	0	0	0	0	0	0	
Detector 1 Size(ft)	20	6	6	20	20	20	
Detector 1 Type	CI+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	CI+Ex	
Detector 1 Channel	0.0	0.0	0.0	2.2	0.0	0.0	
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 2 Position(ft)		94	94				
Detector 2 Size(ft)		6	6				
Detector 2 Type		Cl+Ex	Cl+Ex				
Detector 2 Channel							
Detector 2 Extend (s)		0.0	0.0				

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Lane Group	EBL	EBT	WBT	WBR	SBL	SBR	Ø9	
Turn Type	Prot	NA	NA	Perm	Prot	Perm		
Protected Phases	5	2	6		4		9	
Permitted Phases				6		4		
Detector Phase	5	2	6	6	4	4		
Switch Phase								
Minimum Initial (s)	14.0	10.0	9.0	9.0	14.0	14.0	15.0	
Minimum Split (s)	19.2	17.4	29.4	29.4	32.9	32.9	20.0	
Fotal Split (s)	25.0	86.0	61.0	61.0	34.0	34.0	20.0	
Fotal Split (%)	17.9%	61.4%	43.6%	43.6%	24.3%	24.3%	14%	
Maximum Green (s)	19.8	78.6	53.6	53.6	28.1	28.1	15.0	
Yellow Time (s)	3.2	5.4	5.4	5.4	3.9	3.9	3.0	
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	
	0.0	0.0	0.0	0.0	0.0	0.0	2.0	
Lost Time Adjust (s)	5.2	7.4	7.4	7.4	5.9	5.9		
Total Lost Time (s)		1.4			5.9	5.9		
Lead/Lag	Lead		Lag	Lag				
Lead-Lag Optimize?	Yes	0.0	Yes	Yes	0.0	0.0	0.0	
Vehicle Extension (s)	3.0	2.0	2.0	2.0	2.0	2.0	2.0	
Recall Mode	None	C-Max	C-Max	C-Max	None	None	None	
Walk Time (s)			5.0	5.0	5.0	5.0	5.0	
Flash Dont Walk (s)			17.0	17.0	22.0	22.0	6.0	
Pedestrian Calls (#/hr)			4	4	9	9	18	
Act Effct Green (s)	15.5	102.1	81.4	81.4	16.6	16.6		
Actuated g/C Ratio	0.11	0.73	0.58	0.58	0.12	0.12		
ı/c Ratio	0.56	0.69	0.53	0.02	0.13	0.35		
Control Delay	70.2	15.2	22.1	11.1	54.6	13.3		
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0		
Total Delay	70.2	15.2	22.1	11.1	54.6	13.3		
_OS	Е	В	С	В	D	В		
Approach Delay		18.4	21.9		22.9			
Approach LOS		В	С		С			
ntersection Summary								
Area Type:	Other							
Cycle Length: 140								
Actuated Cycle Length: 14								
Offset: 104 (74%), Referen	iced to phas	se 2:EBT	and 6:WE	3T, Start o	of 1st Gre	en		
Natural Cycle: 115								
Control Type: Actuated-Co	ordinated							
Maximum v/c Ratio: 0.69								
ntersection Signal Delay:	19.8			lr	ntersectio	n LOS: B		
ntersection Capacity Utiliz		)				of Service	C	
Analysis Period (min) 15								
Splits and Phases: 1: Ur	niversity Dr	& Yale Av	⁄e					
N 1200 1000	,						1	#Aø
J → Ø2 (R) 86 s							7Ø4 34 s	20 s
	4						5113	203
Ø5	Ø6 (R)						]	
25 s	1 e							- 1

Future Year Build Alternative 2
(Exclusive Bicycle and Pedestrian Phase)

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Lane Group	EBL	EBT	WBT	WBR	SBL	SBR	Ø9	
Lane Configurations	*	<b>^</b>	<b>↑</b>	7	<u> </u>	7	25	
Traffic Volume (vph)	121	924	1344	42	146	214		
Future Volume (vph)	121	924	1344	42	146	214		
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900		
Storage Length (ft)	145	1900	1300	225	0	150		
Storage Lanes	143			1	1	130		
Taper Length (ft)	75			1	25	l I		
Lane Util. Factor	1.00	0.95	0.95	1.00	1.00	1.00		
Ped Bike Factor	1.00	0.95	0.95	0.94	1.00	1.00		
Frt				0.850		0.850		
FIt Protected	0.950			0.050	0.950	0.050		
Satd. Flow (prot)	1770	3539	3539	1583	1770	1583		
Flt Permitted		3333	3339	1000	0.950	1505		
Satd. Flow (perm)	0.950 1770	3539	3539	1488	1770	1583		
Right Turn on Red	1770	3339	3338	Yes	1770	Yes		
				20		227		
Satd. Flow (RTOR)		55	50	20	40	221		
Link Speed (mph)		583	683		620			
Link Distance (ft) Travel Time (s)		7.2	9.3		10.6			
Confl. Peds. (#/hr)		1.2	9.3	7	10.0			
Confl. Bikes (#/hr)				12				
Peak Hour Factor	0.82	0.82	0.88	0.88	0.80	0.80		
Adj. Flow (vph)	148	1127	1527	48	183	268		
Shared Lane Traffic (%)	140	1121	1321	40	103	200		
Lane Group Flow (vph)	148	1127	1527	48	183	268		
Enter Blocked Intersection	No	No	No	No	No	No		
Lane Alignment	Left	Left	Left	Right	Left	Right		
Median Width(ft)	Leit	12	12	Rigit	12	Rigit		
Link Offset(ft)		0	0		0			
Crosswalk Width(ft)		16	16		16			
Two way Left Turn Lane		10	10		10			
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00		
Turning Speed (mph)	1.00	1.00	1.00	9	1.00	9		
Number of Detectors	1	2	2	1	13	1		
Detector Template	Left	Thru	Thru	Right	Left	Right		
Leading Detector (ft)	20	100	100	Rigiti 20	20	Right 20		
Trailing Detector (ft)	0	0	0	0	0	0		
Detector 1 Position(ft)	0	0	0	0	0	0		
Detector 1 Size(ft)	20	6	6	20	20	20		
	CI+Ex	Cl+Ex	CI+Ex	CI+Ex	CI+Ex	CI+Ex		
Detector 1 Type Detector 1 Channel	OI+EX	OI+EX	OI+EX	OI+EX	OI+EX	UI+EX		
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0		
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0		
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0		
	0.0	94	94	0.0	0.0	0.0		
Detector 2 Position(ft)			94					
Detector 2 Size(ft)		6 CLEV						
Detector 2 Type		Cl+Ex	Cl+Ex					
Detector 2 Channel		0.0	0.0					
Detector 2 Extend (s)		0.0	0.0					

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Lane Group	EBL	EBT	WBT	WBR	SBL	SBR	Ø9	
Turn Type	Prot	NA	NA	Perm	Prot	pm+ov		
Protected Phases	5	2	6	1 01111	4	5	9	
Permitted Phases				6		4	<u> </u>	
Detector Phase	5	2	6	6	4	5		
Switch Phase	<u> </u>		U	U	7	<u> </u>		
Minimum Initial (s)	14.0	10.0	9.0	9.0	14.0	14.0	45.0	
Minimum Split (s)	19.2	17.4	29.4	29.4	19.9	19.2	50.0	
Total Split (s)	23.0	125.0	102.0	102.0	25.0	23.0	50.0	
Total Split (%)	11.5%	62.5%	51.0%	51.0%	12.5%	11.5%	25%	
Maximum Green (s)	17.8	117.6	94.6	94.6	19.1	17.8	45.0	
Yellow Time (s)	3.2	5.4	5.4	5.4	3.9	3.2	3.0	
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	2.0	
	5.2	7.4	7.4	7.4	5.9	5.2		
Total Lost Time (s) Lead/Lag	5.2 Lead	1.4	Lag	Lag	ა.ჟ	5.2 Lead		
· ·	Yes		Yes	Yes		Yes		
Lead-Lag Optimize?	3.0	2.0	2.0	2.0	2.0	3.0	2.0	
Vehicle Extension (s)			C-Max	C-Max			-	
Recall Mode	None	C-Max	5.0	5.0	None	None	None 5.0	
Walk Time (s)								
Flash Dont Walk (s)			17.0	17.0			35.0	
Pedestrian Calls (#/hr)	47.0	447.0	7	7	40.4	27.0	68	
Act Effct Green (s)	17.8	117.6	94.6	94.6	19.1	37.6		
Actuated g/C Ratio	0.09	0.59	0.47	0.47	0.10	0.19		
v/c Ratio	0.94	0.54	0.91	0.07	1.08	0.56		
Control Delay	145.1	26.1	58.2	18.1	171.6	12.0		
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0		
Total Delay	145.1	26.1	58.2	18.1	171.6	12.0		
LOS	F	С	E	В	F	В		
Approach Delay		39.9	57.0		76.7			
Approach LOS		D	Е		Е			
Intersection Summary								
Area Type:	Other							
Cycle Length: 200								
Actuated Cycle Length: 20								
Offset: 124 (62%), Refere	nced to phas	e 2:EBT	and 6:WE	BT, Start c	of 1st Gre	en		
Natural Cycle: 150								
Control Type: Actuated-C	oordinated							
Maximum v/c Ratio: 1.08								
Intersection Signal Delay:						n LOS: D		
Intersection Capacity Utili	zation 75.9%			IC	CU Level	of Service	: D	
Analysis Period (min) 15								
Splits and Phases: 1: U	Iniversity Dr	& Yale Av	re					
4 323 333			-				1	98
→ Ø2 (R) 125 s							Ø4	
\$ 1 € C	(n)							
Ø5 Ø6	(K)					_	-	- 1

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Lane Group	EBL	EBT	WBT	WBR	SBL	SBR	Ø9	
Lane Configurations	*	<b>^</b>	<b>^</b>	7	*	7		
Traffic Volume (vph)	101	1650	1021	20	22	74		
Future Volume (vph)	101	1650	1021	20	22	74		
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900		
Storage Length (ft)	145	1000	1000	225	0	150		
Storage Lanes	1			1	1	1		
Taper Length (ft)	75			•	25	'		
Lane Util. Factor	1.00	0.95	0.95	1.00	1.00	1.00		
Ped Bike Factor	1.00	0.00	0.00	0.95	1.00	1.00		
Frt				0.850		0.850		
Flt Protected	0.950			0.000	0.950	0.000		
Satd. Flow (prot)	1770	3539	3539	1583	1770	1583		
Flt Permitted	0.950	3000	3000	1000	0.950	1000		
Satd. Flow (perm)	1770	3539	3539	1504	1770	1583		
Right Turn on Red	1110	0000	0000	Yes	1110	Yes		
Satd. Flow (RTOR)				12		93		
Link Speed (mph)		55	50	12	40	30		
Link Distance (ft)		583	683		620			
Travel Time (s)		7.2	9.3		10.6			
Confl. Peds. (#/hr)		1.2	3.3	4	10.0			
Confl. Bikes (#/hr)				10				
Peak Hour Factor	0.92	0.92	0.93	0.93	0.80	0.80		
Adj. Flow (vph)	110	1793	1098	22	28	93		
Shared Lane Traffic (%)	110	1795	1030	22	20	33		
Lane Group Flow (vph)	110	1793	1098	22	28	93		
Enter Blocked Intersection	No	No	No	No	No	No		
Lane Alignment	Left	Left	Left	Right	Left	Right		
Median Width(ft)	FOIL	12	12	rtigrit	12	rtigrit		
Link Offset(ft)		0	0		0			
Crosswalk Width(ft)		16	16		16			
Two way Left Turn Lane		10	10		-10			
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00		
Turning Speed (mph)	1.00	1.00	1.00	9	1.00	9		
Number of Detectors	1	2	2	1	1	1		
Detector Template	Left	Thru	Thru	Right	Left	Right		
Leading Detector (ft)	20	100	100	Right 20	20	Right 20		
Trailing Detector (ft)	0	0	0	0	0	0		
Detector 1 Position(ft)	0	0	0	0	0	0		
` /	20	6	6	20	20	20		
Detector 1 Size(ft)								
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	CI+Ex		
Detector 1 Channel	0.0	0.0	0.0	0.0	0.0	0.0		
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0		
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0		
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0		
Detector 2 Position(ft)		94	94					
Detector 2 Size(ft)		6 CL Ev	6					
Detector 2 Type		Cl+Ex	Cl+Ex					
Detector 2 Channel		0.0	0.0					
Detector 2 Extend (s)		0.0	0.0					

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Lane Group	EBL	EBT	WBT	WBR	SBL	SBR	Ø9
Turn Type	Prot	NA	NA	Perm	Prot	pm+ov	
Protected Phases	5	2	6		4	5	9
Permitted Phases				6		4	
Detector Phase	5	2	6	6	4	5	
Switch Phase							
Minimum Initial (s)	14.0	10.0	9.0	9.0	14.0	14.0	45.0
Minimum Split (s)	19.2	17.4	29.4	29.4	19.9	19.2	50.0
Total Split (s)	20.0	56.0	36.0	36.0	34.0	20.0	50.0
Total Split (%)	14.3%	40.0%	25.7%	25.7%	24.3%	14.3%	36%
Maximum Green (s)	14.8	48.6	28.6	28.6	28.1	14.8	45.0
Yellow Time (s)	3.2	5.4	5.4	5.4	3.9	3.2	3.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	5.2	7.4	7.4	7.4	5.9	5.2	
Lead/Lag	Lead		Lag	Lag	,,,	Lead	
Lead-Lag Optimize?	Yes		Yes	Yes		Yes	
Vehicle Extension (s)	3.0	2.0	2.0	2.0	2.0	3.0	2.0
Recall Mode	None	C-Max	C-Max	C-Max	None	None	None
Walk Time (s)			5.0	5.0			5.0
Flash Dont Walk (s)			17.0	17.0			35.0
Pedestrian Calls (#/hr)			4	4			27
Act Effct Green (s)	15.5	93.6	70.0	70.0	14.0	24.3	
Actuated g/C Ratio	0.11	0.67	0.50	0.50	0.10	0.17	
v/c Ratio	0.56	0.76	0.62	0.03	0.16	0.26	
Control Delay	70.3	29.6	36.1	22.4	60.0	5.9	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	70.3	29.6	36.1	22.4	60.0	5.9	
LOS	Е	С	D	С	Е	Α	
Approach Delay		31.9	35.9		18.4		
Approach LOS		С	D		В		
Intersection Summary							
Area Type:	Other						
Cycle Length: 140	0 (110)						
Actuated Cycle Length: 14	10						
Offset: 104 (74%), Referen		e 2·FBT	and 6·WF	RT Start o	of 1st Gre	en	
Natural Cycle: 150	lood to pride	0 2.231	una 0.112	or, otare c	7 101 010	OII	
Control Type: Actuated-Co	ordinated						
Maximum v/c Ratio: 0.76	ooramatoa						
Intersection Signal Delay:	32 B			lr	ntersectio	n LOS: C	
Intersection Capacity Utiliz						of Service	C
Analysis Period (min) 15	_ation 00.470			I	JO LEVEI	OI GEI VICE	
Splits and Phases: 1: U	niversity Dr	Valo Λν	10				
N 1000 1000	iliversity Dr o	x fale Av	<del>e</del>	1			1.1
<b>→</b> Ø2 (R)				Ø4			A Røg
56 s				34 s			50 s
Ø5 Ø5	Ø6 (R)						
20 s 36 s	20 (K)						











prepared by:







7800 Katella Avenue Stanton, CA 90680



P | (714) 379-9222 F | (714) 890-1443



Stanton@StantonCA.gov StantonCA.gov

#### Date:

December 18, 2024

**Kia Mortazavi** Executive Director, Planning

Orange County Transportation Authority 550 South Main Street Orange, CA 92863-1584 RE: Master Plan of Arterial Highways (MPAH) Amendment Request – Orangewood Avenue between Santa Rosalia Street and City Limits

#### To Mortazavi,

The City of Stanton is requesting an amendment of the MPAH for Orangewood Avenue between Santa Rosalia Street and City Limits to change the segment from Secondary Arterial to Collector Arterial. This designation would alter large segments of the existing roadway configuration from 4 travel lanes reduce to 2 travel lanes.

The segment of Orangewood Avenue between Santa Rosalia Street and City Limits is currently a 4 lane (two lanes each direction) collector roadway. In the Orange County MPAH, this segment is identified as a four-lane (two lanes each direction) Secondary arterial roadway.

The current configuration of Orangewood Avenue between Santa Rosalia Street and City Limits includes a 64-foot-wide street with two travel lanes in each direction. After analysis and community engagement, the City is proposing to implement roadway features that include 9000 linear feet of Class II Bicycle Lanes on Orangewood Avenue.

The implementation will address concerns along the existing roadway, such as speeding, wrong way riding of bicycles, and conflicts between bicyclists and pedestrians on sidewalks. It is also intended to improve safety and connectivity, increase rates of bicycling and walking, improve safety outcomes on the corridors. The project will also enhance bicycling facilities and provide additional opportunities for low stress and multimodal travel within the City.

A Class II bikeway will be added to the existing roadway. The proposed roadway configuration will consists of the following:

- One travel lane in each direction
- Class II bicycle lanes in each direction
- On-street parking



#### Date:

December 18, 2024

#### **Kia Mortazavi**

Executive Director, Planning

# Orange County Transportation Authority

550 South Main Street Orange, CA 92863-1584



7800 Katella Avenue Stanton, CA 90680



P | (714) 379-9222 F | (714) 890-1443



Stanton@StantonCA.gov StantonCA.gov

The project will also include the installation of bulb-outs, upgrades for ADA compliant curb ramps, parkways and landscaping, installation of high visibility roadway markings such as continental crosswalks and bicycle markings, signage upgrades, street lighting upgrades, traffic signal modifications, replacement of sidewalks, curb & gutters, and cross gutters, and a complete grind & overlay of both street segments, providing significant benefits including improved safety for all roadway users and enhanced quality of life.

The average daily traffic volumes on this segment of Orangewood Avenue range from 2,600 to 11,800 vehicles per day based on traffic counts collected in September 2023.

The City's traffic model forecasts the buildout volumes to be between 6,300 and 6,800 for the two-lane arterial configuration with the I-405 Vehicular overcrossing. Per the Orange County Highway Design Manual, the MPAH roadway capacity values indicate the MPAH amendment can still maintain favorable performance conditions. Therefore, the proposed MPAH amendment can support existing and forecast traffic volumes per adopted performance criteria.

There is also an existing Class II bicycle facility along Orangewood Avenue, east of the City Limits, and this amendment would help improve connectivity and consistency between jurisdictions.

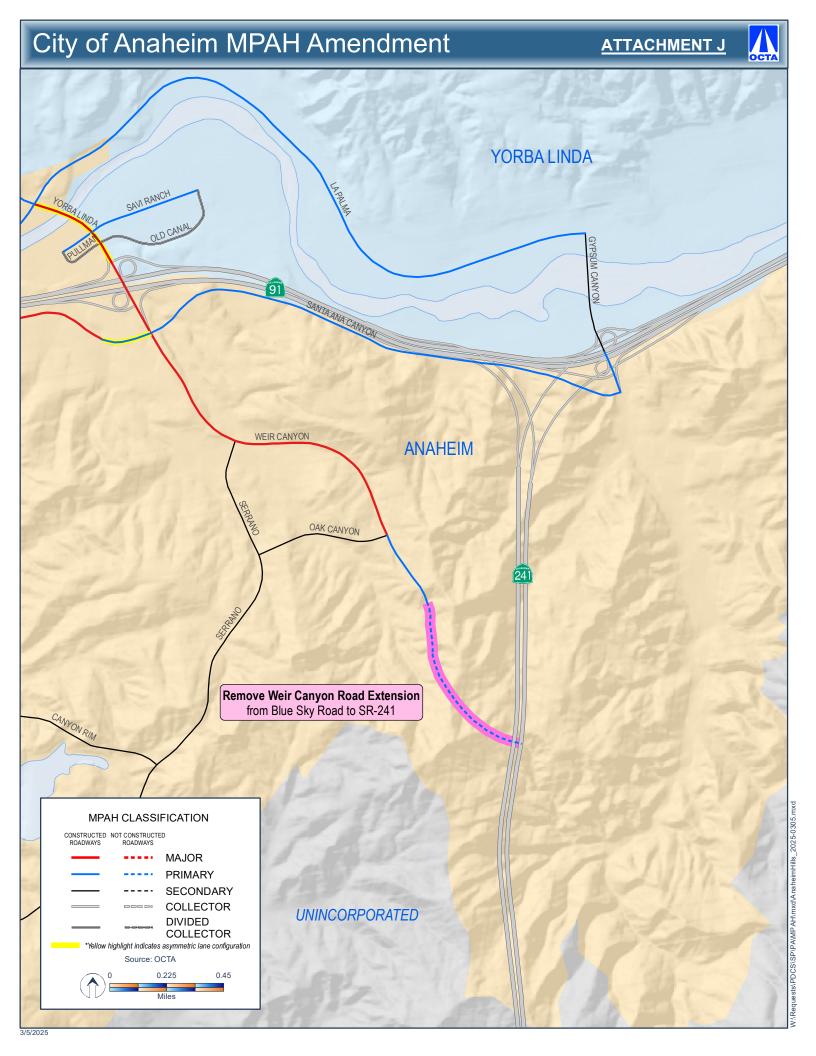
Thank you for your consideration regarding this request. If you have any questions, please feel

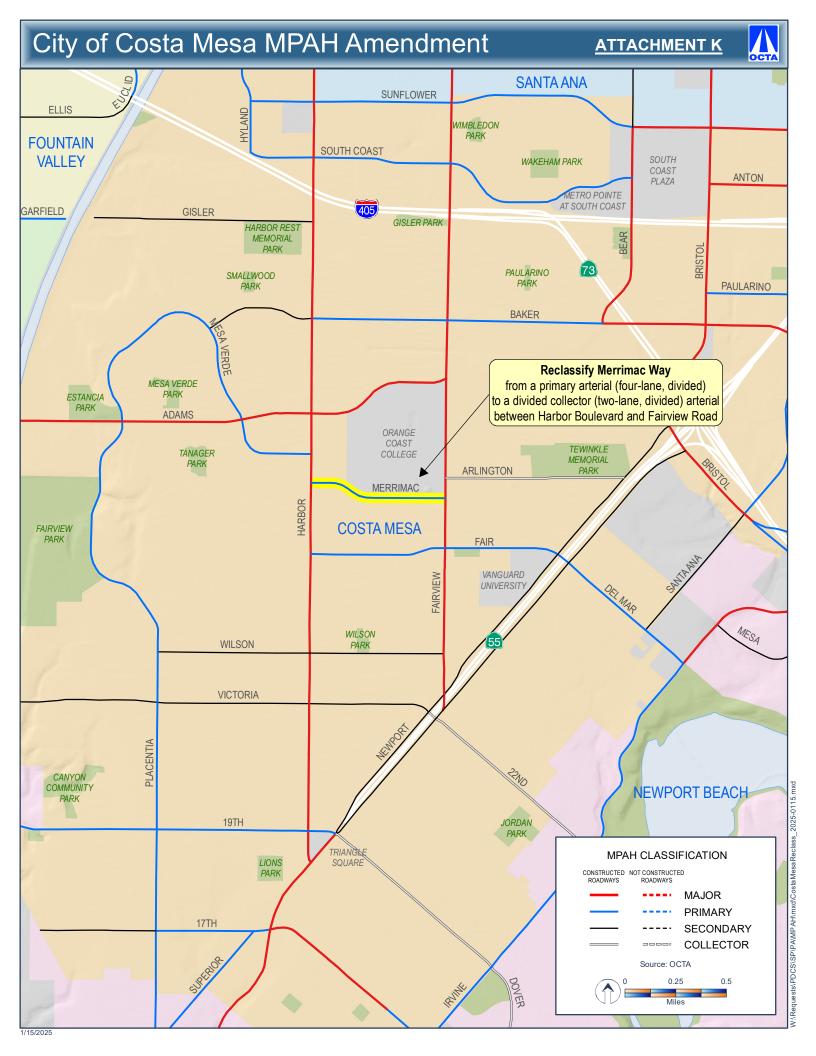
free to contact Elias Garcia, Assistant City Engineer at 714-890-4237 or <u>EGarcia@StantonCA.gov</u>.

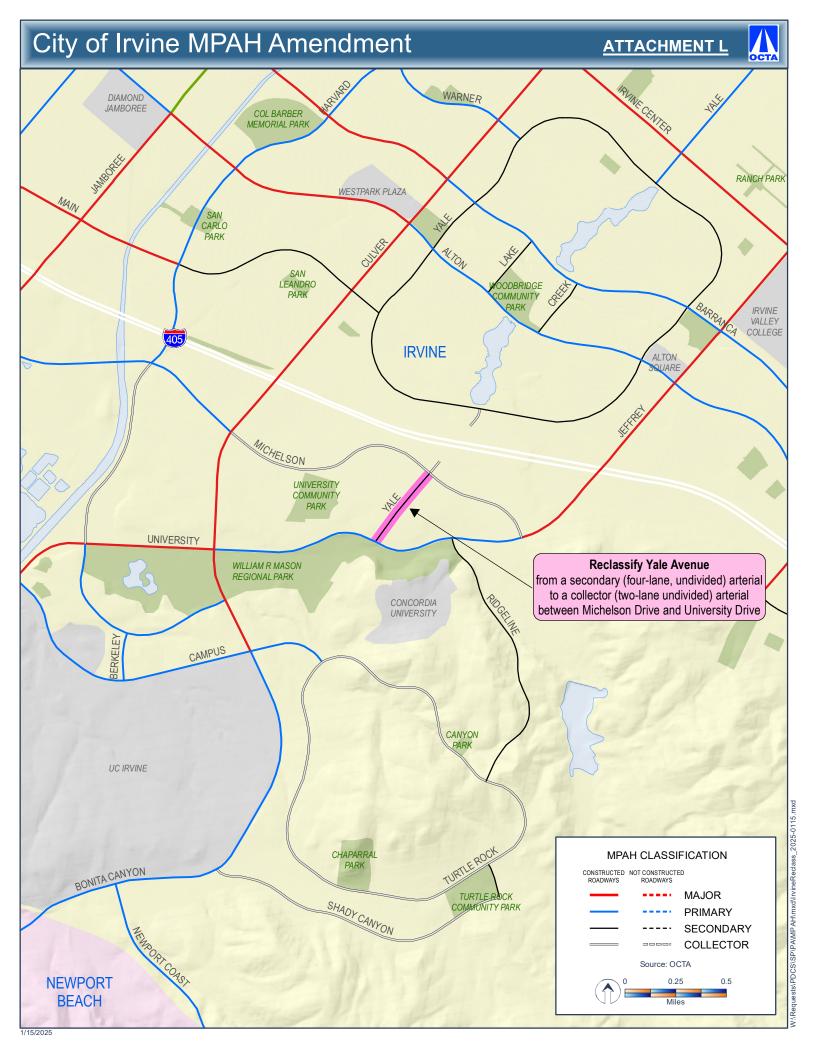
Sincerely,

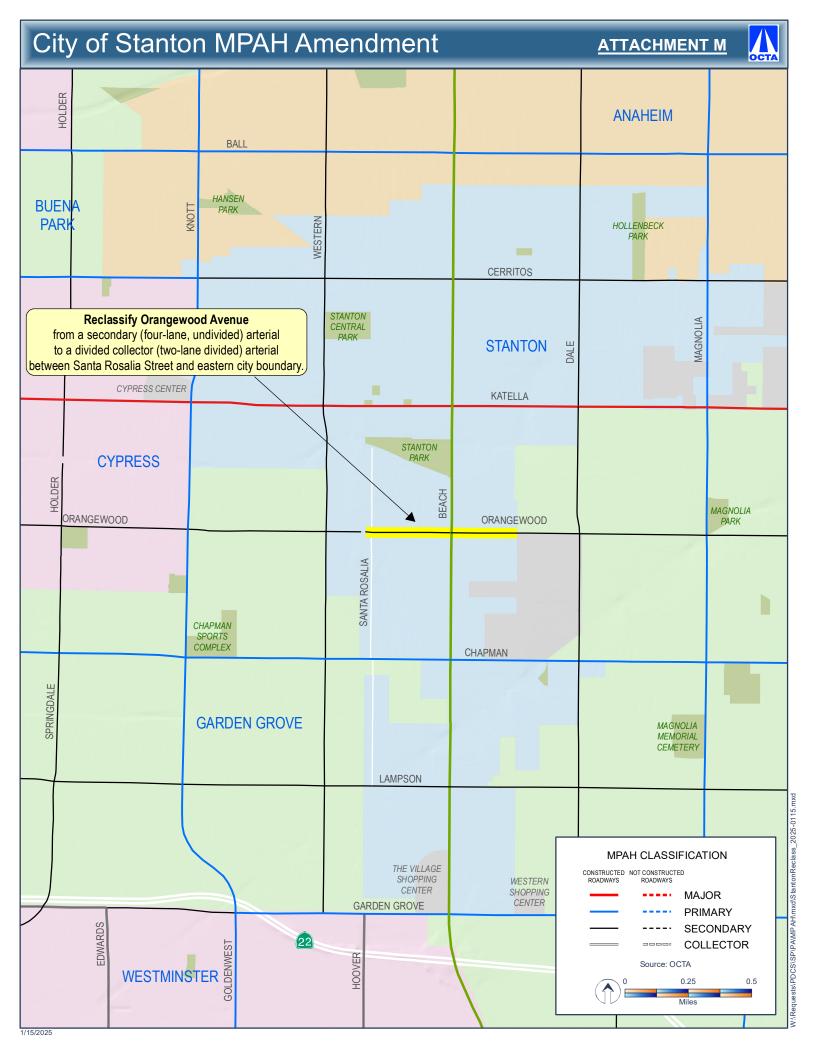
Cesar Rangel, P.E.

**Public Works Director / City Engineer** 









# Master Plan of Arterial Highways Amendments Detailed Discussion

# City of Anaheim – Remove Weir Canyon Extension

The City of Anaheim (Anaheim) has requested to remove the Weir Canyon Extension, between Sky Blue Road and State Route 241 from the Master Plan of Arterial Highways (MPAH). This segment has not been constructed, and the findings from Anaheim's 2025 Circulation Element Update indicate that its removal would not impact the MPAH network. Additionally, staff analyzed the MPAH buildout network to forecast 2050 traffic conditions, which confirmed that removing the Weir Canyon Extension does not create any significant impact on the MPAH network.

# City of Costa Mesa – Reclassify Merrimac Way

The City of Costa Mesa (Costa Mesa) has requested the reclassification of Merrimac Way, between Harbor Boulevard and Fairview Road, from a primary (four-lane, divided) arterial to a divided collector (two-lane, divided) arterial. The segment is currently built as a divided collector (two-lanes) with buffered bicycle lanes and tracks. Costa Mesa had coordinated with OCTA in 2020 for temporary improvements, and now Costa Mesa has proposed to reclassify the Merrimac Way segment to reflect the changes of the current roadway configuration.

The MPAH buildout network was modeled to forecast 2050 traffic conditions. The model indicates that this segment on Merrimac Way will have 7,000 daily vehicles with the proposed changes. These traffic volumes are well within the acceptable level of service for a divided collector street, which typically accommodates up to 15,000 average daily traffic. As such the proposed reclassification does not result in any significant impacts on the MPAH system.

## City of Irvine – Reclassify Yale Avenue

The City of Irvine (Irvine) has requested the reclassification of Yale Avenue, between Michelson Drive and University Drive on the MPAH, from a secondary (four-lane undivided) arterial to a collector (two-lane, undivided). The segment is currently built as a collector arterial. The proposed Class IV bicycle tracks provide a separated bikeway for bicyclists by reducing conflicts with vehicle traffic and pedestrians. It aims to support increased bicycle use among students commuting to nearby schools and provides a safer, low-stress bicycling environment that encourages active transportation.

The MPAH buildout network was modeled to forecast 2050 traffic conditions. The model indicates that this segment on Yale Avenue will have 7,000 daily vehicles with the proposed amendment. These traffic volumes are well within the acceptable level of service for collector streets, which typically accommodate up to 10,000 average daily traffic. As such, the proposed reclassification does not result in any significant impacts on the MPAH system.

1

# Master Plan of Arterial Highways Amendments Detailed Discussion

# <u>City of Stanton – Reclassify Orangewood Avenue</u>

The City of Stanton (Stanton) has requested the reclassification of Orangewood Avenue, between Stanta Rosalia Street to the eastern city limit (Nearing Drive) from a secondary (four-lane, undivided) arterial to a collector (two-lane, undivided). The segment currently has four travel lanes and transitions to two travel lanes east of Nearing Drive. The proposed Class II bicycle lanes will address concerns of speeding, bicyclists riding on the wrong side of the roadway, and bicyclist and pedestrian conflicts on the sidewalk. This amendment request is associated with the Orange County Complete Streets Program.

The MPAH buildout network was modeled to forecast 2025 traffic conditions. The model indicates that this segment on Orangewood Avenue will have 9,000 daily vehicles with the proposed amendment. These traffic volumes are well within the acceptable level of service for collector streets, which typically accommodate up to 10,000 average daily traffic. As such, the proposed reclassification does not result in any significant impacts on the MPAH system.

# **Status Report on Pending Master Plan of Arterial Highways Amendments**

#	City	Street	From	То	Type of Amendment	Status	Board Approval Date
1	Brea / County of Orange	Tonner Canyon Road	Brea Canyon Road	Planned Valencia Avenue	Delete	Amendment expired, requires City to submit a new request.	7/12/2021
2	Brea / County of Orange	Valencia Avenue	Carbon Canyon Road	Planned Tonner Canyon Road	Delete	Amendment expired, requires City to submit a new request.	7/12/2021
3	Costa Mesa	Bluff Road	19th Street	Victoria Street	Delete	On hold pending final consensus between Costa Mesa and Newport Beach on circulation plans.	
4	Costa Mesa	19th Street	Placentia Avenue	west city limit	Reclassify from primary to divided collector	On hold pending final consensus between the cities of Costa Mesa and Newport Beach on circulation plans.	
5	County of Orange / Irvine	Jeffrey Road	SR-241	Santiago Canyon Road	Delete	The amendment was conditionally approved by the Board. Waiting for documentation confirming completion of CEQA and general plan change.	5/8/2017
6	Santa Ana/Orange	Fairhaven Avenue	Grand Avenue	Tustin Avenue	Reclassify from secondary to divided collector	The amendment was conditionally approved by the Board. Waiting for documentation confirming completion of CEQA and general plan change.	11/9/2020
7	Irvine	Red Hill Avenue	MacArthur Boulevard	Main Street	Reclassify from major to primary	The amendment was conditionally approved by the Board. Waiting for documentation confirming completion of CEQA and general plan change.	4/10/2023
8	Fullerton	Associated Road	Bastanchury Road	Imperial Highway	Reclassify from a secondary to a collector	The amendment was conditionally approved by the Board. Waiting for documentation confirming completion of CEQA and general plan change.	4/10/2023
9	County	Villa Park Road	Hewes Street	Cannon Street	Reclassify from a major to a asymmetric primary	The amendment was conditionally approved by the Board. Waiting for documentation confirming completion of CEQA and general plan change.	9/9/2024
10	County	Santiago Canyon Road	SR-241	Live Oak Canyon Road	Reclassify	The amendment was conditionally approved by the Board. Waiting for documentation confirming completion of CEQA and general plan change.	9/9/2024
11	County	El Toro Road	Live Oak Canyon Road	Portola Parkway	Reclassify	The amendment was conditionally approved by the Board. Waiting for documentation confirming completion of CEQA and general plan change.	9/9/2024
12	County	Black Star Canyon Road	Road	Orange County/Riverside County Line	Delete	The amendment was conditionally approved by the Board. Waiting for documentation confirming completion of CEQA and general plan change.	9/9/2024
13	County	Bucker Way	Ranch Canyon Road	Coyotes Road	Reclassify	The amendment was conditionally approved by the Board. Waiting for documentation confirming completion of CEQA and general plan change.	9/9/2024
14	County	Ranch Canyon Road	Bucker Way	Cow Camp Road	Reclassify	The amendment was conditionally approved by the Board. Waiting for documentation confirming completion of CEQA and general plan change.	9/9/2024
15	Fullerton	Harbor Boulevard	Bastanchury Road	Berkeley Avenue	Reclassify	The amendment was conditionally approved by the Board. Waiting for documentation confirming completion of CEQA and general plan change.	9/9/2024

# Status Report on Pending Master Plan of Arterial Highways Amendments

#	City	Street	From	То	Type of Amendment	Status	Board Approval Date
16	Laguna Hills	Paseo De Valencia	Alicia Parkway	Cabot Road	Reclassify	The amendment was conditionally approved by the Board. Waiting for documentation confirming completion of CEQA and general plan change.	9/9/2024
17	Laguna Hills	Cabot Road	Paseo De Valencia	El Paseo	Reclassify	The amendment was conditionally approved by the Board. Waiting for documentation confirming completion of CEQA and general plan change.	9/9/2024
18	Irvine	Yale Avenue	University Drive	Michelson Drive	Reclassify	Amendment will be presented to the Board for consideration 4/14/2025.	
19	Costa Mesa	Merrimac Way	Fairview Road	Harbor Boulevard	Reclassify	Amendment will be presented to the Board for consideration 4/14/2025.	
20	Stanton	Orangewood Avenue	Santa Rosalia Street	Eastern city boundary	Reclassify	Amendment will be presented to the Board for consideration 4/14/2025.	
21	Anaheim	Weir Canyon Road	Blue Sky Road	SR-241	Delete	Amendment will be presented to the Board for consideration 4/14/2025.	
MOU	Costa Mesa/ Fountain Valley/ Huntington Beach	Garfield Avenue/ Gisler Avenue Crossing over the Santa Ana River		Santa Ana River Eastbank	Delete	MOU close out and an associated amendment will be presented to the Board for consideration 4/14/2025.	

Board - Board of Directors

CEQA – California Environmental Quality Act

MOU – Memorandum of understanding

MPAH – Master Plan of Arterial Highways

OCTA - Orange County Transportation Authority

SR-241 – State Route 241





# **April 14, 2025**

**To:** Members of the Board of Directors

From: Andrea West, Clerk of the Board will Will

Subject: Low Carbon Transit Operations Program Recommendations for

**OC Bus Transit Projects** 

## Transit Committee Meeting of April 10, 2025

Present: Directors Amezcua, Jung, Leon, Janet Nguyen, Tam T. Nguyen,

and Sarmiento

Absent: Director Klopfenstein

#### **Committee Vote**

This item was passed by the Members present.

Director Leon was not present to vote on this item.

### Committee Recommendation(s)

A. Approve Resolution No. 2025-015 to authorize the use of \$10,144,185 in fiscal year 2024-25 Low Carbon Transit Operations Program funds for the Youth Ride Free Program.

- B. Authorize staff to request the California Department of Transportation to approve a Letter of No Prejudice for use of local funds until the Low Carbon Transit Operations Program funds are awarded, currently expected to be December 1, 2025.
- C. Authorize staff to make all necessary amendments to the Federal Transportation Improvement Program as well as negotiate and execute any necessary agreements and/or amendments to agreements with regional, state, or federal agencies to facilitate the recommendations above.



# April 10, 2025

**To:** Transit Committee

From: Darrell E. Johnson, Chief Executive Officer

**Subject:** Low Carbon Transit Operations Program Recommendations for

**OC Bus Transit Projects** 

#### Overview

The Low Carbon Transit Operations Program provides funding to transit agencies on a formula basis to support transit operations and capital projects that promote transit ridership and reduce greenhouse gas emissions. Funding recommendations for the Orange County Transportation Authority fiscal year 2024-25 are presented for Board of Directors' consideration.

### Recommendations

- A. Approve Resolution No. 2025-015 to authorize the use of \$10,144,185 in fiscal year 2024-25 Low Carbon Transit Operations Program funds for the Youth Ride Free Program.
- B. Authorize staff to request the California Department of Transportation to approve a Letter of No Prejudice for use of local funds until the Low Carbon Transit Operations Program funds are awarded, currently expected to be December 1, 2025.
- C. Authorize staff to make all necessary amendments to the Federal Transportation Improvement Program as well as negotiate and execute any necessary agreements and/or amendments to agreements with regional, state, or federal agencies to facilitate the recommendations above.

# Background

The California Department of Transportation (Caltrans) Low Carbon Transit Operations Program (LCTOP) provides funds to transit agencies on a formula basis to support expanded or new transit operations and capital projects that reduce greenhouse gas emissions, improve mobility, and prioritize disadvantaged communities. The revenues for this program are generated through the California Climate Investments Program, commonly referred to as

Cap and Trade. On February 13, 2025, the State Controller's Office notified all eligible transit operators that the fiscal year (FY) 2024-25 LCTOP will make \$202,270,719 available statewide.

The Orange County Transportation Authority's (OCTA) share is \$10,144,185. This amount includes an allocation of approximately \$33,915, for the City of Laguna Beach. OCTA will utilize these funds and provide the City of Laguna Beach a commensurate amount of local funds to allow them to use less restrictive local funds in place of the LCTOP funds. Eligible projects must be submitted for consideration by Caltrans and the California Air Resources Board (CARB) and are expected to be approved by December 1, 2025.

Consistent with OCTA's Capital Programming Policies, LCTOP funds are primarily to be used for transit operations, capital projects that support bus transit expansion, and fare reduction programs to enhance transit availability and accessibility. LCTOP funds from previous funding cycles have been used for transit fare subsidy programs, bicycle racks on buses, bus purchases, a hydrogen fueling station, and the expansion of bus and commuter rail operations.

#### **Discussion**

The Youth Ride Free Program was launched in September 2021 with the goal to increase youth ridership and encourage future use of the OC Bus system. Through January 2025, ridership using the Youth Ride Free pass exceeded 10.6 million rides with more than 55,000 unique riders using the pass by the 2023-24 school year. On February 14, 2022, the OCTA Board of Directors (Board) approved continuing the program, authorized adding the pass to the schedule of fares and directed staff to pursue the use of LCTOP funds for the program.

Building on OCTA's prior fare programs investments, staff proposes to use \$10,144,185 in FY 2024-25 LCTOP funding to support the continuation of the Youth Ride Free Program. It is estimated this new funding will support approximately 30 months of the program from April 1, 2025 through September 30, 2027. The recommended project includes \$300,000 to provide all Youth Ride Free Program participants with new passes for the new Rider Validation System which plans to start July 2025. A more detailed description for the project is provided in Attachment A.

With Board approval, staff will also request a Letter of No Prejudice as part of the allocation request. Previously allocated LCTOP funds, FY 2023-24, are estimated to fund the Youth Ride Free Program until the end of March 2025. Since FY 2024-25 LCTOP awards are not expected to be released until December 2025, local funds will need to be expended from April 1, 2025, until the award date. Following Caltrans' approval of the Letter of No Prejudice and

Caltrans and CARB's approval of the project, OCTA will be able to use the LCTOP allocation to reimburse the local funds.

Consistent with Caltrans' LCTOP guidelines, the Board is requested to adopt a resolution that authorizes the use of funds towards the Youth Ride Free Program and the request for a Letter of No Prejudice (Attachment B).

# Next Steps

With Board approval, staff will submit the Board resolution to direct the use of up to \$10,144,185 in FY 2024-25 LCTOP to the Youth Ride Free Program and also submit a request for approval of a Letter of No Prejudice. The use of LCTOP funds is subject to approval by both Caltrans and CARB.

# Summary

Board approval is requested for the use of LCTOP funds to continue supporting the Youth Ride Free Program, for staff to submit a request for a Letter of No Prejudice, and to approve the use of local funds as needed for the Youth Ride Free Program until LCTOP funds are available. Board authorization is also requested to amend the Federal Transportation Improvement Program and to negotiate and execute agreements and/or amendments, as appropriate.

#### **Attachments**

- A. Orange County Transportation Authority Low Carbon Transit Operations Program – Project Descriptions
- B. Resolution No. 2025-015, Authorization for the Execution of the Certifications and Assurances, and Authorized Agent Forms for the Low Carbon Transit Operations Program, and for the Execution of the Low Carbon Transit Operations Program Projects

Prepared by:

Jason Huang

Transportation Funding Analyst

(714) 560-5982

Approved by:

Rose Casey,

Executive Director, Planning

(714) 560-5741

# Orange County Transportation Authority Low Carbon Transit Operations Program – Project Descriptions

# Youth Ride Free Program

OC Bus 360°, the Orange County Transportation Authority's (OCTA) comprehensive plan to improve bus service from all angles, identifies youth as a key audience for bus service growth. Beginning in September 2021, OCTA began offering subsidized youth passes to youth aged 18 and under allowing them to ride the OC Bus system for free. The free transit service allows this transit-dependent group to reach destinations such as home, schools, parks, and other recreation centers at no cost and trains youth to use the bus system in the future.

Fiscal year (FY) 2019-20 Low Carbon Transit Operations Program (LCTOP) Age Based Fare Program (19-20-D12-160) funded a six-month promotional Youth Ride Free Program. The OCTA Board of Directors approved an extension on February 14, 2022, and revised the fare structure to add the Youth Ride Free pass to allow all youth 18 and under to ride free.

Since FY 2021-22, an estimated amount of \$11.88 million has been invested into the Youth Ride Free Program. This prior year LCTOP funding is expected to fund the program through the end of March 2025.

The FY 2024-25 LCTOP funding is expected to fund an additional 30 months. The FY 2024-25 LCTOP funds will include the \$300,000 cost for the distribution of new passes for OCTA's new Rider Validation System which will plan to start in July 2025.

1

#### **RESOLUTION NO. 2025-015**

AUTHORIZATION FOR THE EXECUTION OF THE CERTIFICATIONS AND ASSURANCES, AND AUTHORIZED AGENT FORMS FOR THE LOW CARBON TRANSIT OPERATIONS PROGRAM, AND FOR THE EXECUTION OF THE LOW CARBON TRANSIT OPERATIONS PROGRAM PROJECTS

# \$10,144,185 IN FISCAL YEAR (FY) 2024-25 FUNDS FOR THE YOUTH RIDE FREE PROGRAM

WHEREAS, the Orange County Transportation Authority (OCTA) is an eligible project sponsor and may receive state funding from the Low Carbon Transit Operations Program (LCTOP) for transit projects; and

**WHEREAS**, the statutes related to state-funded transit projects require a local or regional implementing agency to abide by various regulations; and

WHEREAS, SB 862 (Chapter 36, Statutes of 2014) named the California Department of Transportation (Caltrans) as the administrative agency for the LCTOP; and

WHEREAS, Caltrans has developed guidelines for the purpose of administering and distributing LCTOP funds to eligible project sponsors (local agencies); and

WHEREAS, OCTA wishes to delegate authorization to execute these documents, the authorized agent form and any amendments thereto or other related documents to Darrell E. Johnson, Chief Executive Officer (CEO); and

**WHEREAS**, OCTA wishes to implement the LCTOP project listed above;

**NOW, THEREFORE, BE IT RESOLVED** by the OCTA Board of Directors (Board) that the fund recipient agrees to comply with all applicable conditions and requirements set forth in the Certification and Assurances and the authorized agent documents and applicable statutes, regulations, and guidelines for all LCTOP-funded transit projects;

**NOW THEREFORE, BE IT FURTHER RESOLVED** that Darrell E. Johnson, CEO, or his designee, be authorized to execute all required documents of the LCTOP and any amendments thereto with Caltrans;

**NOW, THEREFORE, BE IT FURTHER RESOLVED** that the OCTA Board hereby authorizes the submittal of the following project nominations and allocation requests to Caltrans in FY 2024-25 LCTOP funds:

1

Project Name: Youth Ride Free Program

Amount of LCTOP funds requested: FY 2024-25 LCTOP funding at \$10,144,185

Short Description of Project:

# Youth Ride Free Program

The Youth Ride Free Program allows youth aged 18 and under to ride OC Bus free of charge. The service will allow this transit-dependent group to reach destinations such as homes, schools and parks at no cost. The program has been supported with prior LCTOP funds and interest. In addition, the FY 2024-25 LCTOP funds are expected to fund an estimated 30 months of the program as well as approximately \$300,000 for providing all youth with new passes for the new Rider Validation System.

Benefit to Priority Populations: The project will benefit disadvantaged communities (DAC). OCTA provides service to 95 DAC tracts with 564,264 residents. The project will also benefit low-income communities. OCTA provides service to 662 low-income communities block groups with 1,120,092 residents. Finally, the program will benefit low-income communities or households within one-half mile of a DAC. OCTA provides service to 450 low-income block groups within one-half mile of a DAC with 791,631 residents. The project will reduce greenhouse gas emissions in these communities, improving health for the residents in these impacted communities. The project will also provide clean transportation options in these communities allowing these transit dependent groups to reach destinations such as home, schools, parks, and other recreation centers. In addition, residents in these SB 535 (Chapter 830, Statutes of 2012) communities are more transit dependent and represent a higher proportion of OC Bus riders.

Amount to benefit Priority Populations: At least 50 percent of the allocation will be used to benefit DAC.

Contributing Sponsors (if applicable): City of Lagu	una Beach is providing \$33,915.
ADOPTED, SIGNED AND APPROVED this	_ day of April 2025.
AYES:	
NOES:	
ABSENT:	
ATTEST:	
Andrea West Clerk of the Board	Doug Chaffee, Chair Orange County Transportation Authority

OCTA Resolution No. 2025-015





# **April 14, 2025**

**To:** Members of the Board of Directors

**From:** Andrea West, Clerk of the Board

**Subject:** Transit Field Supervision, Internal Audit Report No. 25-508

Finance and Administration Committee Meeting of March 26, 2025

Present: Directors Federico, Harper, Hennessey, and Leon

Absent: Directors Carroll, Sarmiento, and Tettemer

## **Committee Vote**

This item was passed by the Members present.

# **Committee Recommendation(s)**

Receive and file Transit Field Supervision, Internal Audit Report No. 25-508, as an information item.



# March 26, 2025

**To:** Finance and Administration Committee

**From:** Darrell E. Johnson, Chief Executive Officer

Janet Sutter, Executive Director

Internal Audit

**Subject:** Transit Field Supervision, Internal Audit Report 25-508

#### Overview

The Internal Audit Department of the Orange County Transportation Authority has completed an audit of transit field supervision. Based on the audit, field supervision activities are effectively performed and recorded, and in accordance with guidelines and standards set by management.

#### Recommendation

Receive and file Transit Field Supervision, Internal Audit Report No. 25-508, as an information item.

#### Background

Field supervision is within the Operations Division of the Orange County Transportation Authority (OCTA). Field supervisors manage OCTA's on-street transit environment using real-time service management to ensure safe, courteous, and reliable service for all bus passengers. Field supervisors are the first responders to any accident, incident, or circumstance impacting bus operations. As such, they coordinate with other providers within and outside of OCTA to correctly identify, evaluate, and communicate conditions and situations affecting bus operations. Field supervisors provide support to coach operators to resolve customer issues in the field and respond to planned and unplanned detours. Field supervisors work 24 hours a day, seven days per week, including holidays, and rotate through all shifts on a quarterly basis aligning with pay periods.

Management communicates guidelines for handling various duties on a quarterly basis. Management also sets standards for performance of duties and evaluates field supervisors' performance against these standards.

## **Discussion**

Field supervisors are provided with the necessary tools, equipment, and guidelines to ensure timely and effective assistance in the field. Field supervisors observed were knowledgeable of requirements and provided professional and respectful assistance to both coach operators and customers.

# Summary

The Internal Audit Department has completed an audit of Transit Field Supervision.

## Attachment

A. Transit Field Supervision, Internal Audit Report No. 25-508

Prepared by:

Jonathan Thompson Internal Auditor (714) 560-5930 Approved by:

Janet Sutter

Executive Director, Internal Audit

(714) 560-5591

# ORANGE COUNTY TRANSPORTATION AUTHORITY INTERNAL AUDIT DEPARTMENT



# **Transit Field Supervision**

# **Internal Audit Report No. 25-508**

February 19, 2025



**Performed by** Jonathan Thompson, Internal Auditor *Jonathan Thompson* 

Janet Sutter, CIA, Executive Director

**Distributed to:** Johnny Dunning, Chief Operating Officer,

Damon Blythe, General Manager, Transit

Sergio Hernandez, Tim Beseau

# ORANGE COUNTY TRANSPORTATION AUTHORITY INTERNAL AUDIT DEPARTMENT

# Transit Field Supervision February 19, 2025

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# ORANGE COUNTY TRANSPORTATION AUTHORITY INTERNAL AUDIT DEPARTMENT

Transit Field Supervision February 19, 2025

#### Conclusion

The Internal Audit Department (Internal Audit) of the Orange County Transportation Authority (OCTA) has completed an audit of transit field supervision activities. Based on the audit, field supervision activities are effectively performed and recorded, and in accordance with guidelines and standards set by management.

# **Background**

Field supervision is within the Operations Division of OCTA. Field supervisors manage OCTA's on-street transit environment using real time service management to ensure safe, courteous, and reliable service for all bus passengers. Field supervisors are the first responders to any accident, incident, or circumstance impacting bus operations. As such, they coordinate with other providers within and outside of OCTA to correctly identify, evaluate, and communicate conditions and situations affecting bus operations. Field supervisors provide support to coach operators to resolve customer issues in the field and respond to planned and unplanned detours. Field supervisors work 24/7, including holidays, and rotate through all shifts on a quarterly basis aligning with pay periods.

Field supervisors are assigned a special service vehicle, currently 2020 Ford Explorer hybrids, to carry out their responsibilities. These vehicles are equipped with a radio for communication with OCTA dispatchers, a docking station for connection of their assigned laptop, various tools, safety equipment, and signage for responding to issues in the field. Field supervisors use the TopCar system to record the location and timing of their activities. Management communicates guidelines for handling various duties on a quarterly basis. Management also sets standards for performance of duties and evaluates field supervisors' performance annually against these standards.

Field supervisors perform a variety of duties, including managing service delivery by observing coach operator driving skills, bus speed, on-time pullout, schedule adherence, routing, running times, stops, and layovers, and provide coach operator mentoring, as appropriate. They also perform observations of transit centers for unsafe activities, unattended items, and/or damage or graffiti and initiate repairs and clean-up, as necessary. Field supervisors respond to reports of bus collisions and passenger falls and coordinate the filing of incident reports in the Origami risk management system. They also minimize disruption or loss of service by completing minor repairs in the field, such as securing loose panels, tightening mirrors, and repairing malfunctioning fareboxes.

# ORANGE COUNTY TRANSPORTATION AUTHORITY INTERNAL AUDIT DEPARTMENT

Transit Field Supervision February 19, 2025

# Objectives, Scope, and Methodology

The <u>objectives</u> were to evaluate and test the adequacy and performance of field supervision activities.

The <u>methodology</u> consisted of observations of field supervisor activities against documented performance and duty guidelines, as performed by five of 15 field supervisors, testing a haphazard sample of 50 entries from field supervisor daily activity logs against information on time and location per the global positioning system installed on the respective vehicles, testing a haphazard sample of 20 incidents requiring field supervisor response from the central communications dispatch system against supervisor activity logs, F-18 reports entered into the Origami risk management system for accuracy and timeliness of reporting, and confirming all quarterly communications from management outlining duty and performance guidelines.

The <u>scope</u> was limited to field supervision activities. The scope period for observations included dates in December 2024 and January 2025, and the scope period for all other tests was from December 1, 2022 to November 30, 2024. Since the samples selected were non-statistical, any conclusions are limited to the sample items tested.

We conducted this performance audit in accordance with Generally Accepted Government Auditing Standards. Those standards require that we plan and perform the audit to obtain sufficient, appropriate evidence to provide a reasonable basis for our findings and conclusions based on our audit objectives. We believe that the evidence obtained provides a reasonable basis for our findings and conclusions based on our audit objectives.

# ORANGE COUNTY TRANSPORTATION AUTHORITY INTERNAL AUDIT DEPARTMENT Transit Field Supervision February 19, 2025

# Audit Comment, Recommendation, and Management Response

# **Noteworthy Accomplishments**

Field supervisors are provided with the necessary tools, equipment, and guidelines to ensure timely and effective assistance in the field. Field supervisors observed were knowledgeable of requirements and provided professional and respectful assistance to both coach operators and customers.



#### April 14, 2025

**To:** Members of the Board of Directors

**From:** Darrell E. Johnson, Chief Executive Officer

**Subject:** Approval to Release Request for Proposals for Construction

Management Support Services for the Interstate 5 Improvement

Afth

Project Between Interstate 405 and Yale Avenue

#### Overview

The Orange County Transportation Authority has developed a request for proposals to initiate a competitive procurement process to retain a consultant to provide construction management support services for the Interstate 5 Improvement Project between Interstate 405 and Yale Avenue.

#### Recommendations

A. Approve the proposed evaluation criteria and weightings for Request for Proposals 5-3961 for the selection of a consultant to provide construction management support services for the Interstate 5 Improvement Project between Interstate 405 and Yale Avenue.

B. Approve the release of Request for Proposals 5-3961 to provide construction management support services for the Interstate 5 Improvement Project between Interstate 405 and Yale Avenue.

#### **Discussion**

The Orange County Transportation Authority (OCTA), in partnership with the California Department of Transportation (Caltrans), is implementing the Interstate 5 (I-5) Improvement Project between Interstate 405 and Yale Avenue (Project). The Project is part of Project B 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 November 2024.

The Project will add one general purpose lane in both the southbound and northbound directions on I-5 between Interstate 405 and Yale Avenue, re-establish auxiliary lanes, and improve the existing on- and off-ramps.

Final design for the Project is nearing completion with advertisement for construction bids targeted for late 2025. OCTA staff proposes using Caltrans for the advertising, award, and administration of the construction contract. However, OCTA will support Caltrans by providing consultant field staff through this procurement for roadway and structures inspection, an office engineer, scheduling, claims support, materials testing, environmental and paleontology monitoring, surveying, the resident engineer's office, and vehicles for field inspectors. As the implementing agency for the construction phase, Caltrans will provide the senior resident engineer, structures representative, and other field personnel, along with construction administrative support. A construction cooperative agreement with Caltrans will be executed prior to the Project moving into the construction phase.

#### **Procurement Approach**

OCTA's Board-approved procurement policies and procedures require that the Board approve all requests for proposals (RFP) over \$1,000,000, as well as approve the evaluation criteria and weightings. Staff is submitting for Board approval the draft RFP and evaluation criteria and weightings, which will be used to evaluate proposals received in response to the RFP. The recommended evaluation criteria and weightings are as follows:

•	Qualifications of the Firm	20 percent
•	Staffing and Project Organization	40 percent
•	Work Plan	40 percent

The evaluation criteria and weightings are consistent with criteria developed for similar architectural and engineering (A&E) procurements. Several factors were considered in developing the criteria and weightings. The firms' qualifications and experience in performing relevant work of similar scope, size, and complexity are important to the success of the Project. Staff proposes to give a high level of importance to staffing and project organization, as the qualifications of the project manager and other key task leaders are critical to understanding the project requirements and to the timely delivery and successful performance of the work. An equal level of importance is also assigned to the work plan, as the technical approach is critical to the successful performance and timely delivery of the Project. As this is an A&E procurement, price is not an evaluation criterion pursuant to state and federal laws.

The RFP will be released upon Board approval of these recommendations.

## Fiscal Impact

Funding for this Project is included in OCTA's Fiscal Year (FY) 2025-26 Budget and subsequent FY budgets, Capital Programs Division, Account No. 0017-9085-FB102-1OC, and will be funded with local M2 funds.

## Summary

Board of Directors' approval is requested to release Request Proposals 5-3961 for construction management support services the Interstate 5 Improvement Project between Interstate 405 and Yale Avenue, as well as approval of the proposed evaluation criteria and weightings.

#### Attachment

Draft Request for Proposals (RFP) 5-3961, Construction Management Α. Support Services for the Interstate 5 Improvement Project Between Interstate 405 and Yale Avenue

Prepared by:

Josue Vaglienty, P.E. Sr. Project Manager (714) 560-5852

Pia Veesaper

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

Approved by:

James G. Beil, P.E.

**Executive Director, Capital Programs** 

(714) 560-5646

**DRAFT REQUEST FOR PROPOSALS (RFP) 5-3961** 

# CONSTRUCTION MANAGEMENT SUPPORT SERVICES FOR THE INTERSTATE 5 IMPROVEMENT PROJECT BETWEEN INTERSTATE 405 AND YALE AVENUE



ORANGE COUNTY TRANSPORTATION AUTHORITY
550 South Main Street
P.O. Box 14184
Orange, CA 92863-1584
(714) 560-6282

#### **Key RFP Dates**

Issue Date: April 14, 2025

Pre-Proposal Conference Date: April 22, 2025

Question Submittal Date: April 28, 2025

Proposal Submittal Date: May 12, 2025

Interview Date: June 30, 2025

Last Rev: 1/14/2025

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### NOTICE OF REQUEST FOR PROPOSALS

(RFP): 5-3961: "CONSTRUCTION MANAGEMENT SUPPORT SERVICES FOR THE INTERSTATE 5 IMPROVEMENT PROJECT BETWEEN INTERSTATE 405 AND YALE AVENUE"

TO: ALL OFFERORS

FROM: ORANGE COUNTY TRANSPORTATION AUTHORITY

The Orange County Transportation Authority (Authority) invites proposals from qualified consultants to provide construction management support services for the Interstate 5 Improvement Project between Interstate 405 and Yale Avenue.

Please note that by submitting a Proposal, Offeror certifies that it is not subject to any Ukraine/Russia-related economic sanctions imposed by the State of California or the United States Government including, but not limited to, Presidential Executive Order Nos. 13660, 13661, 13662, 13685, and 14065. Any individual or entity that is the subject of any Ukraine/Russia-related economic sanction is not eligible to submit a Proposal. In submitting a Proposal, all Offerors agree to comply with all economic sanctions imposed by the State or U.S. Government.

#### **PROHIBITION**

The following restrictions apply to this procurement:

The prime consultant firm, including all subconsultants (at any tier) awarded this contract to perform construction management support services for the Interstate 5 Improvement Project between Interstate 405 and Yale Avenue will be ineligible to participate (at any tier) in the contract for construction services for the Interstate 5 Improvement Project between Interstate 405 and Yale Avenue.

The firm, including all subcontractors (at any tier), regardless of the level of service provided by said subcontractor(s), awarded the design services contract for the Interstate 5 Improvement Project between Interstate 405 and Yale Avenue, may not submit a proposal for this procurement.

The firm, including all subcontractors (at any tier), regardless of the level of service provided by said subcontractor(s), awarded the program management consultant services for the Authority's Highway Programs, may not submit a proposal for this procurement.

Furthermore, Offeror(s) are advised that the evaluation of the team composition with regards to the conflicts of interest will be done on a case-by-case basis.

The Authority has made the following documents available on CAMM NET for review:

 100% PS&E Submittals – Department of Transportation Project Plans for Construction on State Highway in Orange County in Irvine from Route 5/405 Separation to Yale Avenue Overcrossing

Proposals must be submitted, electronically, through the following URL link: <a href="http://www.octa.net/Proposal Upload Link">http://www.octa.net/Proposal Upload Link</a>, at or before the deadline of 2:00 p.m. on May 12, 2025. The link has an upload file size limit of 80MB. Authority will not accept hard copy proposals for this RFP.

Offerors are instructed to click the upload link, select "RFP 5-3961" from the drop-down menu, and follow the instructions as prompted to upload the proposal. The upload link will expire at the submittal deadline and will not allow proposals to be uploaded.

Should Offerors encounter technical issues with uploading the proposals via the link provided, Offerors are required to contact the Contract Administrator prior to the submission deadline. Proposals and supplemental information to proposals received after the date and time specified above will be rejected.

Firms interested in obtaining a copy of this Request for Proposals (RFP) may do so by downloading the RFP from CAMM NET at <a href="https://cammnet.octa.net">https://cammnet.octa.net</a>.

All firms interested in doing business with the Authority are required to register their business on-line at CAMM NET. The website can be found at <a href="https://cammnet.octa.net">https://cammnet.octa.net</a>. From the site menu click on CAMM NET to register.

To receive all further information regarding this RFP 5-3961, firms and subconsultants must be registered on CAMM NET with at least one of the following commodity codes for this solicitation selected as part of the vendor's on-line registration profile:

Category:	Commodity:
Construction	Construction Management
	Services
	Inspection Services
Professional Consulting	Consultant Services - General
	Environmental Consulting
	Traffic Planning Consulting
Professional Services	Engineering - Civil
	Engineering - Environmental
	Engineering - General
	Inspection - Testing & Analysis
	Land Surveying

A pre-proposal conference will be held via teleconference on April 22, 2025, at 09:00 a.m.. Prospective Offerors may join or call-in using the following credentials:

- Click here to join meeting
- OR Call-in Number: +1 916-550-9867
- Conference ID: 929 967 239#

An on-site/in-person conference will be held on April 22, 2025, at 9:00 a.m., at the Authority's Administrative Offices, 500 South Main Street, Orange, California, in Conference Room 08. A copy of the presentation slides and pre-proposal conference registration sheet(s) will be issued via addendum prior to the date of the pre-proposal conference. All prospective Offerors are encouraged to attend the pre-proposal conference.

The Authority has established June 30, 2025, as the date to conduct interviews. All prospective Offerors will be asked to keep this date available.

Certain labor categories under this project are subject to prevailing wages as identified in the State of California Labor Code commencing in Section 1770 et. Seq. It is required that all mechanics and laborers employed or working at the site be paid not less than the basic hourly rates of pay and fringe benefits as shown in the current minimum wage schedules. Offerors must use the current wage schedules applicable at the time the work is in progress.

Offerors are encouraged to subcontract with small businesses to the maximum extent possible.

All Offerors will be required to comply with all applicable equal opportunity laws and regulations.

The award of this contract is subject to receipt of federal, state and/or local funds adequate to carry out the provisions of the proposed agreement including the identified Scope of Work.

The prime consultants and all subconsultants awarded a contract as a result of this solicitation shall maintain an appropriate time-keeping system that identifies labor hours expended by project.

**SECTION I: INSTRUCTIONS TO OFFERORS** 

#### **SECTION I. INSTRUCTIONS TO OFFERORS**

#### A. PRE-PROPOSAL CONFERENCE

A pre-proposal conference will be held via teleconference on April 22, 2025, at 09:00 a.m.. Prospective Offerors may join or call-in using the following credentials:

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#### B. EXAMINATION OF PROPOSAL DOCUMENTS

By submitting a proposal, Offeror represents that it has thoroughly examined and become familiar with the work required under this RFP and that it is capable of performing quality work to achieve the Authority's objectives.

#### C. ADDENDA

The Authority reserves the right to revise the RFP documents. Any Authority changes to the requirements will be made by written addendum to this RFP. Any written addenda issued pertaining to this RFP shall be incorporated into the terms and conditions of any resulting Agreement. The Authority will not be bound to any modifications to or deviations from the requirements set forth in this RFP as the result of oral instructions. Offerors shall acknowledge receipt of addenda in their proposals. Failure to acknowledge receipt of Addenda may cause the proposal to be deemed non-responsive to this RFP and be rejected.

#### D. AUTHORITY CONTACT

All communication and/or contacts with AUTHORITY staff regarding this RFP are to be directed to the following Contract Administrator:

Michael Le, Senior Contract Administrator Contracts Administration and Materials Management Department 600 South Main Street P.O. Box 14184

Orange, CA 92863-1584

Phone: 714.560. 5314, Fax: 888.404.6282

Email: mle1@octa.net

Commencing on the date of the issuance of this RFP and continuing until award of the contract or cancellation of this RFP, no offeror, subcontractor, lobbyist or agent hired by the offeror shall have any contact or communications regarding this RFP with any AUTHORITY's staff; member of the evaluation committee for this RFP; or any contractor or consultant involved with the procurement, other than the Contract Administrator named above or unless expressly permitted by this RFP. Contact includes face-to-face, telephone, electronic mail (e-mail) or formal written communication. Any offeror, subcontractor, lobbyist or agent hired by the offeror that engages in such prohibited communications may result in disqualification of the offeror at the sole discretion of the AUTHORITY.

#### E. CLARIFICATIONS

#### 1. Examination of Documents

Should an Offeror require clarifications of this RFP, the Offeror shall notify the Authority in writing in accordance with Section D.2. below. Should it be found that the point in question is not clearly and fully set forth, the Authority will issue a written addendum clarifying the matter which will be sent to all firms registered on CAMM NET under the commodity codes specified in this RFP.

#### 2. Submitting Requests

- a. All questions, including questions that could not be specifically answered at the pre-proposal conference must be put in writing and must be received by the Authority no later than 5:00 p.m., on April 28, 2025.
- b. Requests for clarifications, questions and comments must be clearly labeled, "Written Questions". The Authority is not responsible for failure to respond to a request that has not been labeled as such.
- c. Any of the following methods of delivering written questions are acceptable as long as the questions are received no later than the

date and time specified above:

- (1) U.S. Mail: Orange County Transportation Authority, 550 South Main Street, P.O. Box 14184, Orange, California 92863-1584.
- (2) Personal Delivery: Contracts Administration and Materials Management Department, 600 South Main Street, Lobby Receptionist, Orange, California 92868.

(3) Facsimile: (888) 404-6282.

(4) Email: mle1@octa.net

#### 3. Authority Responses

Responses from the Authority will be posted on CAMM NET, no later than May 5, 2025. Offerors may download responses from CAMM NET at <a href="https://cammnet.octa.net">https://cammnet.octa.net</a>, or request responses be sent via email.

To receive email notification of Authority responses when they are posted on CAMM NET, firms and subconsultants must be registered on CAMM NET with at least one of the following commodity codes for this solicitation selected as part of the vendor's on-line registration profile:

Category:	Commodity:
Construction	Construction Management
	Services
	Inspection Services
Professional Consulting	Consultant Services - General
	Environmental Consulting
	Traffic Planning Consulting
Professional Services	Engineering - Civil
	Engineering - Environmental
	Engineering - General
	Inspection - Testing & Analysis
	Land Surveying

Inquiries received after 5:00 p.m. on April 28, 2025, will not be responded to.

#### F. SUBMISSION OF PROPOSALS

#### 1. Date and Time

Proposals must be submitted, electronically, through the following URL link: <a href="http://www.octa.net/Proposal Upload Link">http://www.octa.net/Proposal Upload Link</a>, at or before the deadline of 2:00 p.m. on May 12, 2025. The link has an upload file size limit of 80MB. Authority will not accept hard copy proposals for this RFP.

Offerors are instructed to click the upload link, select "RFP 5-3961" from the drop-down menu, and follow the instructions as prompted to upload the proposal. The upload link will expire at the submittal deadline and will not allow proposals to be uploaded.

Should Offerors encounter technical issues with uploading the proposals via the link provided, Offerors are required to contact the Contract Administrator prior to the submission deadline. Proposals and supplemental information to proposals received after the date and time specified above will be rejected.

#### 2. Acceptance of Proposals

- a. The Authority reserves the right to accept or reject any and all proposals, or any item or part thereof, or to waive any informalities or irregularities in proposals.
- b. The Authority reserves the right to withdraw or cancel this RFP at any time without prior notice and the Authority makes no representations that any contract will be awarded to any Offeror responding to this RFP.
- c. The Authority reserves the right to issue a new RFP for the project.
- d. The Authority reserves the right to postpone proposal openings for its own convenience.
- e. Each proposal will be received with the understanding that acceptance by the Authority of the proposal to provide the services described herein shall constitute a contract between the Offeror and Authority which shall bind the Offeror on its part to furnish and deliver at the prices given and in accordance with conditions of said accepted proposal and specifications.
- f. The Authority reserves the right to investigate the qualifications of any Offeror, and/or require additional evidence of qualifications to perform the work.
- g. Submitted proposals are not to be copyrighted.

#### G. PRE-CONTRACTUAL EXPENSES

The Authority shall not, in any event, be liable for any pre-contractual expenses incurred by Offeror in the preparation of its proposal. Offeror shall not include any such expenses as part of its proposal.

Pre-contractual expenses are defined as expenses incurred by Offeror in:

- 1. Preparing its proposal in response to this RFP;
- Submitting that proposal to the Authority;
- 3. Negotiating with the Authority any matter related to this proposal; or
- 4. Any other expenses incurred by Offeror prior to date of award, if any, of the Agreement.

#### H. JOINT OFFERS

Where two or more firms desire to submit a single proposal in response to this RFP, they should do so on a prime-subcontractor basis rather than as a joint venture. The Authority intends to contract with a single firm and not with multiple firms doing business as a joint venture.

#### I. TAXES

Offerors' proposals are subject to State and Local sales taxes. However, the Authority is exempt from the payment of Federal Excise and Transportation Taxes. Offeror is responsible for payment of all taxes for any goods, services, processes and operations incidental to or involved in the contract.

#### J. PROTEST PROCEDURES

The Authority has on file a set of written protest procedures applicable to this solicitation that may be obtained by contacting the Contract Administrator responsible for this procurement. Any protests filed by an Offeror in connection with this RFP must be submitted in accordance with the Authority's written procedures.

#### K. CONTRACT TYPE

It is anticipated that the Agreement resulting from this solicitation, if awarded, will be with fully burdened labor rates and anticipated expenses for work specified in the scope of work, included in the RFP as Exhibit A.

#### L. PREVAILING WAGES

Certain labor categories under this project are subject to prevailing wages as identified in the State of California Labor Code commencing in Section 1770 et.seq. The offeror to whom a contract for the work is awarded by the Authority shall comply with the provision of the California Labor Code, including, without

limitation, the obligation to pay the general prevailing rates of wages in the locality in which the work is to be performed in accordance with, without limitation, Sections 1773.1, 1774, 1775 and 1776 of the California Labor Code governing employment of apprentices. Copies of the prevailing rates of per diem wages are on file at the Authority's principal office at 550 S. Main Street, Orange, CA 92868 and are available to any interested party on request.

#### M. CONFLICT OF INTEREST

All Offerors responding to this RFP must avoid organizational conflicts of interest which would restrict full and open competition in this procurement. An organizational conflict of interest means that due to other activities, relationships or contracts, an Offeror is unable, or potentially unable to render impartial assistance or advice to the Authority; an Offeror's objectivity in performing the work identified in the Scope of Work is or might be otherwise impaired; or an Offeror has an unfair competitive advantage. Conflict of Interest issues must be fully disclosed in the Offeror's proposal.

All Offerors must disclose in their proposal and immediately throughout the course of the evaluation process if they have hired or retained an advocate to lobby AUTHORITY staff or the Board of Directors on their behalf.

Offerors hired to perform services for the AUTHORITY are prohibited from concurrently acting as an advocate for another firm who is competing for a contract with the AUTHORITY, either as a prime or subcontractor.

#### N. CODE OF CONDUCT

All Offerors agree to comply with the Authority's Code of Conduct as it relates to Third-Party contracts which is hereby referenced and by this reference is incorporated herein. All Offerors agree to include these requirements in all of its subcontracts.

#### O. OWNERSHIP OF RECORDS/PUBLIC RECORDS ACT

All proposals and documents submitted in response to this RFP shall become the property of the Authority and a matter of public record pursuant to the California Public Records Act, Government Code sections 7920.000 et seq. (the "Act"). Offerors should familiarize themselves with the provisions of the Act requiring disclosure of public information. Offerors are discouraged from marking their proposal documents as "confidential" or "proprietary."

If a Proposal does include "confidential" or "proprietary" markings and the Authority receives a request pursuant to the Act, the Authority will endeavor (but cannot guarantee) to notify the Offeror of such a request. In order to protect any information submitted within a Proposal, the Offeror must pursue, at its sole cost and expense, any and all appropriate legal action necessary to maintain the

confidentiality of such information. The Authority generally does not consider pricing information, subcontractor lists, or key personnel, including resumes, as being exempt from disclosure under the Act. In no event shall the Authority or any of its officers, directors, employees, agents, representatives, or consultants be liable to a Offeror for the disclosure of any materials or information submitted in response to the RFP or by failing to notify a Offeror of a request seeking its Proposal. The Authority reserves the right to make an independent decision to disclose records and material.

Notwithstanding the above, all information regarding proposal responses will be held as confidential until such time as the evaluation has been completed; an award has been made by the Board of Directors or Authority Staff, as appropriate; and the contract has been fully negotiated.

#### P. STATEMENT OF ECONOMIC INTERESTS

The awarded Offeror (including designated employees and subconsultants) may be required to file Statements of Economic Interests (Form 700) in accordance with the Political Reform Act (Government Code section 81000 et seq.). This applies to individuals who make, participate in making, or act in a staff capacity for making governmental decisions. The Authority determines which individuals are required to file a Form 700, and if such determination is made, the individuals must file Form 700s with the Authority's Clerk of the Board no later than 30 days after the execution of the Agreement, annually thereafter for the duration of the Agreement, and within 30 days of termination of the Agreement.

#### Q. PROHIBITION

The following restrictions apply to this procurement:

The prime consultant firm, including all subconsultants (at any tier) awarded this contract to perform construction management support services for the Interstate 5 Improvement Project between Interstate 405 and Yale Avenue will be ineligible to participate (at any tier) in the contract for construction services for the Interstate 5 Improvement Project between Interstate 405 and Yale Avenue.

The firm, including all subcontractors (at any tier), regardless of the level of service provided by said subcontractor(s), awarded the design services contract for the Interstate 5 Improvement Project between between Interstate 405 and Yale Avenue, may not submit a proposal for this procurement.

The firm, including all subcontractors (at any tier), regardless of the level of service provided by said subcontractor(s), awarded the program management consultant services for the Authority's Highway Programs, may not submit a proposal for this procurement.

Furthermore, Offeror(s) are advised that the evaluation of the team composition with regards to the conflicts of interest will be done on a case-by-case basis.

**SECTION II: PROPOSAL CONTENT** 

#### **SECTION II. PROPOSAL CONTENT**

#### A. PROPOSAL FORMAT AND CONTENT

#### 1. Format

Proposals should be typed with a standard 12-point font, double-spaced, and submitted in 8 1/2" x 11" format. Charts and schedules may be included in 11" x 17" format. Proposals should not include any unnecessarily elaborate or promotional materials. Proposals should not exceed fifty (50) pages in length, excluding any appendices, cover letters, resumes, or forms.

#### 2. Letter of Transmittal

The Letter of Transmittal shall be addressed to Michael Le, Senior Contract Administrator and must, at a minimum, contain the following:

- a. Identification of Offeror that will have contractual responsibility with the Authority. Identification shall include legal name of company, corporate address, telephone and fax number, and email address. Include name, title, address, email address and telephone number of the contact person identified during period of proposal evaluation.
- b. Identification of all proposed subcontractors including legal name of company, whether the firm is a Disadvantaged Business Enterprise (DBE), contact person's name and address, phone number and fax number, and email address; relationship between Offeror and subcontractors, if applicable.
- c. Acknowledgement of receipt of all RFP addenda, if any.
- d. A statement to the effect that the proposal shall remain valid for a period of not less than 180 days from the date of submittal.
- e. Signature of a person authorized to bind Offeror to the terms of the proposal.
- f. Signed statement attesting that all information submitted with the proposal is true and correct.

#### 3. Technical Proposal

a. Qualifications, Related Experience and References of Offeror

This section of the proposal should establish the ability of Offeror to satisfactorily perform the required work by reasons of: experience in

performing work of a similar nature; demonstrated competence in the services to be provided; strength and stability of the firm; staffing capability; work load; record of meeting schedules on similar projects; and supportive client references.

#### Offeror to:

- (1) Provide a brief profile of the firm, including the types of services offered; the year founded; form of the organization (corporation, partnership, sole proprietorship); number, size and location of offices; and number of employees.
- (2) Provide a general description of the firm's financial condition and identify any conditions (e.g., bankruptcy, pending litigation, planned office closures, impending merger) that may impede Offeror's ability to complete the project.
- (3) Describe the firm's experience in performing work of a similar nature to that solicited in this RFP, and highlight the participation in such work by the key personnel proposed for assignment to this project.
- (4) Identify subcontractors by company name, address, contact person, telephone number, email, and project function. Describe Offeror's experience working with each subcontractor.
- (5) Identify all firms hired or retained to provide lobbying or advocating services on behalf of the Offeror by company name, address, contact person, telephone number and email address. This information is required to be provided by the Offeror immediately during the evaluation process, if a lobbyist or advocate is hired or retained.
- (6) Provide as a minimum three (3) references for the projects cited as related experience, and furnish the name, title, address, telephone number, and email address of the person(s) at the client organization who is most knowledgeable about the work performed. Offeror may also supply references from other work not cited in this section as related experience.
- b. Proposed Staffing and Project Organization

This section of the proposal should establish the method, which will be used by the Offeror to manage the project as well as identify key personnel assigned.

#### Offeror to:

- (1) Identify key personnel proposed to perform the work in the specified tasks and include major areas of subcontract work. Include the person's name, current location, proposed position for this project, current assignment, level of commitment to that assignment, availability for this assignment and how long each person has been with the firm.
- (2) Furnish brief resumes (not more than two [2] pages each) for the proposed Project Manager and other key personnel that includes education, experience, and applicable professional credentials.
- (3) Indicate adequacy of labor resources utilizing a table projecting the resource allocation to the project by individual task.
- (4) Include a project organization chart, which clearly delineates communication/reporting relationships among the project staff.
- (5) Include a statement that key personnel will be available to the extent proposed for the duration of the project acknowledging that no person designated as "key" to the project shall be removed or replaced without the prior written concurrence of the Authority.

#### c. Work Plan

Offeror should provide a narrative, which addresses the Scope of Work, and shows Offeror's understanding of Authority's needs and requirements.

#### Offeror to:

- (1) Describe the approach to completing the tasks specified in the Scope of Work. The approach to the work plan shall be of such detail to demonstrate the Offeror's ability to accomplish the project objectives and overall schedule.
- (2) Outline sequentially the activities that would be undertaken in completing the tasks and specify who would perform them.
- (3) Furnish a project schedule for completing the tasks in terms of elapsed weeks.
- (4) Identify methods that Offeror will use to ensure quality control as well as budget and schedule control for the project.

- (5) Identify any special issues or problems that are likely to be encountered in this project and how the Offeror would propose to address them.
- (6) Offeror is encouraged to propose enhancements or procedural or technical innovations to the Scope of Work that do not materially deviate from the objectives or required content of the project.

#### d. Exceptions/Deviations

State any technical and/or contractual exceptions and/or deviations from the requirements of this RFP, including the Authority"s technical requirements and contractual terms and conditions set forth in the Scope of Work (Exhibit A) and Proposed Agreement (Exhibit B), using the form entitled "Proposal Exceptions and/or Deviations" included in this RFP. This Proposal Exceptions and/or Deviations form must be included in the original proposal submitted by the Offeror. If no technical or contractual exceptions and/or deviations are submitted as part of the original proposal, Offerors are deemed to have accepted the Authorit's technical requirements and contractual terms and conditions set forth in the Scope of Work (Exhibit A) and Proposed Agreement (Exhibit B). Offerors will not be allowed to submit the Proposal Exceptions and/or Deviations form or any technical and/or contractual exceptions after the proposal submittal date identified in the RFP. Exceptions and/or deviations submitted after the proposal submittal date will not be reviewed by Authority.

All exceptions and/or deviations will be reviewed by the Authority and will be assigned a "pass" or "fail" status. Exceptions and deviations that "pass" do not mean that the Authority has accepted the change but that it is a potential negotiable issue. Exceptions and deviations that receive a "fail" status means that the requested change is not something that the Authority would consider a potential negotiable issue. Offerors that receive a "fail" status on their exceptions and/or deviations will be notified by the Authority and will be allowed to retract the exception and/or deviation and continue in the evaluation process. Any exceptions and/or deviation that receive a "fail" status and the Offeror cannot or does not retract the requested change may result in the firm being eliminated from further evaluation.

#### 4. Cost and Price Proposal

Offerors are asked to submit only the technical qualifications as requested in the RFP. No cost proposal or work hours are to be included in this phase of the RFP process. Upon completion of the initial evaluations and interviews, if conducted, the highest ranked Offeror will be asked to submit a detailed cost proposal and negotiations will commence based on both the cost and technical proposals.

# 5. Appendices

Information considered by Offeror to be pertinent to this project and which has not been specifically solicited in any of the aforementioned sections may be placed in a separate appendix section. Offerors are cautioned, however, that this does not constitute an invitation to submit large amounts of extraneous materials. Appendices should be relevant and brief.

#### B. FORMS

### 1. Campaign Contribution Disclosure Form

In conformance with the statutory requirements of the State of California Government Code Section 84308, part of the Political Reform Act and Title 2, California Code of Regulations 18438 through 18438.8, regarding campaign contributions to members of appointed Board of Directors, Offeror is required to complete and sign the Campaign Contribution Disclosure Form provided in this RFP and submit as part of the proposal.

This form **must** be completed regardless of whether a campaign contribution has been made or not and regardless of the amount of the contribution.

The prime contractor, subconsultants, lobbyists and agents are required to report all campaign contributions made from the proposal submittal date up to and until the Board of Directors makes a selection.

Offeror is required to submit only **one** copy of the completed form(s) as part of its proposal and it must be included in only the **original** proposal.

Offeror is required to report any campaign contributions made by the prime contractor, subconsultants, lobbyists and agents after the proposal submittal date, and up to the anticipated Board of Directors selection. The offeror shall use the campaign contribution form for any additional reporting. The forms must be submitted at least 15 calendar days prior to the Board Committee date on Regional Transportation Committee and sent via e-mail to the Contract Administrator.

#### 2. Status of Past and Present Contracts Form

Offeror shall complete and sign the form entitled "Status of Past and Present Contracts" provided in this RFP and submit as part of its proposal. Offeror shall identify the status of past and present contracts where the firm has either provided services as a prime vendor or a subcontractor during the past five (5) years in which the contract has been the subject of or may be involved in litigation with the contracting authority. This includes, but is not limited to, claims, settlement agreements, arbitrations, administrative proceedings, and investigations arising out of the contract. Offeror shall have an ongoing obligation to update the Authority with any changes to the identified contracts and any new litigation, claims, settlement agreements, arbitrations, administrative proceedings, or investigations that arise subsequent to the submission of Offeror's proposal.

A separate form must be completed for each identified contract. Each form must be signed by the Offeror confirming that the information provided is true and accurate. Offeror is required to submit one copy of the completed form(s) as part of its proposals and it should be included in only the original proposal.

## 3. Proposal Exceptions and/or Deviations Form

Offerors shall complete the form entitled "Proposal Exceptions and/or Deviations" provided in this RFP and submit it as part of the original proposal. For each exception and/or deviation, a new form should be used, identifying the exception and/or deviation and the rationale for requesting the change. Exceptions and/or deviations submitted after the proposal submittal date will not be reviewed nor considered by the Authority.

SECTION III: EVALUATION AND AWARD

#### SECTION III. EVALUATION AND AWARD

#### A. EVALUATION CRITERIA

The Authority will evaluate the offers received based on the following criteria:

#### 1. Qualifications of the Firm

20%

Technical experience in performing work of a closely similar nature; strength and stability of the firm; strength, stability, experience and technical competence of subcontractors; assessment by client references.

#### 2. Staffing and Project Organization

40%

Qualifications of project staff, particularly key personnel and especially the Project Manager; key personnel's level of involvement in performing related work cited in "Qualifications of the Firm" section; logic of project organization; adequacy of labor commitment; concurrence in the restrictions on changes in key personnel.

3. Work Plan 40%

Depth of Offeror's understanding of Authority's requirements and overall quality of work plan; logic, clarity and specificity of work plan; appropriateness of resource allocation among the tasks; reasonableness of proposed schedule; utility of suggested technical or procedural innovations.

#### B. EVALUATION PROCEDURE

An evaluation committee will be appointed to review all proposals received for this RFP. The committee is comprised of Authority staff and may include outside personnel. The committee members will evaluate the written proposals using criteria identified in Section III A. A list of top ranked proposals, firms within a competitive range, will be developed based upon the totals of each committee members' score for each proposal.

During the evaluation period, the Authority may interview some or all of the proposing firms. The Authority has established June 30, 2025, as the date to conduct interviews. All prospective Offerors are asked to keep this date available. No other interview dates will be provided, therefore, if an Offeror is unable to attend the interview on this date, its proposal may be eliminated from further discussion. The interview may consist of a short presentation by the Offeror after which the evaluation committee will ask questions related to the firm's proposal and qualifications.

At the conclusion of the proposal evaluations, the evaluation committee will score the proposals to develop a competitive range. Offerors remaining within the competitive range may be asked to submit a Best and Final Offer (BAFO). In the BAFO request, the firms may be asked to provide additional information, confirm or clarify issues and submit a final cost/price offer. A deadline for submission will be stipulated.

At the conclusion of the evaluation process, the evaluation committee will recommend to the Regional Transportation Planning (RTP) Committee, the Offeror with the highest final ranking or a short list of top ranked firms within the competitive range whose proposal(s) is most advantageous to the Authority. The RTP Committee will review the evaluation committee's recommendation and forward its recommendation to the Board of Directors for final action.

#### C. AWARD

The Authority's Board of Directors will consider the selection of the firm(s) recommended by the RTP Committee.

The Authority may also negotiate contract terms with the selected Offeror prior to award, and expressly reserves the right to negotiate with several Offerors simultaneously and, thereafter, to award a contract to the Offeror offering the most favorable terms to the Authority.

Offeror acknowledges that the Authority's Board of Directors reserves the right to award this contract in its sole and absolute discretion to any Offeror to this RFP regardless of the evaluation committee's recommendation or recommendation of the RTP Committee.

The Authority reserves the right to award its total requirements to one Offeror or to apportion those requirements among several Offerors as the Authority may deem to be in its best interest. In addition, negotiations may or may not be conducted with Offerors; therefore, the proposal submitted should contain Offeror's most favorable terms and conditions, since the selection and award may be made without discussion with any Offeror.

The selected Offeror will be required to submit to the Authority's Accounting Department a current IRS W-9 Form prior to commencing work.

#### D. NOTIFICATION OF AWARD AND DEBRIEFING

Offerors who submit a proposal in response to this RFP shall be notified via CAMM NET of the contract award. Such notification shall be made within three (3) business days of the date the contract is awarded.

Offerors who were not awarded the contract may obtain a debriefing concerning the strengths and weaknesses of their proposal. Unsuccessful Offerors, who wish to be debriefed, must request the debriefing in writing or electronic mail and the Authority must receive it within three (3) business days of notification of the contract award.

**EXHIBIT A: SCOPE OF WORK** 

# **Exhibit A**

# CONSTRUCTION MANAGEMENT SUPPORT SERVICES FOR THE

INTERSTATE 5 (I-5) IMPROVEMENT PROJECT

**BETWEEN** 

**Interstate 405 and Yale Avenue** 

**SCOPE OF WORK** 

#### PROJECT DESCRIPTION

#### 1.1 Introduction

The Orange County Transportation Authority (OCTA) and California Department of Transportation (Caltrans) require construction management support services for construction of the Interstate 5 (I-5) Improvement Project, between Interstate 405 and Yale Avenue.

#### 1.2 Statement of Intent

CONSULTANT shall provide qualified personnel to perform the function of construction inspection (including roadway and structures), CPM scheduler, claims support, Office Engineer, materials testing, surveying, and plant inspection. These services shall include inspection services, field/office contract administration, and other services as determined necessary by the OCTA Project Manager. Caltrans will lead the construction management and administration of the construction contract and will provide the Senior Resident Engineer (RE), Structural Representative, additional inspection services as needed and other functional support services necessary to administer the construction contract. CONSULTANT inspection personnel shall be assigned full time or part time as needed and shall provide assistance to, and work under the direction of the Caltrans Senior R.E. CONSULTANT shall also provide a fully equipped field office for all staff assigned to the project including Caltrans, OCTA, and CONSULTANT'S own staff.

#### LIMITATION ON GOVERNMENTAL DECISIONS

Nothing contained in this scope of work permits CONSULTANT'S personnel to authorize or direct any actions, votes, appoint any person, obligate, or commit AUTHORITY to any course of action or enter into any contractual agreement on behalf of AUTHORITY. In addition, CONSULTANT's personnel shall not provide information, an opinion, or a recommendation for the purpose of affecting a decision without significant intervening substantive review by AUTHORITY personnel, counsel, and management.

#### 1.3 Project Description

#### 1.3-1 Background

Caltrans District 12, in cooperation with OCTA, proposes the construction of Interstate 5 Improvement Project, between Interstate 405 and Yale Avenue. The proposed project is located in Orange County on I-5 and traverses through the City of Irvine. The proposed project limits cover a distance of a 4.5 mile corridor. The Environmental Document and Project Report were approved on January 7, 2020.

The final design phase for this project is scheduled to be complete in mid-2025 and contract documents are being developed for the constructionbidding phase to occur in late-2025. The OCTA is expecting funding for the construction support and capital phase of the project from Measure M2 funds. As the implementing agency OCTA contracted with AECOM Technical Services to prepare the final design Plans, Specifications, and Estimates (PS&E) for this project. Caltrans provided oversight up to the completion of the PS&E phase. Caltrans will be the lead agency during the construction phase and will administer the contract for the construction phase.

#### 1.3-2 Location and Limits

The I-5 Improvement Project between Interstate 405 and Yale Avenue is located in the City of Irvine. The total length of this project is 4.5 miles.

#### 1.3-3 General Project Description

The I-5 Improvement Project, between Interstate 405 and Yale Avenue, will add an additional General Purpose lane in both directions on the freeway, reestablish auxiliary lanes on the freeway and realign on- and off-ramps throughout the corridor. The project construction will be in accordance with the Caltrans approved PS&E documents for project EA# 12-0K61U4.

# 1.4 Project Delivery

The design consultant, who prepared the PS&E, AECOM Technical Services will provide design support services during construction.

Caltrans will advertise, award, and administer the construction contract. Caltrans will provide the Senior Resident Engineer, Structures Representative and other support as outlined in Section 1.2 "Statement of Intent" above. CONSULTANT shall be responsible for coordinating with Caltrans, design team and other stakeholders as necessary.

OCTA is the lead agency for the right-of-way certification and utility relocation on the project. All utility and right of way issues during construction will be the responsibility of OCTA as defined in the cooperative agreement between Caltrans and OCTA.

#### 1.5 Project Schedule and Cost

Shown below are the Project Ready-To-List (RTL), construction award, construction completion date, and estimated cost for construction:

Ready-To-List

May 2025

Construction Award Construction Completion Construction Cost: December 2025 November 2029 \$202,000,000

#### **GENERAL CONDITIONS AND REQUIREMENTS**

## 2.1 Project General Conditions and Requirements

- 2.1-1 The number of project personnel and duration of the assignments will vary depending on the needs of the project. The final number of personnel and exact duration of assignment will be determined by OCTA and Caltrans. CONSULTANT personnel shall be available within two (2) weeks from written notification by OCTA and up to a maximum of 6 months after Caltrans acceptance of the construction project.
- **2.1-2** CONSULTANT shall assist in verifying compliance with the labor standards provisions of the project and the related wage determination decisions of the Secretary of Labor.
- 2.1-3 CONSULTANT shall assist Caltrans in verifying compliance with the safety and accident prevention provisions of the project. Caltrans shall retain jurisdictional control for traffic control but shall receive assistance from CONSULTANT forces in reviewing and monitoring.
- **2.1-4** CONSULTANT shall assist Caltrans in verifying compliance with the equal employment opportunity (EEOC) provisions of the project.
- **2.1-5** All services required hereunder shall be performed in accordance with latest Caltrans regulations, policies, procedures, manuals, and standards. Documents shall be made available upon request.
- **2.1-6** CONSULTANT shall furnish a Project Manager to coordinate the CONSULTANT's operations with Caltrans and OCTA. The Project Manager shall be responsible for all matters related to the CONSULTANT's contract, personnel and operations.
- **2.1.7** CONSULTANT's Project Manager shall be accessible to Caltrans and OCTA at all times during Caltrans' normal working hours.
- 2.1-8 CONSULTANT shall provide construction management support services to control quality and manage work. CONSULTANT shall perform the following administrative activities:
  - a. Prepare, circulate, and file correspondence and memos as appropriate.
  - b. At the end of each month, the CONSULTANT shall report the progress of the work. Progress shall be based on actual work accomplished such as estimated progress toward completion. The progress report shall include a staff labor report. Progress payments will be based upon actual time and expenses incurred.

- c. The CONSULTANT shall submit 1 copy of a monthly Progress Report to the OCTA and Caltrans Project Manager consisting of a written narrative and an updated progress and expenditure curve. This report shall be received no later than the 10th calendar day of the month. The narrative portion of the monthly Progress Report shall describe overall progress of the work, discuss significant problems and present proposed corrective action and show the status of major changes.
- 2.1-9 To ensure an understanding of contract objectives, meetings between Caltrans, OCTA, and the CONSULTANT will be held as often as deemed necessary. All work objectives, the work schedules, the terms of the contract, and any other related issues will be discussed and any problems will be resolved.
- **2.1-10** OCTA will designate a Project Manager to administer the CONSULTANT Agreement and provide general direction to the CONSULTANT.
- 2.1-11 Resumes of personnel must be submitted to OCTA for review and approval prior to assignment to a project. Caltrans, OCTA and CONSULTANT will have the responsibility of determining the quality and quantity of work performed by the CONSULTANT's personnel. If, at any time, the level of performance is below expectations, OCTA shall have the right to request removal of any project personnel. OCTA may request another person to be assigned as needed.
- **2.1-12** If a CONSULTANT's employee is on a leave of absence, the Project Manager shall provide an equally qualified replacement employee until the assigned employee returns to work. The replacement employee shall meet all the requirements of a permanently assigned employee.
- 2.1-13 The typical workday includes all hours worked by the Caltrans' construction contractor, normally 40 hours per week. If ordered by the RE, overtime for the CONSULTANT's employees may be required. The construction contractor's operations may be restricted to specific hours during the week, which shall become the normal workday for CONSULTANT's personnel. On days when the construction contractor, such as rainy or unsuitable weather days, does not perform work CONSULTANT services shall not be provided unless authorized by the RE. The RE will provide 8 hours advance notice if CONSULTANT services are not required.
- **2.1-14** All personnel shall be knowledgeable of, and comply with, all applicable local, Caltrans, and federal regulations; cooperate and consult with Caltrans and OCTA officials during the course of the contract; and perform other duties as may be required to assure that the construction is being performed in accordance with the project plans and specifications.

- **2.1-15** CONSULTANT shall keep detailed records and document the work as directed by the Caltrans RE.
- **2.1-16** Caltrans will furnish a representative to perform the usual functions of a Senior Resident Engineer. Caltrans Department of Structures will provide the Senior Bridge Representative.
- **2.1-17** Caltrans or OCTA will provide CONSULTANT with the following:
  - a. Caltrans construction forms and other policies and procedures to be followed by CONSULTANT's personnel in the performance of the work.
  - b. A set of approved project plans and special provisions for the project.

## **STATEMENT OF SERVICES**

# 3.1 Construction Inspection Services

#### 3.1-1 General

CONSULTANT will be required to provide:

- a. Inspection and administration personnel
- b. A fully equipped field office
- c. Miscellaneous equipment, vehicles, and tools.
- d. Materials testing lab facility

The number of CONSULTANT personnel shall be dependent upon the actual work scope. The anticipated category and approximate annual quantity of personnel required is (based on a construction duration of 850 working days and 1,758 hours/year):

	Personnel	Total Hours
Project Manager	0.25	1,477
<u>Deputy</u> Sr. RE / Principal Assistant	1.0	5,906
Inspector (Roadway)	5.0	29,532
Inspector (Structural)	2.5	14,766
Office Engineer	1.0	5,906
CPM Scheduler	0.25	1,477
Surveys	2.25	13,289
Claims Support	0.25	1,477
Field Materials Testing	1.0	5,906
<u>Total</u>	<u>13.5</u>	<u>79,735</u>

# 3.2 Construction Inspection and Administrative Support Services Requirements

Inspection work shall be performed when conditions (such as weather, traffic, and other factors) prevent a safe, efficient operation or as directed by Caltrans or AUTHORITY.

Assignments to be performed by CONSULTANT personnel may include, but are not limited to, the following:

- **3.2-1** Perform and assist in performing the duties of construction inspection and engineering including: paving and subgrade inspection, structures inspection, electrical inspection, drainage, signing and striping inspection, quantity calculations, checking grade and alignment, construction traffic control, and ensuring compliance with project plans and specifications.
- 3.2-2 Analyze the project plans and specifications for possible errors and deficiencies and report such findings to the RE. Identify actual and potential problems associated with the construction project and recommend sound engineering solutions to the RE. If the RE determines that changes are necessary, CONSULTANT's personnel shall assist in implementing and processing of "Change Orders" in accordance with Caltrans' Standard Specifications.
- **3.2-3** Adhere to all safety and health code and regulations and enforce applicable contract provisions for the protection of the public and project personnel. Prepare Assistant RE daily diaries in accordance with the Caltrans construction manual.
- **3.2-4** Prepare calculations, records, reports, and correspondence related to project activities.
- **3.2-5** Consultant to assist in the preparation of As-Built plans.
- **3.2-6** Assist in preparing claims reports and be available for any claims settlements meetings.
- **3.2-7** Perform and assist in review of contractor's CPM schedule and construction staging plans.
- **3.2-8** Assist in performing Storm Water Pollution Prevention (SWPP) duties.

#### 3.3 Inspection Standards

Construction inspection and contract administration shall be in accordance with:

- **3.3-1** The Manual of Traffic Controls for Construction and Maintenance Work Zones.
- **3.3-2** The Caltrans Standard Specifications and Standard Plans.
- **3.3-3** The project plans and special provisions.
- **3.3-4** The Caltrans Construction Manual and other applicable Caltrans manuals.
- **3.3-5** Caltrans and OCTA shall decide all questions which may arise as to the quality or acceptability of deliverables furnished and work performed for this contract.

#### 3.4 Construction Surveying Services

Surveying work shall not be performed when conditions (such as weather, traffic, and other factors) prevent a safe, efficient operation or as directed by the AUTHORITY.

Tasks and assignments to be performed by CONSULTANT personnel will generally include, but are not limited to, the following:

- 3.4-1 Construction Contract Documents. CONSULTANT shall perform all surveying that is required to be performed the AUTHORITY as described in the Construction Contract between the AUTHORITY and the Contractor. Other surveying and engineering calculations shall be performed as needed to administer and manage the PROJECT.
- 3.4-2 Survey Calculations and Adjustments. Survey calculations and adjustments shall be performed with established and computed coordinates based on the California Coordinate System. Cross Section Data Collection shall be performed by conventional and terrain line interpolation survey methods. Survey Data Formatting will include formatting topography, cross-section, and other survey data into computerized formats compatible with the Caltrans' computerized survey and design systems. Preparing and maintaining survey documents will include compiling and survey field notes, maps, drawing, and other survey documents. Monitoring for settlement shall be performed if required. GPS equipment shall be made available if required by AUTHORITY.
- **3.4-3** Existing Right of Way and Easements. CONSULTANT shall establish existing right of way and easements from Caltrans and other AUTHORITY's record information and existing monumentation. Right of Way related monumentation shall be renewed and restored in accordance with Section 10.4 of the Surveys Manual, and the Land Surveyor's Act. Corner records

and records of surveys shall be prepared and filed in accordance with Chapter 10 of the Caltrans Surveys Manual, and the Land Surveyors' Act. Perpetuating Existing Monumentation – Includes restoring, renewing, referencing, and resetting existing boundary-related monumentation, staking areas where construction disturbs the existing right of way and preparing and filing required maps and records.

- 3.4-4 New Right of Way and Easements. CONSULTANT shall establish new right of way and easements from plans, right of way maps, utility drawings, Caltrans and other AUTHORITY's record information and existing monumentation. Right of Way Surveys Includes research, locating and monumenting right of way and easement lines, staking right of way and easement fences and preparing and filing required maps and records. Final Monumentation Includes the setting of centerline points of control upon completion of construction. Special Design-Data Surveys Including drainage, utility, and those required for special field studies.
- **3.4-5** Control Survey. Horizontal and vertical controls, including project control surveys and aerial mapping control surveys. Also includes the restoring, renewing, referencing, relocating, and resetting existing control monumentation.
- **3.4-6** Topographic Surveys. By ground survey methods only.
- **3.4-7** As-built Drawing Survey Support. Provide electronic record information to support the development of project as-built drawings.
- 3.4-8 Survey Monument Markings. Monuments established by the CONSULTANT shall be marked by CONSULTANT with furnished disks, plugs, or tags acceptable to AUTHORITY and the municipality having jurisdiction over the improvements. In addition, the CONSULTANT shall identify CONSULTANT-established monuments by tagging or stamping the monuments with the license or registration number of the CONSULTANT's surveyor who is in "reasonable charge" of the work.
- **3.4-9** All surveys shall be performed in accordance with the current Caltrans Survey Manual, its revisions and the District 12 Standard Staking Procedures Manual. Work not covered by the Manual shall be performed in accordance with the directions of the AUTHORITY and accepted professional surveying standards.
- 3.4-10 Surveys performed by CONSULTANT shall conform to the requirements of the Land Surveyors' Act. In accordance with the Act, "responsible charge" for the work shall reside with a Licensed Land Surveyor or a pre-January 1, 1982, Registered Civil Engineer, in the state of California.

- **3.4-11** Unless otherwise specified in the survey request, control surveys shall conform to second-order (modified) accuracy standards as specified in the Caltrans Surveys Manual.
- **3.4-12** Additional standards for specific surveying work might be included in a special survey request by the AUTHORITY. Such standards supplement the standards specified herein. If such additional standards conflict with the standards specified herein, the survey request standard shall govern over the standards herein.

#### 3.5 Construction Management and Inspection Deliverables

CONSULTANT shall create and maintain the following documentation and provide the following deliverables:

- **3.5-1** Daily reports and extra-work diaries.
- **3.5-2** Monthly progress reports prepared by the CONSULTANT's project manager.
- **3.5-3** Construction contract progress payment and quantity documents delivered to the RE the morning of the day specified in the contract payment schedule.
- **3.5-4** Final payment quantity documents delivered to the RE by no later than 5 working days after acceptance by Caltrans of the completed construction project.
- **3.5-5** Field measurements, field, and laboratory test data and other documents as required by Caltrans procedures.
- **3.5-6** All reports, calculations, and other applicable documents prepared for the project.
- **3.5-7** All correspondence, records, and other PROJECT documents.

## 3.6 Field Office Requirements

CONSULTANT shall provide a fully equipped and operational field office. It is not anticipated right-of-way will be provided to provide temporary trailers as the field office.

- **3.6-1** The field office shall house all construction personnel assigned to the project. The construction staff includes: Caltrans personnel, CONSULTANT inspection personnel, and one office for the construction survey crew.
- 3.6-2 The field office shall have one desk and chair for every person assigned to the project, a desktop computer for CONSULTANT personnel only, internet access (T1 line), phones, fax machine, copy machine, full sized plotter, and conference table and chairs, and other normal office furniture, equipment, and utilities. CONSULTANT shall dispose of office furniture and equipment at project completion.
- **3.6-3** The field office shall also provide a common area (kitchen), bathrooms, field laboratory storage area, miscellaneous equipment storage area, and a large conference area for project meetings.

#### 3.7 Miscellaneous Equipment, Inspection Vehicles, and Tools

CONSULTANT shall provide all necessary instruments, tools, and safety equipment required for their personnel to perform their work accurately, efficiently, and safely.

- 3.7-1 CONSULTANT shall provide one inspection vehicle (truck) for each inspector. Vehicles without side windows shall not be used. Caltrans-furnished magnetic logos shall be affixed to each side of the vehicle at all times it is used for the work under this contract.
- **3.7-2** CONSULTANT shall provide other field materials such as testing equipment and safety equipment, as needed, for use by their staff on the project.
- **3.7-3** CONSULTANT shall provide each inspector with a cellular phone.

## 3.8 Personnel Qualifications and Responsibilities

The preferred minimum qualifications for CONSULTANT personnel assigned to this project are as follows:

#### **3.8-1** Project Manager

The preferred minimum qualifications for the position of Project Manager are:

- a) Minimum of 10 years project management experience on similar highway construction/bridge construction projects, or other relative equivalent experience as determined by OCTA.
- b) Thorough knowledge of Caltrans construction practices, and the ability to read and interpret plans and specifications.
- c) Ability to make effective decisions concerning field problems and work in progress.
- d) Licensed Civil Engineer in the State of California.
- e) Ability to use typical computer programs such as Microsoft Word, Outlook, Teams and Excel.

Under the direction of OCTA and Caltrans, the Project Manager will assume the following functional responsibilities:

- a) Review, monitor, train, and provide general direction for CONSULTANT's personnel.
- b) Assign personnel to projects on an as-needed basis.
- c) Administer personnel leave subject to approval of the Caltrans' RE.
- d) Prepare monthly reports for delivery to the OCTA Project Manager.
- e) Maintain continuous communication with the Caltrans' Resident Engineer, OCTA Project Manager, CONSULTANT field personnel, and with public outreach personnel.
- f) Coordinate/communicate with the OCTA Project manager, staffing needs, and ensure project support costs are within budget.
- g) Advise the OCTA Project Manager of major project issues, contract status and contract management, and any proposed personnel changes.
- h) Provide expert advice when called upon.

#### **3.8-2** Deputy Senior Resident Engineer / Principal Assistant

Minimum qualification is at least 5 years working as a Resident Engineer or Deputy Resident Engineer on Caltrans Highway improvement projects of similar size and complexity.

a) Act as the lead inspector and provide guidance to other CONSULTANT inspectors and staff in carrying out their day to day duties.

- b) Provide consultation on complex contract interpretation issues as called upon by the RE. Act as an advisor to the RE.
- c) Thorough knowledge of Caltrans construction practices.
- d) Ability to make effective decisions concerning field problems and work in progress.
- e) Licensed Civil Engineer in the State of California.
- f) Maintain continuous communication with the Caltrans Senior R.E., lead staff, OCTA Project Manager, field staff, public outreach personnel, and with construction administration staff.
- g) Provide expert advice when called upon.
- h) Ability to use typical computer programs such as Microsoft Word, Teams, Excel, Outlook, Scheduling software, and Expedition or equivalent.

## **3.8-3** Roadway Inspectors

Preferred minimum qualification for the position of roadway inspectors will be as follows:

- a) Minimum of 5 years of relevant construction inspection and management experience on similar highway construction projects.
- b) Knowledge of construction practices, physical characteristics and properties of highway construction inspection, and the approved methods and equipment used in performing physical inspections.
- c) Ability to work independently and perform inspection duties in the construction field office.
- d) Ability to effectively make minor decision concerning work in progress and solving field and office problems.
- e) Ability to use typical computer programs such as Microsoft Word, Teams, Outlook, and Excel.
- f) Ability and experience with review of Critical Path Method (CPM) baseline schedule including updates and revisions. Ability to run Claim Digger or other available software to detect changes to the CPM schedule for Claims analysis purposes.
- g) Assist in the response to potential claims filed by the contractor and preparation of documentation for contract claims and claim reports.

Under the direction of the Caltrans Senior RE the Roadway Inspector(s) will assume the following functional responsibilities:

- a) Perform inspections to achieve compliance with contract plans and specifications on all phases of Highway construction, such as paving, structures, grading, drainage, utility relocation, electrical installation, sign installation, and landscaping items.
- b) Perform quantity calculations for progress pay estimates and keep project records.

- c) Perform design for minor changes and make design estimates for contract change orders.
- d) Perform analytical calculations for items such as basic earthwork and grading, special staking procedures and redesigning facilities to fit existing field conditions.
- e) Perform analytical calculation for items such as basic earthwork and grading, special staking procedures and redesigning facilities to fit existing field conditions.
- f) Maintain continuous communication with the Caltrans' RE, OCTA Project Manager, Principal Assistant (Resident) Engineer, field personnel, public outreach personnel, and with construction administration staff.

#### 3.8-4 Structures Inspectors

Preferred minimum qualifications for the position of structures inspectors will be as follows:

- a) Minimum of 5 years of relevant construction inspection and management experience on similar construction projects involving bridges, retaining walls, sound walls, barriers, drainage structures, sign structures, and other structures.
- b) Knowledge of construction practices, physical characteristics and properties of structures construction inspection, and the approved methods and equipment used in performing physical inspection.
- c) Ability to perform calculations such as grade, deflection, stress, alignment. Ability to perform calculations to check the various elements of structures (i.e. beams, columns, etc.) as used in contractor's temporary works.
- d) Assist in reviewing false\_work plans, shoring plans, demolition plans, concrete mix designs and other submittals provided by the contractors as required by the contract documents.
- e) Ability to work independently and perform inspection duties in the construction field office.
- f) Ability to effectively make minor decisions concerning work in progress and solving field and office problems.
- g) Ability to use typical computer programs such as Microsoft Word, Teams, Outlook, Access, and Excel.

Under the direction of the Caltrans Senior Structures Representative, the Structures Inspectors will assume the following functional responsibilities:

a) In a field setting perform soil calculations, establish surveying control line and grade as required by established Office of Structures Construction (OSC) Practices & Procedures, ensure that the contractors materials are in compliance and as required by the contract documents, verify field dimensions. Must be present for concrete pours and assure that the

- concrete is cured properly. Oversee removal and placement of existing materials. Confer with contractors regarding compliance with plans, specifications, quality of work, construction activity, and CAL-OSHA regulations.
- b) Assist in identifying the need for Contract Change Orders (CCOs), preparation of CCOs, contract estimates and other documents, such as responses to contractor's claims, and reports and letters involved in the construction of engineering projects.
- c) Perform quantity calculations for progress pay estimates and keep project records.
- d) Maintain continuous communication with the Caltrans' RE, OCTA Project Manager, Principal Assistant (Resident) Engineer, field personnel, public outreach personnel, and with construction administration staff.

#### **3.8-5** Office Engineer

- a. Minimum of 5 years of relevant construction inspection and/or office engineering experience.
- b. Ability to work independently and perform typical construction field office duties.
- c. Thorough knowledge of Caltrans construction practices, and the ability to read and interpret plans and specifications.
- d. Thorough knowledge of the construction manual regarding estimates, extra work bidding, change orders, and other administrative duties.
- e. Maintain continuous communication with the Caltrans' RE, OCTA Project Manager, and Caltrans District Construction Administration.
- f. Ability to use typical computer programs such as Microsoft Word, Teams, Excel, Outlook, Scheduling software, and Expedition or equivalent.

Under direction of Caltrans' Senior RE, the office engineer will assume the following functional responsibilities:

- Perform quality calculations for progress pay estimates and keep for project records.
- b. Draft Change Orders and process for approval.
- c. Maintain continuous communications with the Caltrans' RE, OCTA Project Manager, construction administration staff, and the District Construction office.

## **3.8-6** Scheduling Support Specialist

Construction scheduling support CONSULTANT shall be knowledgeable and experienced in the following:

- a) Using Primavera Project Management Software (P6/P7), Primavera Project Planner (P3), SureTrack, Microsoft Project and Microsoft Office (Word, Excel, PowerPoint etc.) software.
- b) Generating, reviewing, and analyzing Critical Path Method (CPM) schedules with respect to time, resource, and cost. The CONSULTANT shall possess the experience and skills to track Contractor's submittals and CALTRANS submittals reviews, and in conjunction with schedule analysis, determine credits to State-owned Float activity for time saved on the critical path for early review of submittals. The CONSULTANT shall also possess the experience and skills to determine other savings to the critical path due to actions by CALTRANS.
- c) Monitoring and analyzing Contractor's performance of the work with respect to time, resource, and cost. Generating project correspondence, daily diaries, monthly contract item payments related to scheduling work, Weekly Statement of Working Days, reports, plots exhibits, other presentation materials and other items related to scheduling.
- d) Generating, reviewing and analyzing reports with respect to time, resource and cost.
- e) Generating, reviewing, and analyzing Time Impact Analyses.
- f) Providing specialized expertise for the support of review and analysis of potential claims.
- g) Negotiating issues related to construction scheduling.
- h) Conducting constructability reviews.
- i) Making presentations as needed. Providing training in areas related to scheduling.
- j) General construction process and terminology.
- k) Working knowledge of CALTRANS plans, specifications, and manuals (Standard Plans, Standard Specifications, Construction Manual etc.)
- I) Construction scheduling support CONSULTANT shall possess excellent oral and written communications skills.
- m) Minimum of 5 years' experience performing construction scheduling for highway, or major public works projects, performing related duties as described above.

#### **3.8-7** Claims Support

The construction claims support CONSULTANT shall be knowledgeable and experienced in the following:

- a) Using Primavera Project Management Software (P6/P7), Primavera Project Planner (P3), Suretrack, Microsoft Project, and Microsoft Office (Word, Excel, PowerPoint etc.) software.
- b) Generating and analyzing Critical Path Method (CPM) schedules with respect to time, resource, and cost. The CONSULTANT shall possess the experience and skills to conduct detailed schedule analysis.

- c) Have at least 5 years' experience with Claims analysis, responding to potential claims, preparing claims reports and presenting to the Dispute Review Boards or District Claims Board.
- d) Analyzing Time Impact Analyses.

#### 3.9 Field Material Testing

#### SOILS AND MATERIALS TESTING SERVICES

- **3.9-1** Materials sampling and testing shall be in accordance with the Project plans, technical specifications, standard specifications, and other applicable standards and procedures.
- 3.9-2 The contractor for the Project shall be responsible for providing Quality Assurance/Quality Control Soils and Materials Testing Services. CONSULTANT shall provide a certified laboratory to perform soils and materials testing services on an as needed basis in order to validate construction contractor test results.
- **3.9-3** The laboratory, whether temporary or permanent, is to be in the general vicinity of the project area and no more than 30 miles from the field office for the project.
- **3.9-4** Testing shall be performed in accordance with the California Test Methods and shall meet the latest requirement of ASTM.
- **3.9-5** Testing machines must be calibrated annually or more frequently by impartial means using devices of accuracy traceable to the National Bureau of Standards.
- **3.9-6** The laboratory shall participate in the AASHTO Materials Reference Laboratory (AMRL) or Cement or Concrete Reference Laboratory (CCRL) inspection programs as appropriate. Copies of applications, correspondence, reports, and corrective actions shall be provided to OCTA if requested.
- 3.9-7 The laboratory shall have a quality control plan and a quality assurance plan in effect during the entire time work is being performed under the contract. The plan shall include quality control, quality assurance, and equipment calibration programs for the laboratory.
- **3.9-8** The laboratory shall maintain an inventory of the testing equipment (listing the manufacturer, model serial number, calibration, and tolerances).
- **3.9-9** The laboratory shall maintain a laboratory procedure manual describing the methods used for recording, processing, and reporting data, the sources of references material, standards, and test methods.

- **3.9-10** CONSULTANT and the laboratory shall be responsible for all soils and materials testing performed for the project include source testing if required.
- **3.9-11** CONSULTANT shall perform concrete batch plant inspections.

# 3.10 Surveying

#### 3.10-1 Survey Field/Office Party Chief

Preferred minimum qualifications for Survey Field/Office Party Chief are as follows:

- 1) The Survey Field/Office Party Chief shall fulfill at least one of the three following licensing requirements:
  - a) A licensed Land Surveyor in the State of California.
  - b) A pre-January 1, 1982, Registered Civil Engineer in the State of California
  - c) An experienced surveyor who serves as chief under the direction or supervision of a person who is a licensed Land Surveyor or pre-January 1, 1982 Registered Civil Engineer in the state of California. This direction or supervision shall be provided in a manner and with a span of control and immediacy that enables the supervisor to be in "responsible charge" of the work as defined in Chapter 15 of the Business and Professions Code (the Land Surveyors Act) and Title 16, Chapter 5, of the California Administrative Code (regulations adopted by the Board of Registration for Professional Engineers and Land Surveyors).

The Survey Field/Office Party Chief shall also have:

- d) Five years survey experience on a similar construction projects, or other relevant experience.
- e) Thorough knowledge of construction survey practices and the ability to read and interpret plans and specifications.
- f) Ability to make effective decisions concerning field problems and work in progress.
- g) Familiarity with typical coordinate geometry computer programs.

## **3.10-2** Party Chief

Under the direction of the Caltrans Senior RE, the Party Chief will assume the following functional responsibilities and shall possess experience in all of these areas:

- 1. Perform survey services for all stages of construction as described in the Survey Services sections above.
- 2. Administer day to day activities of the survey party.
- 3. Perform analytical survey calculations for items such as grading, horizontal and vertical control, right of way and minor in-field design.
- 4. Maintain continuous communication with the RE, field personnel and construction administration staff when on site.
- 5. Shall be designated safety officer for the survey party field operations, and shall be trained in the principles of traffic control.

## 3.11 Inspection and Safety

In addition to the requirements specified elsewhere in this contract, the following also shall apply.

- **3.11-1** CONSULTANT shall conform to the safety provisions of the Caltrans Construction and Survey Manuals.
- **3.11-2** CONSULTANT's personnel shall wear white hard hats, safety orange vests and rubber-soled shoes at all times while working in the field.
- **3.11-3** CONSULTANT shall provide appropriate safety training for al CONSULTANT's personnel required to work on and near highways.
- **3.11-4** All safety equipment shall be provided by the CONSULTANT.

**EXHIBIT B: PROPOSED AGREEMENT** 

# PROPOSED AGREEMENT NO. C-5-3961

**EXHIBIT B** 

#### PROPOSED AGREEMENT NO. C-5-3961

#### **BETWEEN**

#### **ORANGE COUNTY TRANSPORTATION AUTHORITY**

#### AND

<del></del>		
THIS AGREEMENT is effective as of this day of, 2025		
"Effective Date"), by and between the Orange County Transportation Authority, 550 South Main Street,		
P.O. Box 14184, Orange, CA 92863-1584, a public corporation of the State of California (hereinafter		
referred to as "AUTHORITY"), and (hereinafter referred to as "CONSULTANT").		
WITNESSETH:		
WHEREAS, AUTHORITY requires assistance from CONSULTANT to provide construction		
management support services for the Interstate 5 Improvement project between Interstate 405 and Yale		

Avenue; and

WHEREAS, said work cannot be performed by the regular employees of AUTHORITY; and

WHEREAS, CONSULTANT has represented that it has the requisite personnel and experience,

WHEREAS, CONSULTANT wishes to perform these services; and

WHEREAS, the AUTHORITY's Board of Directors approved this Agreement on \_\_\_\_\_\_;

**NOW, THEREFORE**, it is mutually understood and agreed by AUTHORITY and CONSULTANT as follows:

#### **ARTICLE 1. COMPLETE AGREEMENT**

and is capable of performing such services; and

A. This Agreement, including all exhibits and documents incorporated herein and made applicable by reference, constitutes the complete and exclusive statement of the terms and conditions of the agreement between AUTHORITY and CONSULTANT and it supersedes all prior representations, understandings and communications. The invalidity in whole or in part of any term or condition of this Agreement shall not affect the validity of other terms or conditions.

Last Rev: 12/18/2024

 B. AUTHORITY's failure to insist in any one or more instances upon the performance of any terms or conditions of this Agreement shall not be construed as a waiver or relinquishment of AUTHORITY's right to such performance by CONSULTANT or to future performance of such terms or conditions and CONSULTANT obligation in respect thereto shall continue in full force and effect. Changes to any portion of this Agreement shall not be binding upon AUTHORITY except when specifically confirmed in writing by an authorized representative of AUTHORITY by way of a written Amendment to this Agreement and issued in accordance with the provisions of this Agreement.

# ARTICLE 2. AUTHORITY DESIGNEE

The Chief Executive Officer of AUTHORITY, or designee, shall have the authority to act for and exercise any of the rights of AUTHORITY as set forth in this Agreement.

## ARTICLE 3. SCOPE OF WORK

A. CONSULTANT shall perform the work necessary to complete in a manner satisfactory to AUTHORITY the services set forth in Exhibit A, entitled "Scope of Work," which is attached to and, by this reference, incorporated in and made a part of this Agreement. All services shall be provided at the times and places designated by AUTHORITY.

B. CONSULTANT shall provide the personnel listed below to perform the above-specified services, which persons are hereby designated as key personnel under this Agreement.

<u>Names</u>	<u>Functions</u>

C. No person named in paragraph B of this Article, or his/her successor approved by AUTHORITY, shall be removed or replaced by CONSULTANT, nor shall his/her agreed-upon function or level of commitment hereunder be changed, without the prior written consent of AUTHORITY. Should the services of any key person become no longer available to CONSULTANT, the resume and

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qualifications of the proposed replacement shall be submitted to AUTHORITY for approval as soon as possible, but in no event later than seven (7) calendar days prior to the departure of the incumbent key person, unless CONSULTANT is not provided with such notice by the departing employee. AUTHORITY shall respond to CONSULTANT within seven (7) calendar days following receipt of these qualifications concerning acceptance of the candidate for replacement.

#### **ARTICLE 4. TERM OF AGREEMENT**

This Agreement shall commence upon the effective date of this Agreement, and shall continue in full force and effect through \_\_\_\_\_\_, unless earlier terminated or extended as provided in this Agreement.

# ARTICLE 5. PAYMENT

- A. For CONSULTANT's full and complete performance of its obligations under this Agreement and subject to the maximum cumulative payment obligation provisions set forth in Article 6, AUTHORITY shall pay CONSULTANT on a Time and Expense basis in accordance with the following provisions.
- B. CONSULTANT shall invoice AUTHORITY on a monthly basis for payments corresponding to the work actually completed by CONSULTANT. Work completed shall be documented in a monthly progress report prepared by CONSULTANT, which shall accompany each invoice submitted by CONSULTANT. AUTHORITY shall pay CONSULTANT at the hourly labor rates specified in Exhibit B, entitled "Price Summary Sheet," which is attached to and by this reference, incorporated in and made a part of this Agreement. These rates shall remain fixed for the term of this Agreement and are acknowledged to include CONSULTANT's overhead costs, general costs, administrative costs and profit. CONSULTANT shall also furnish such other information as may be requested by AUTHORITY to substantiate the validity of an invoice. At its sole discretion, AUTHORITY may decline to make full payment until such time as CONSULTANT has documented to AUTHORITY'S satisfaction, that CONSULTANT has fully completed all work required. AUTHORITY's payment in full shall constitute AUTHORITY's final acceptance of CONSULTANT'S work.
  - C. As partial security against CONSULTANT's failure to satisfactorily fulfill all of its obligations

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under this Agreement, AUTHORITY shall retain ten percent (10%) of the amount of each invoice submitted for payment by CONSULTANT. All retained funds shall be released by AUTHORITY and shall be paid to CONSULTANT within sixty (60) calendar days of payment of final invoice, unless AUTHORITY elects to audit CONSULTANT's records in accordance with Article 16 of this Agreement. If AUTHORITY elects to audit, retained funds shall be paid to CONSULTANT within thirty (30) calendar days of completion of such audit in an amount reflecting any adjustment required by such audit. During the term of the Agreement, at its sole discretion, AUTHORITY reserves the right to release all or a portion of the retained amount based on CONSULTANT'S satisfactory completion of certain milestones. CONSULTANT shall invoice AUTHORITY for the release of the retention in accordance with ARTICLE 5.

- D. Invoices shall be submitted by CONSULTANT on a monthly basis and shall be submitted in duplicate to AUTHORITY's Accounts Payable office. CONSULTANT may also submit invoices electronically to AUTHORITY's Accounts Payable Department at <a href="mailto:vendorinvoices@octa.net">vendorinvoices@octa.net</a>. Each invoice shall be accompanied by the monthly progress report specified in paragraph B of this Article. AUTHORITY shall remit payment within thirty (30) calendar days of the receipt and approval of each invoice. Each invoice shall include the following information:
  - Agreement No. C-5-3961;
  - Specify the effort for which the payment is being requested;
  - 3. The time period covered by the invoice;
- 4. Labor (staff name, hours charged, hourly billing rate, current charges, and cumulative charges) performed during the billing period;
- 5. Total monthly invoice (including project-to-date cumulative invoice amount); and retention;
  - 6. Itemized expenses including support documentation incurred during the billing period;
  - 7. Monthly Progress Report;
  - 8. Certification signed by the CONSULTANT or his/her designated alternate that a) The

invoice is a true, complete and correct statement of reimbursable costs and progress; b) The backup information included with the invoice is true, complete and correct in all material respects; c) All payments due and owing to subcontractors and suppliers have been made; d) Timely payments will be made to subcontractors and suppliers from the proceeds of the payments covered by the certification and; e) The invoice does not include any amount which CONSULTANT intends to withhold or retain from a subcontractor or supplier unless so identified on the invoice.

- 9. Any other information as agreed or requested by AUTHORITY to substantiate the validity of an invoice including a current payroll register and or an offer of employment for personnel performing work under the classifications which are subject to pay ranges as listed in Exhibit B, "Schedule I- Hourly Range Schedule for Direct Labor by Classification" in order to receive reimbursement for hours worked. Reimbursement for labor hours incurred by personnel designated by a classification, shall be made after AUTHORITY's review of the actual personnel's pay register, and verification that the actual pay falls within the specified range for that classification. If an actual pay rate exceeds the maximum of the range, CONSULTANT will be reimbursed at the maximum of the range. At its sole discretion, AUTHORITY may decline to make full payment until such time as CONSULTANT has documented to AUTHORITY'S satisfaction, that CONSULTANT has fully completed all work required. AUTHORITY's payment in full for any work completed shall not constitute AUTHORITY's final acceptance of CONSULTANT'S work.
  - a) CONSULTANT agrees that billing for personnel under the Exhibit B "Schedule I- Hourly Range Schedule for Direct Labor by Classification" is to be used on a temporary basis, limited to a maximum period of six (6) continuous months for each personnel working under the "Hourly Range Schedule for Direct Labor by Classification". Personnel working or proposed to work on a continuous basis for a period of more than six (6) continuous months are not considered temporary and must be added as named personnel with a specific hourly billing rate.
  - b) CONSULTANT agrees that all personnel billing under all these labor schedules in

#### PROPOSED AGREEMENT NO. C-5-3961

#### **EXHIBIT B**

This is a maximum escalation rate that AUTHORITY will reimburse CONSULTANT for named personnel and classifications.

c) CONSULTANT agrees that personnel proposed to work and bill under any of the labor schedules in Exhibit B must be approved in writing by the AUTHORITY's Project

Exhibit B, are subject to the annual escalation rate allowable under this Agreement.

E. For classifications added to the Exhibit B, "Schedule I-Hourly Range Schedule for Direct Labor by Classification" through Amendments, raw billing ranges must be based on current year's actual salaries, and the corresponding fully burdened ranges must be provided by CONSULTANT.

#### **ARTICLE 6. MAXIMUM OBLIGATION**

Manager prior to start of work.

Notwithstanding any provisions of this Agreement to the contrary, AUTHORITY and CONSULTANT mutually agree that AUTHORITY's maximum cumulative payment obligation (including obligation for CONSULTANT's profit) shall be \_\_\_\_\_ Dollars (\$\_\_\_\_.00) which shall include all amounts payable to CONSULTANT for its subcontracts, leases, materials and costs arising from, or due to termination of, this Agreement.

#### **ARTICLE 7. NOTICES**

All notices hereunder and communications regarding the interpretation of the terms of this Agreement, or changes thereto, shall be effected by delivery of said notices in person or by depositing said notices in the U.S. mail, registered or certified mail, returned receipt requested, postage prepaid and addressed as follows:

To CONSULTANT:	To AUTHORITY:	
	Orange County Transportation Authority	
	550 South Main Street	
	P.O. Box 14184	
	Orange, CA 92863-1584	
ATTENTION:	ATTENTION:	Michael Le
Title:	Title:	Senior Contract Administrator
Phone:	Phone: (714) 560 - 5314	
Email:	Email: mle1@octa.net	
	CC: Josue Vaglienty	
	Senior Project Manager	
	Phone: (714) 560 - 5852	
	Email: jvaglienty@octa.net	

## **ARTICLE 8. INDEPENDENT CONTRACTOR**

A. CONSULTANT's relationship to AUTHORITY in the performance of this Agreement is that of an independent contractor. CONSULTANT's personnel performing services under this Agreement shall at all times be under CONSULTANT's exclusive direction and control and shall be employees of CONSULTANT and not employees of AUTHORITY. CONSULTANT shall pay all wages, salaries and other amounts due its employees in connection with this Agreement and shall be responsible for all reports and obligations respecting them, such as social security, income tax withholding, unemployment compensation, workers' compensation and similar matters.

B. Should CONSULTANT's personnel or a state or federal agency allege claims against AUTHORITY involving the status of AUTHORITY as employer, joint or otherwise, of said personnel, or allegations involving any other independent contractor misclassification issues, CONSULTANT shall defend and indemnify AUTHORITY in relation to any allegations made.

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#### **ARTICLE 9. INSURANCE**

- A. CONSULTANT shall procure and maintain insurance coverage in full force and effect during the entire term of the Agreement. Coverage shall be full coverage and not subject to self-insurance provisions. CONSULTANT shall provide the following insurance coverage:
- 1. Commercial General Liability, to include Products/Completed Operations, Independent Contractors', Contractual Liability, Advertising (if applicable to Scope of Work) and Personal Injury Liability, and Property Damage with a minimum limit of \$1,000,000 per occurrence, \$2,000,000 general aggregate and \$2,000,000 Products/Completed Operations aggregate;
- 2. Automobile Liability Insurance to include owned, hired and non-owned autos with a combined single limit of \$1,000,000 for each accident;
- 3. Workers' Compensation with limits as required by the State of California including a Waiver of Subrogation in favor of AUTHORITY, its officers, directors and employees; and
- 4. Employers' Liability with minimum limits of \$1,000,000 per accident, \$1,000,000 policy limit-disease, and \$1,000,000 policy limit employee-disease.
- 5. Professional Liability with minimum limits of \$1,000,000 only if the CONSULTANT is required by contract or law to be licensed or specially certified and AUTHORITY is relying on performance based on that specialty license or certification.
- B. Proof of such coverage, in the form of a certificate of insurance and an insurance policy blanket additional insured endorsement, designating the AUTHORITY, its officers, directors and employees as additional insureds on general liability and automobile liability, as required by Agreement. Proof of insurance coverage must be received by AUTHORITY within ten (10) calendar days from the effective date of the Agreement and prior to commencement of any work. Such insurance shall be primary and non-contributive to any insurance or self-insurance maintained by the AUTHORITY. Furthermore, AUTHORITY reserves the right to request certified copies or review all related insurance policies, in response to a related loss.

- C. CONSULTANT shall also include in each subcontract, the stipulation that subconsultants shall maintain insurance coverage in the amounts required of CONSULTANT as provided in the Agreement. Subconsultants will be required to include AUTHORITY as additional insureds on the Commercial General Liability, and Auto Liability insurance policies.
- D. Insurer must provide AUTHORITY with at least thirty (30) days' prior notice of cancellation or material modification of coverage, and ten (10) days' prior notice for non-payment of premium.
- E. CONSULTANT shall submit required insurance certificates to AUTHORITY's insurance tracking contractor, InsureTrack. CONSULTANT shall respond directly to InsureTrack's request for updated insurance certificates and other insurance-related matters by email to <a href="mailto:octa@instracking.com">octa@instracking.com</a>.
- F. CONSULTANT shall include on the face of the certificate of insurance, the following information:
- 1. The Agreement Number C-5-3961 and, the Contract Administrator's Name, Michael Le.
- 2. For Certificate Holder: The Orange County Transportation Authority, its officers, directors, employers and agents, c/o InsureTrack, P.O. Box 60840 Las Vegas, NV 89160.

# **ARTICLE 10. ORDER OF PRECEDENCE**

Conflicting provisions hereof, if any, shall prevail in the following descending order of precedence:

(1) the provisions of this Agreement, including all exhibits; (2) the provisions of RFP 5-3961; (3)

CONSULTANT's technical proposal dated \_\_\_\_\_\_, CONSULTANT's cost proposal dated \_\_\_\_\_\_, and final cost proposal dated \_\_\_\_\_\_, (4) all other documents, if any, cited herein or incorporated by reference.

# **ARTICLE 11. CHANGES**

A. By written notice or order, AUTHORITY may, from time to time, order work suspension and/or make changes in the general scope of this Agreement, including, but not limited to, the services furnished to AUTHORITY by CONSULTANT as described in the Scope of Work. If any such work suspension or change causes an increase or decrease in the price of this Agreement or in the time required for its performance, CONSULTANT shall promptly notify AUTHORITY thereof and assert its claim for

adjustment within ten (10) calendar days after the change or work suspension is ordered, and an equitable adjustment shall be negotiated. However, nothing in this clause shall excuse CONSULTANT from proceeding immediately with the Agreement as changed.

B. CONSULTANT shall only commence work covered by an amendment after the amendment is executed by AUTHORITY.

#### **ARTICLE 12. DISPUTES**

A. Except as otherwise provided in this Agreement, when a dispute arises between CONSULTANT and AUTHORITY, the project managers shall meet to resolve the issue. If project managers do not reach a resolution, the dispute will be decided by AUTHORITY's Director of Contracts Administration and Materials Management (CAMM), who shall reduce the decision to writing and mail or otherwise furnish a copy thereof to CONSULTANT. The decision of the Director, CAMM, shall be the final and conclusive administrative decision.

B. Pending final decision of a dispute hereunder, CONSULTANT shall proceed diligently with the performance of this Agreement and in accordance with the decision of AUTHORITY's Director, CAMM. Nothing in this Agreement, however, shall be construed as making final the decision of any AUTHORITY official or representative on a question of law, which questions shall be settled in accordance with the laws of the State of California.

#### <u>ARTICLE 13.</u> <u>TERMINATION</u>

A. AUTHORITY may terminate this Agreement for its convenience at any time, in whole or part, by giving CONSULTANT written notice thereof. Upon said notice, AUTHORITY shall pay CONSULTANT its allowable costs incurred to date of termination and those allowable costs determined by AUTHORITY to be reasonably necessary to effect such termination. Thereafter, CONSULTANT shall have no further claims against AUTHORITY under this Agreement.

B. In the event either Party defaults in the performance of any of their obligations under this Agreement or breaches any of the provisions of this Agreement, the non-defaulting Party shall have the option to terminate this Agreement upon thirty (30) days' prior written notice to the other Party. Upon

receipt of such notice, CONSULTANT shall immediately cease work, unless the notice from AUTHORITY provides otherwise. Upon receipt of the notice from AUTHORITY, CONSULTANT shall submit an invoice for work and/or services performed prior to the date of termination. AUTHORITY shall pay CONSULTANT for work and/or services satisfactorily provided to the date of termination in compliance with this Agreement. Thereafter, CONSULTANT shall have no further claims against AUTHORITY under this Agreement. AUTHORITY shall not be liable for any claim of lost profits or damages for such termination.

#### **ARTICLE 14. INDEMNIFICATION**

A. CONSULTANT shall indemnify, defend and hold harmless AUTHORITY, its officers, directors, employees and agents (indemnities) from and against any and all claims (including attorneys' fees and reasonable expenses for litigation or settlement) for any loss or damages, bodily injuries, including death, damage to or loss of use of property caused by the negligent acts, omissions or willful misconduct by CONSULTANT, its officers, directors, employees, agents, subconsultants or suppliers in connection with or arising out of the performance of this Agreement.

B. Notwithstanding the foregoing, to the extent that CONSULTANT'S duty to indemnify arises out of a claim to which Civil Code section 2782.8 would apply, CONSULTANT shall indemnify and defend the Indemnitees to the maximum extent permitted by Civil Code section 2782.8.

# ARTICLE 15. ASSIGNMENTS AND SUBCONTRACTS

A. Neither this Agreement nor any interest herein nor claim hereunder may be assigned by CONSULTANT either voluntarily or by operation of law, nor may all or any part of this Agreement be subcontracted by CONSULTANT, without the prior written consent of AUTHORITY. Consent by AUTHORITY shall not be deemed to relieve CONSULTANT of its obligations to comply fully with all terms and conditions of this Agreement.

B. AUTHORITY hereby consents to CONSULTANT's subcontracting of portions of the Scope of Work to the parties identified below for the functions described in CONSULTANT's proposal.

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CONSULTANT shall include in the subcontract agreement the stipulation that CONSULTANT, not AUTHORITY, is solely responsible for payment to the subcontractor for the amounts owing and that the subcontractor shall have no claim, and shall take no action, against AUTHORITY, its officers, directors, employees or sureties for nonpayment by CONSULTANT.

Subcontractor Name/Address	Subcontractor Amounts

#### ARTICLE 16. AUDIT AND INSPECTION OF RECORDS

CONSULTANT shall provide AUTHORITY, or other agents of AUTHORITY, such access to CONSULTANT's accounting books, records, work data, documents and facilities, as AUTHORITY deems necessary. CONSULTANT shall maintain such books, records, data and documents in accordance with generally accepted accounting principles and shall clearly identify and make such items readily accessible to such parties during CONSULTANT's performance hereunder and for a period of four (4) years from the date of final payment by AUTHORITY. AUTHORITY's right to audit books and records directly related to this Agreement shall also extend to all first-tier subcontractors identified in Article 15 of this Agreement. CONSULTANT shall permit any of the foregoing parties to reproduce documents by any means whatsoever or to copy excerpts and transcriptions as reasonably necessary.

# ARTICLE 17. FEDERAL, STATE AND LOCAL LAWS

CONSULTANT warrants that in the performance of this Agreement, it shall comply with all applicable federal, state and local laws, statutes and ordinances and all lawful orders, rules and regulations promulgated thereunder.

# ARTICLE 18. EQUAL EMPLOYMENT OPPORTUNITY

In connection with its performance under this Agreement, CONSULTANT shall not discriminate against any employee or applicant for employment because of race, religion, color, sex, age or national origin. CONSULTANT shall take affirmative action to ensure that applicants are employed, and that

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employees are treated during their employment, without regard to their race, religion, color, sex, age or national origin. Such actions shall include, but not be limited to, the following: employment, upgrading, demotion or transfer; recruitment or recruitment advertising; layoff or termination; rates of pay or other forms of compensation; and selection for training, including apprenticeship.

#### **ARTICLE 19. PROHIBITED INTERESTS**

CONSULTANT covenants that, for the term of this Agreement, no director, member, officer or employee of AUTHORITY during his/her tenure in office/employment or for one (1) year thereafter shall have any interest, direct or indirect, in this Agreement or the proceeds thereof.

# **ARTICLE 20. OWNERSHIP OF REPORTS AND DOCUMENTS**

A. The originals of all letters, documents, reports and other products and data produced under this Agreement shall be delivered to, and become the property of AUTHORITY. Copies may be made for CONSULTANT's records but shall not be furnished to others without written authorization from AUTHORITY. Such deliverables shall be deemed works made for hire and all rights in copyright therein shall be retained by AUTHORITY.

- B. All ideas, memoranda, specifications, plans, manufacturing, procedures, drawings, descriptions, and all other written information submitted to CONSULTANT in connection with the performance of this Agreement shall not, without prior written approval of AUTHORITY, be used for any purposes other than the performance for this project, nor be disclosed to an entity not connected with the performance of the project. CONSULTANT shall comply with AUTHORITY's policies regarding such material. Nothing furnished to CONSULTANT, which is otherwise known to CONSULTANT or becomes generally known to the related industry shall be deemed confidential. CONSULTANT shall not use AUTHORITY's name, photographs of the project, or any other publicity pertaining to the project in any professional publication, magazine, trade paper, newspaper, seminar or other medium without the express written consent of AUTHORITY.
- C. No copies, sketches, computer graphics or graphs, including graphic art work, are to be released by CONSULTANT to any other person or agency except after prior written approval by

A. In order to ensure the accuracy of the construction budget for the benefit of the public works

AUTHORITY, except as necessary for the performance of services under this Agreement. All press releases, including graphic display information to be published in newspapers, magazines, etc., are to be handled only by AUTHORITY unless otherwise agreed to by CONSULTANT and AUTHORITY.

#### **ARTICLE 21. PATENT AND COPYRIGHT INFRINGEMENT**

A. In lieu of any other warranty by AUTHORITY or CONSULTANT against patent or copyright infringement, statutory or otherwise, it is agreed that CONSULTANT shall defend at its expense any claim or suit against AUTHORITY on account of any allegation that any item furnished under this Agreement or the normal use or sale thereof arising out of the performance of this Agreement, infringes upon any presently existing U.S. letters patent or copyright and CONSULTANT shall pay all costs and damages finally awarded in any such suit or claim, provided that CONSULTANT is promptly notified in writing of the suit or claim and given authority, information and assistance at CONSULTANT's expense for the defense of same. However, CONSULTANT will not indemnify AUTHORITY if the suit or claim results from: (1) AUTHORITY's alteration of a deliverable, such that said deliverable in its altered form infringes upon any presently existing U.S. letters patent or copyright; or (2) the use of a deliverable in combination with other material not provided by CONSULTANT when such use in combination infringes upon an existing U.S. letters patent or copyright.

B. CONSULTANT shall have sole control of the defense of any such claim or suit and all negotiations for settlement thereof. CONSULTANT shall not be obligated to indemnify AUTHORITY under any settlement made without CONSULTANT's consent or in the event AUTHORITY fails to cooperate fully in the defense of any suit or claim, provided, however, that said defense shall be at CONSULTANT's expense. If the use or sale of said item is enjoined as a result of such suit or claim, CONSULTANT, at no expense to AUTHORITY, shall obtain for AUTHORITY the right to use and sell said item, or shall substitute an equivalent item acceptable to AUTHORITY and extend this patent and copyright indemnity thereto.

#### **ARTICLE 22. DESIGN WITHIN FUNDING LIMITATIONS**

bidders and AUTHORITY's budget process, CONSULTANT shall accomplish the design services required under this Agreement so as to permit the award of a contract, for the construction of the facilities designed at a price that does not exceed the estimated construction contract price as set forth by AUTHORITY. When bids or proposals for the construction contract are received that exceed the estimated price, CONSULTANT shall perform such redesign and other services as are necessary to permit contract award within the funding limitation. These additional services shall be performed at no increase in the price for which the services were specified. However, CONSULTANT shall not be required to perform such additional services at no cost to AUTHORITY if the unfavorable bids or proposals are the result of conditions beyond its reasonable control.

B. CONSULTANT will promptly advise AUTHORITY if it finds that the project being designed will exceed or is likely to exceed the funding limitations and it is unable to design a usable facility within these limitations. Upon receipt of such information, AUTHORITY will review CONSULTANT's revised estimate of construction cost. AUTHORITY may, if it determines that the estimated construction contract price is so low that award of a construction contract not in excess of such estimate is improbable, authorize a change in scope or materials as required to reduce the estimated construction cost to an amount within the estimated construction contract price set forth by AUTHORITY, or AUTHORITY may adjust such estimated construction contract price. When bids or proposals are not solicited or are unreasonably delayed, AUTHORITY shall prepare an estimate of constructing the design submitted and such estimate shall be used in lieu of bids or proposals to determine compliance within the funding limitation.

# **ARTICLE 23. REQUIREMENTS FOR REGISTRATION OF DESIGNERS**

All design and engineering work furnished by CONSULTANT shall be performed by or under the supervision of persons licensed to practice architecture, engineering or surveying (as applicable) in the State of California, by personnel who are careful, skilled, experienced and competent in their respective trades or professions, who are professionally qualified to perform the work in accordance with the contract documents and who shall assume professional responsibility for the accuracy and completeness of the design documents and construction documents prepared or checked by them.

#### **ARTICLE 24. FINISHED AND PRELIMINARY DATA**

A. All of CONSULTANT's finished technical data, including but not limited to illustrations, photographs, tapes, software, software design documents, including without limitation source code, binary code, all media, technical documentation and user documentation, photoprints and other graphic information required to be furnished under this Agreement, shall be AUTHORITY's property upon payment and shall be furnished with unlimited rights and, as such, shall be free from proprietary restriction except as elsewhere authorized in this Agreement. CONSULTANT further agrees that it shall have no interest or claim to such finished, AUTHORITY-owned, technical data; furthermore, said data is subject to the provisions of the Freedom of Information Act, 5 USC 552.

B. It is expressly understood that any title to preliminary technical data is not passed to AUTHORITY but is retained by CONSULTANT. Preliminary data includes roughs, visualizations, software design documents, layouts and comprehensives prepared by CONSULTANT solely for the purpose of demonstrating an idea or message for AUTHORITY's acceptance before approval is given for preparation of finished artwork. Preliminary data title and right thereto shall be made available to AUTHORITY if CONSULTANT causes AUTHORITY to exercise ARTICLE 11, and a price shall be negotiated for all preliminary data.

#### **ARTICLE 25. GENERAL WAGE RATES**

A. CONSULTANT warrants that all mechanics, laborers, journeypersons, workpersons, craftspersons or apprentices employed by CONSULTANT or subcontractor at any tier for any work hereunder, shall be paid unconditionally and not less often than once a week and without any subsequent deduction or rebate on any account (except such payroll deductions as are permitted or required by federal, state or local law, regulation or ordinance), the full amounts due at the time of payment, computed at a wage rate and per diem rate not less than the aggregate of the highest of the two basic hourly rates and rates of payments, contributions or costs for any fringe benefits contained in the current general prevailing wage rate(s) and per diem rate(s), established by the Director of the Department of Industrial Relations of the State of California, (as set forth in the Labor Code of the State of California, commencing

at Section 1770 et. seq.), or as established by the Secretary of Labor (as set forth in Davis-Bacon Act, 40 U.S.C. 267a, et. seq.), regardless of any contractual relationship which may be alleged to exist between CONSULTANT or subcontractor and their respective mechanics, laborers, journeypersons, workpersons, craftspersons or apprentices. Copies of the current General Prevailing Wage Determinations and Per Diem Rates are on file at AUTHORITY's offices and will be made available to CONSULTANT upon request. CONSULTANT shall post a copy thereof at each job site at which work hereunder is performed.

B. In addition to the foregoing, CONSULTANT agrees to comply with all other provisions of the Labor Code of the State of California, which is incorporated herein by reference, pertaining to workers performing work hereunder including, but not limited to, those provisions for work hours, payroll records and apprenticeship employment and regulation program. CONSULTANT agrees to insert or cause to be inserted the preceding clause in all subcontracts which provide for workers to perform work hereunder regardless of the subcontractor tier.

# ARTICLE 26. CONTRACTOR PURCHASED EQUIPMENT

A. If during the course of this Agreement, additional equipment is required, which will be paid for by the AUTHORITY, CONSULTANT must request prior written authorization from the AUTHORITY's project manager before making any purchase. As part of this purchase request, CONSULTANT shall provide a justification for the necessity of the equipment or supply and submit copies of three (3) competitive quotations. If competitive quotations are not obtained, CONSULTANT must provide the justification for the sole source.

- B. CONSULTANT shall maintain an inventory record for each piece of equipment purchased that will be paid for by the AUTHORITY. The inventory record shall include the date acquired, total cost, serial number, model identification, and any other information or description necessary to identify said equipment or supply. A copy of the inventory record shall be submitted to the AUTHORITY upon request.
- C. At the expiration or termination of this Agreement, CONSULTANT may keep the equipment and credit AUTHORITY in an amount equal to its fair market value. Fair market value shall be determined, at CONSULTANT's expense, on the basis of an independent appraisal. CONSULTANT may sell the

equipment at the best price obtainable and credit AUTHORITY in an amount equal to the sales price. If the equipment is to be sold, then the terms and conditions of the sale must be approved in advance by AUTHORITY's project manager.

D. Any subconsultant agreement entered into as a result of this Agreement shall contain all provisions of this clause.

# **ARTICLE 27.** CONFLICT OF INTEREST

- A. CONSULTANT agrees to avoid organizational conflicts of interest. An organizational conflict of interest means that due to other activities, relationships or contracts, the CONSULTANT is unable, or potentially unable to render impartial assistance or advice to the AUTHORITY; CONSULTANT's objectivity in performing the work identified in the Scope of Work is or might be otherwise impaired; or the CONSULTANT has an unfair competitive advantage. CONSULTANT is obligated to fully disclose to the AUTHORITY in writing Conflict of Interest issues as soon as they are known to the CONSULTANT. All disclosures must be submitted in writing to AUTHORITY pursuant to the Notice provision herein. This disclosure requirement is for the entire term of this Agreement.
- B. If the AUTHORITY determines that CONSULTANT, its employees, or subconsultants are subject to disclosure requirements under the Political Reform Act (Government Code section 81000 et seq.), CONSULTANT and its required employees and subconsultants shall complete and file Statements of Economic Interest (Form 700) with the AUTHORITY's Clerk of the Board disclosing all required financial interests.

#### **ARTICLE 28. CODE OF CONDUCT**

CONSULTANT agrees to comply with the AUTHORITY's Code of Conduct as it relates to Third-Party contracts which is hereby referenced and by this reference is incorporated herein. CONSULTANT agrees to include these requirements in all of its subcontracts.

# ARTICLE 29. PROHIBITION ON PROVIDING ADVOCACY SERVICES

CONSULTANT and all subconsultants performing work under this Agreement, shall be prohibited from concurrently representing or lobbying for any other party competing for a contract with

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AUTHORITY, either as a prime consultant or subconsultant. Failure to refrain from such representation may result in termination of this Agreement.

# **ARTICLE 30. HEALTH AND SAFETY REQUIREMENTS**

CONSULTANT shall comply with all the requirements set forth in Exhibit D, Level 2 Safety Specifications. As used therein, "Contractor" shall mean "Consultant," and "Subcontractor" shall mean "Sub-consultant."

# **ARTICLE 31. LIMITATION ON GOVERNMENTAL DECISIONS**

CONSULTANT shall not make, participate in making, or use its position to influence any governmental decisions as defined by the Political Reform Act, Government Code section 8100 et seq., and the implementing regulations in Title 2 of the California Code of Regulations section 18110 et seq. CONSULTANT's personnel performing services under this Agreement shall not authorize or direct any actions, votes, appoint any person, obligate, or commit AUTHORITY to any course of action or enter into any contractual agreement on behalf of AUTHORITY. In addition, CONSULTANT's personnel shall not provide information, an opinion, or a recommendation for the purpose of affecting a decision without significant intervening substantive review by AUTHORITY personnel, counsel, and management.

## **ARTICLE 32. PROHIBITION**

The prime consultant firm, including all subconsultants (at any tier) awarded this contract to perform construction management support services for the Interstate 5 Improvement Project between Interstate 405 and Yale Avenue will be ineligible to participate (at any tier) in the contract for construction services for the Interstate 5 Improvement Project between Interstate 405 and Yale Avenue.

# **ARTICLE 33. FORCE MAJEURE**

Either party shall be excused from performing its obligations under this Agreement during the time and to the extent that it is prevented from performing by an unforeseeable cause beyond its control, including but not limited to: any incidence of fire, flood; acts of God; commandeering of material, products, plants or facilities by the federal, state or local government; national fuel shortage; or a material act or omission by the other party; when satisfactory evidence of such cause is presented to the other party,

# **PROPOSED AGREEMENT NO. C-5-3961**

# **EXHIBIT B**

1	and provided further that such nonperformance is unforeseeable, beyond the control and is not due to
2	the fault or negligence of the party not performing.
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# PROPOSED AGREEMENT NO. C-5-3961

# **EXHIBIT B**

1	IN WITNESS WHEREOI	F, the parties hereto have caused this Agreement No. C-5-3961 to be
2	executed as of the date of the las	st signature below.
3		ORANGE COUNTY TRANSPORTATION AUTHORITY
4		
5	Ву:	By: Darrell E. Johnson
6		Chief Executive Officer
7		
8		APPROVED AS TO FORM:
9		
10		By: James M. Donich
11		General Counsel
12		
13		
14		APPROVED:
15		
16		By: James G. Beil, P.E.
17		Executive Director, Capital Programs
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**EXHIBIT C: FORMS** 

# CAMPAIGN CONTRIBUTION DISCLOSURE FORM

#### Information Sheet

#### ORANGE COUNTY TRANSPORTATION AUTHORITY

The attached Campaign Contribution Disclosure Form must be completed by applicants for, or persons who are the subject of, any proceeding involving a license, permit, or other entitlement for use pending before the Board of Directors of the OCTA or any of its affiliated agencies. (Please see next page for definitions of these terms.)

#### **IMPORTANT NOTICE**

Basic Provisions of Government Code Section 84308

- A. If you are an applicant for, or the subject of, any proceeding involving a license, permit, or other entitlement for use, you are prohibited from making a campaign contribution of more than \$500 to any board member or his or her alternate. This prohibition begins on the date your application is filed or the proceeding is otherwise initiated, and the prohibition ends three months after a final decision is rendered by the Board of Directors. In addition, no board member or alternate may solicit or accept a campaign contribution of more than \$500 from you during this period.
- B. These prohibitions also apply to your agents, and, if you are a closely held corporation, to your majority shareholder as well. These prohibitions also apply to your subcontractor(s), joint venturer(s), and partner(s) in this proceeding. Also included are parent companies and subsidiary companies directed and controlled by you, and political action committees directed and controlled by you.
- C. You must file the attached disclosure form and disclose whether you or your agent(s) have in the aggregate contributed more than \$500 to any board member or his or her alternate during the 12-month period preceding the filing of the application or the initiation of the proceeding.
- D. If you or your agent have in the aggregate contributed more than \$500 to any individual board member or his/or her alternate during the 12 months preceding the decision on the application or proceeding, that board member or alternate must disqualify himself or herself from the decision. However, disqualification is not required if the board member or alternate returns the campaign contribution within 30 days from the time the director knows, or should have known, about both the contribution and the fact that you are a party in the proceeding. The Campaign Contribution Disclosure Form should be completed and filed with your proposal, or with the first written document you file or submit after the proceeding commences.

- 1. A proceeding involving "a license, permit, or other entitlement for use" includes all business, professional, trade and land use licenses and permits, and all other entitlements for use, including all entitlements for land use, all contracts (other than competitively bid, labor or personal employment contracts), and all franchises.
- Your "agent" is someone who represents you in connection with a proceeding involving a license, permit or other entitlement for use. If an individual acting as an agent is also acting in his or her capacity as an employee or member of a law, architectural, engineering, consulting firm, or similar business entity, both the business entity and the individual are "agents."
- 3. To determine whether a campaign contribution of more than \$500 has been made by you, campaign contributions made by you within the preceding 12 months must be aggregated with those made by your agent within the preceding 12 months or the period of the agency, whichever is shorter. Contributions made by your majority shareholder (if a closely held corporation), your subcontractor(s), your joint venturer(s), and your partner(s) in this proceeding must also be included as part of the aggregation. Campaign contributions made to different directors or their alternates are not aggregated.
- 4. A list of the members and alternates of the Board of Directors is attached.

This notice summarizes the major requirements of Government Code Section 84308 of the Political Reform Act and California Code of Regulations, Title 2 Sections 18438-18438.8.

# ORANGE COUNTY TRANSPORTATION AUTHORITY CAMPAIGN CONTRIBUTION DISCLOSURE FORM

RFP Number:	RFP Title:	
	de to any OCTA Board Member within contribution by either the proposing firm No	
If no, please sign and date below.		
If yes, please provide the following	information:	
Prime Contractor Firm Name:		
Contributor or Contributor Firm's Na	ime:	
Contributor or Contributor Firm's Ad	ldress:	
Is Contributor:		
The Prime Contractor	Yes No_	
<ul><li>Subconsultant</li><li>Agent/Lobbyist hired by Pri</li></ul>	Yes No _	
to represent the Prime in th		
Identify the Board Member(s) to who contributions, the name of the con-	bution made by the Prime Contractor.  nom you, your subconsultants, and/or age tributor, the dates of contribution(s) in the Each date must include the exact mo	e preceding 12 months and
Name of Board Member:		
Name of Contributor:		
Date(s) of Contribution(s):		
Amount(s):		<u> </u>
Name of Board Member:		<u></u>
Name of Contributor:		
Date(s) of Contribution(s):		
Amount(s):		<u> </u>
Date:		ttor.
	Signature of Contribu	JIOI
Print Firm Name	Print Name of Contril	butor

# ORANGE COUNTY TRANSPORTATION AUTHORITY AND AFFILIATED AGENCIES

# **Board of Directors**

Doug Chaffee, Chair Jamey Federico, Vice Chair Valerie Amezcua, Director Mike Carroll, Director Katrina Foley, Director **Patrick Harper, Director** Michael Hennessey, Director Fred Jung, Director Stephanie Klopfenstein, Director **Carlos Leon, Director** Janet Nguyen, Director Tam Nguyen, Director **Vicente Sarmiento, Director** John Stephens, Director **Mark Tettemer, Director Donald Wagner, Director** 

#### STATUS OF PAST AND PRESENT CONTRACTS FORM

On the form provided below, Offeror/Bidder shall list the status of past and present contracts where the firm has either provided services as a prime vendor or a subcontractor during the past five (5) years in which the contract has been the subject of or may be involved in litigation with the contracting authority. This includes, but is not limited to, claims, settlement agreements, arbitrations, administrative proceedings, and investigations arising out of the contract.

A separate form must be completed for each contract. Offeror/Bidder shall provide an accurate contact name and telephone number for each contract and indicate the term of the contract and the original contract value. Offeror/Bidder shall also provide a brief summary and the current status of the litigation, claims, settlement agreements, arbitrations, administrative proceedings, or investigations. If the contract was terminated, list the reason for termination.

Offeror/Bidder shall have an ongoing obligation to update the Authority with any changes to the identified contracts and any new litigation, claims, settlement agreements, arbitrations, administrative proceedings, or investigations that arise subsequent to the submission of the bid. Each form must be signed by an officer of the Offeror/Bidder confirming that the information provided is true and accurate.

Project city/agency/other:	
Contact Name:	Phone:
Project Award Date:	Original Contract Value:
Term of Contract:	
(1) Litigation, claims, settlements, ark	pitrations, or investigations associated with contract:
(0) 0	
(2) Summary and Status of contract:	
(2) Commons and Status of action iden	4:find in (4).
(3) Summary and Status of action iden	tilled in (1):
(4) Reason for termination, if applicabl	Q:
(4) Reason for termination, if applicable	G.
By signing this Form entitled "Status of information provided is true and accurate.	Past and Present Contracts," I am affirming that all of the
Name	Signature
Title	Date

Revised. 03/16/2018

#### PROPOSAL EXCEPTIONS AND/OR DEVIATIONS

The following form shall be completed for each technical and/or contractual exception or deviation that is submitted by Offeror for review and consideration by Authority. The exception and/or deviation must be clearly stated along with the rationale for requesting the exception and/or deviation. If no technical or contractual exceptions or deviations are submitted as part of the original proposal, Offerors are deemed to have accepted Authority's technical requirements and contractual terms and conditions set forth in the Scope of Work (Exhibit A) and Proposed Agreement (Exhibit B). Offerors will not be allowed to submit this form or any contractual exceptions and/or deviation after the proposal submittal date identified in the RFP. Exceptions and/or deviations submitted after the proposal submittal date will not be reviewed by Authority.

Offeror:			
RFP No.:	RFP Title:		
Deviation or Exception No.	:		
<ul><li>Check one:</li><li>Scope of Work (Tec</li><li>Proposed Agreemer</li></ul>	•		
Reference Section/Exhibit:		Page/Article No	
Complete Description of De	viation or Exception:		
Rationale for Requesting De	eviation or Exception:		
Area Below Reserved for Author	ority Use Only:		
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# **EXHIBIT D: SAFETY SPECIFICATION**

#### LEVEL 2 STANDARD HEALTH, SAFETY AND ENVIRONMENTAL SPECIFICATIONS

#### PART I – GENERAL

## 1.1 GENERAL HEALTH, SAFETY & ENVIRONMENTAL REQUIREMENTS

- A. The Contractor, its subcontractors, suppliers, and employees have the obligation to comply with all Authority health, safety and environmental compliance department (HSEC), requirements of this safety specification, project site requirements, and bus yard safety rules as well as all federal, state, and local regulations pertaining to scope of work or agreements with the Authority. Additionally, manufacturer requirements are considered incorporated by reference as applicable to this scope of work.
- B. Observance of repeated unsafe acts or conditions, serious violation of safety standards, non-conformance of Authority health, safety and environmental compliance department (HSEC) requirements, or disregard for the intent of these safety specifications to protect people and property, by Contractor or its subcontractors may be reason for termination of scope or agreements with the Authority, at the sole discretion of the Authority.

#### C. INJURY AND ILLNESS PREVENTION PROGRAM

The Contractor shall comply with CCR Title 8, Section with California Code of Regulations (CCR) Title 8, Section 3203. The intent and elements of the IIPP shall be implemented and enforced by the Contractor and its sub-tier contractors, suppliers, and vendors. The program shall be provided to the Authority's Project Manager, upon request, within 72 hours.

#### D. SUBSTANCE ABUSE PREVENTION PROGRAM

Contractor shall comply with the Policy or Program of the Company's Substance Abuse Prevention Policy that complies with the most recent Drug Free Workplace Act. The program shall be provided to the Authority's Project Manager, upon request, within 72 hours.

#### E. HAZARD COMMUNICATION PROGRAM

- Contractor shall comply with CCR Title 8, Section 5194 Hazard Communication Standard. Prior to use on Authority property and/or project work areas Contractor shall provide the Authority Project Manager copies of SDS for all applicable products used, if any. The program shall be provided to the Authority's Project Manager, upon request, within 72 hours.
- 2. All chemicals including paint, solvents, detergents and similar substances shall comply with South Coast Air Quality Management District (SCAQMD) rules 103, 1113, and 1171.

#### F. STORM WATER POLLUTION PREVENTION PLAN

1. The Contractor shall protect property and water resources from fuels and similar products throughout the duration of the contract. Contractor shall comply with Storm Water Pollution Prevention Plan (SWPPP) requirements. The program or plan if required by scope shall be provided to the Authority's Project Manager, upon request, within 72 hours.

# G. DESIGNATED HEALTH, SAFETY, ENVIRONMENTAL (HSE) REPRESENTATIVE

- 1. Upon contract award, the contractor within 10 business days shall designate a health and safety representative and provide a resume and qualifications to the Authority project manager, upon request, within 72 hours.
- This person shall be a Competent or Qualified Individual as defined by the Occupational, Safety, and Health Administration (OSHA), familiar with applicable CCR Title 8 Standards, and has the authority to affect changes in work procedures that may have associated cost, schedule and budget impacts.
- 3. The Contractor's HSE Representative is subject to acceptance by the Authority Project Manager, and the HSEC Department. All contact information of the HSE Representative (name, phone, and fax and pager/cell phone number) shall be provided to the Authority Project Manager, upon request, within 72 hours.
- 4. The Contractor's HSE Representative shall hold a current certification from the Board of Certified Safety Professionals (BCSP) and have five years of demonstrated construction/scope experience enforcing HSE compliance on construction, industrial or similar project scopes. The designated HSE Representative shall participate in any required HSE related submittals. The Authority reserves the right to allow for an exception and to modify these minimum qualification requirements for unforeseen circumstances, at the sole discretion of the Authority Project Manager and HSEC Department Manager.
- 5. A Job Hazard Analysis (JHA) shall be prepared for the field activities scheduled and signed/dated by the Contractor's project manager and the Contractor's HSE Representative and all employees of the work crew prior to beginning scheduled task.
- 6. Competent Individual means an individual who is capable of identifying existing and predictable hazards in the surroundings or working conditions which are unsanitary, hazardous, or dangerous to employees and/or property, and who has authorization to take prompt corrective measures to eliminate them.
- 7. Qualified Individual means an individual who by possession of a recognized degree, certificate, certification or professional standing, or

who by extensive knowledge, training, and experience, has successfully demonstrated his/her ability to solve or resolve problems relating to the subject matter, the work, or the Project.

#### H. SCOPE PLANNING

Prior to any scope work activity or task, the Contractor shall evaluate the hazards of the scope of work and the work environment to ensure proper control measures are identified for employee public and property protection measures to prevent incidents. This evaluation shall be implemented by developing a written site specific Job Hazard Analysis (JHA) or similar tool designed for planning the work to prevent incidents. The plan shall be provided to the Authority's Project Manager, upon request, within 72 hours.

#### I. ORIENTATION

- 1. The Contractor shall conduct and document a project site safety orientation for all Contractor personnel, subcontractors, suppliers, vendors, and new employees assigned to the project prior to performing any work on Authority projects. The safety orientation at a minimum shall include, as applicable, Personal Protection Equipment (PPE) requirements, eye protection, ANSI class 2 or 3 reflective vests, designated smoking, eating, and parking areas, traffic speed limit and routing, cell phone policy, and barricade requirements. When required by scope, additional orientation shall include fall protection, energy isolation/lock-out/tag-out (LOTO), confined space, hot work permit, security requirements, and similar project safety requirements.
- 2. Copies of orientation documents shall be provided to the Authority Project Manager within 72 hours upon request.

## J. TRAFFIC & PARKING

The Contractor shall ensure that all Contractor vehicles, including those of their subcontractors, suppliers, vendors and employees are parked in designated parking areas, personal vehicles shall be parked in the employee parking lot, work vehicles required in the maintenance area of a bus base shall be identified by company name and/or logo, covered by the company insurance, and comply with traffic routes, and posted traffic signs in areas other than the employee parking lots. Vehicles without appropriate company name and logo are considered personal vehicles and not allowed in the maintenance area of the bus base.

#### K. GENERAL PROVISIONS

 The Contractor shall provide all necessary tools, equipment, and related safety protective devices to execute the scope of work in compliance with Authority's HSEC requirements, CCR Title 8 Standards, and recognized safe work practices.

- 2. The Contractor shall immediately notify the Authority's Project Manager whenever local, state or federal regulatory agency personnel are identified as being onsite.
- 3. The Authority HSEC requirements, and references contained within this scope of work shall not be considered all-inclusive as to the hazards that might be encountered. Safe work practices shall be pre-planned and performed, and safe conditions shall be maintained during the course of this work scope.
- 4. The Contractor shall specifically acknowledge that it has primary responsibility to prevent and correct all health, safety and environmental hazards for which it and its employees, or its subcontractors (and their employees) are responsible. The Contractor shall further acknowledge their expertise in recognition and prevention of hazards in the operations for which they are responsible, that the Authority may not have such expertise, and is relying upon the Contractor for such expertise. The Authority retains the right to notify the Contractor of potential hazards and request the Contractor to evaluate and, as necessary, to eliminate those hazards.
- 5. The Contractor shall instruct all its employees, and all associated subcontractors under contract with the Contractor who work on Authority property in the recognition, identification, and avoidance of unsafe acts and/or conditions applicable to its work.
- 6. California Code of Regulations (CCR) Title 8 Standards are minimum requirements, and each Contractor is encouraged to exceed minimum requirements. When the Contractor safety requirements exceed statutory standards, the more stringent requirements shall be achieved for the safeguard of the public and workers.

# 1.2 ENVIROMENTAL REQUIREMENTS

- A. The Contractor shall comply with Federal, State, county, municipal, and other local laws and regulations pertaining to the environment, including noise, aesthetics, air quality, water quality, contaminated soils, hazardous waste, storm water, and resources of archaeological significance. Expense of compliance with these laws and regulations is considered included in the agreement. Contractor shall provide water used for dust control, or for prewetting areas to be paved, as required; no payment will be made by OCTA for this water.
- B. The Contractor shall prevent pollution of storm drains, rivers, streams, irrigation ditches, and reservoirs with sediment or other harmful materials. Fuels, oils, bitumen, calcium chloride, cement, or other contaminants that would contribute to water pollution shall not be dumped into or placed where they will leach into storm drains, rivers, streams, irrigation ditches, or reservoirs. If operating equipment in streambeds or in and around open waters, protect the quality of ground water, wetlands, and surface waters.

- C. The Contractor shall protect adjacent properties and water resources from erosion and sediment damage throughout the duration of the contract. Contractor shall comply with applicable NPDES permits and Storm Water Pollution Prevention Plan (SWPPP) requirements.
- D. Contractor shall comply with all applicable EPA, Cal EPA, Cal Recycle, DTSC, SCAQMD, local, state, county and city standards, rules and regulations for hazardous and special waste handling, recycling and/ disposal. At a minimum, Contractor shall ensure compliance where applicable with SCAQMD Rule 1166, CCR Title 8, Section 5192, 29 CFR Subpart 1910.120, 49 CFR Part 172, Subpart H, 40 CFR Subpart 265.16 and CCR Title 22 Section 6625.16. Contractor shall provide OCTA a schedule of all hazardous waste and special or industrial waste disposal dates in advance of transport date. Only authorized OCTA personnel shall sign manifests for OCTA generated wastes. Contractor shall ensure that only current registered transporters are used for disposal of hazardous waste and industrial wastes. The Contractor shall obtain approval from OCTA for the disposal site locations in advance of scheduled transport date.

#### 1.3 INCIDENT NOTIFICATION AND INVESTIGATION

- A. The Authority shall be promptly notified of any of the following types of incidents including but not limited to:
  - 1. Damage incidents of property (incidents involving third party, contractor or Authority property damage);
  - Reportable and/or Recordable injuries (as defined by the U. S. Occupational Safety and Health Administration), a minor injury, and near miss incidents;
  - 3. Incidents impacting the environment, i.e. spills or releases on Authority property.
- B. Notifications shall be made to Authority representatives, employees and/or agents. This includes incidents occurring to contractors, vendors, visitors, or members of the public that arise from the performance of Authority contract work. An immediate verbal notice followed by a written incident investigation report shall be submitted to Authority's Project Manager within 24 hours of the incident.
- C. A final written incident investigative report shall be submitted within seven (7) calendar days and include the following information. The Current Status of anyone injured, photos of the incident area, detailed description of what happened, Investigative photos of the existing conditions and area around the injury/incident scene, the contributing factors that lead to the incident occurrence, a copy of the company policy or procedure associated with the incident and evaluation of effectiveness, copy of task planning documentation, copy of the Physician's first report of injury, copy of Cal/OSHA 300 log of work related injuries and illnesses, the Cal/OSHA 301 Injury Illness Incident Report, and corrective actions initiated to prevent

recurrence. This information shall be considered the minimum elements required for a comprehensive incident report provided to OCTA.

- D. A Serious Injury, Serious Incident, OSHA Recordable Injury/Illness, or a Significant Near Miss shall require a formal incident review at the discretion of the Authority's Project Manager. The incident review shall be conducted within seven (7) calendar days of the incident. This review shall require a company senior executive, company program or project manager from the Contractors' organization to participate and present the incident review as determined by the OCTA Project Manager. The serious incident presentation shall include action taken for the welfare of the injured, a status report of the injured, causation factors that lead to the incident, a root cause analysis (using 5 whys and fishbone methods), and a detailed recovery plan that identifies corrective actions to prevent a similar incident, and actions to enhance safety awareness.
  - 1. <u>Serious Injury:</u> includes an injury or illness to one or more employees, occurring in a place of employment or in connection with any employment, which requires inpatient hospitalization for a period in excess of twenty-four hours for other than medical observation, or in which an employee suffers the loss of any member of the body, or suffers any serious degree of physical disfigurement. A serious injury also includes a lost workday or reassignment or restricted injury case as determined by the Physician's first report of injury or Cal/OSHA definitions.
  - Serious Incident: includes but not limited to property damage of \$500.00 or more, an incident requiring emergency services (local fire, paramedics and ambulance response), news media or OCTA media relations response, and/or incidents involving other agencies (Cal/OSHA, EPA, AQMD, DTSC, Metrolink, FTA, FRA etc.) notification or representation.
  - 3. OSHA Recordable Injury / Illness: includes and injury / illness resulting in medical treatment beyond First Aid, an injury / illness which requires restricted duty, or an injury / illness resulting in days away from work.
  - 4. <u>Significant Near Miss Incident;</u> includes incidents where no property was damaged and no personal injury sustained, but where, given a slight shift in time or position, damage and/or injury easily could have occurred.

#### 1.4 PERSONAL PROTECTIVE EQUIPMENT

Contractors, and all associated subcontractors, vendors and suppliers are required to provide their own personal protective equipment (PPE), including eye, head, foot, and hand protection, respirators, reflective safety vests, and all other PPE required to perform their work safely on Authority projects.

# 1.5 LANGUAGE REQUIREMENTS

The Contractor for safety reasons shall ensure employees that do not read, or understand English, shall have a bilingual supervisor or foreman when on the Authority property or projects.

## 1.6 WARNING SIGNS AND DEVICES

The Contractor shall provide signs, signals, and/or warning devices to be visible when and where a hazard exists. Signs, signals, and/or warning devices shall be removed when the hazard no longer exists.

# 1.7 REFERENCES

- A. CCR Title 8 Standards (Cal/OSHA)
- B. FCR Including 1910 and 1926 Standards
- C. NFPA, NEC, ANSI, NIOSH Standards
- D. Construction Industry Institute (CII)
- E. Board of Certified Safety Professionals (BCSP)
- F. OCTA Yard Safety Rules

**END OF SECTION** 





# **April 14, 2025**

To: Members of the Board of Directors

Andrea West, Clerk of the Board From:

Subject: Cooperative Agreement with the California Department of

Transportation for the State Route 91 Improvement Project Between

La Palma Avenue and State Route 55

Regional Transportation Planning Committee Meeting of April 7, 2025

Directors Federico, Foley, Klopfenstein, and Stephens Present:

Absent: **Directors Carroll and Harper** 

#### **Committee Vote**

This item was passed by the Members present.

# Committee Recommendation(s)

Authorize the Chief Executive Officer to negotiate and execute Cooperative Agreement No. C-5-3985 between the Orange County Transportation Authority and the California Department of Transportation, in the amount of \$269,504,000, comprised of a construction capital share of \$230,314,000 and a construction management services share of \$39,190,000 for the State Route 91 Improvement Project between La Palma Avenue and State Route 55.



# April 7, 2025

**To:** Regional Transportation Planning Committee

**From:** Darrell E. Johnson, Chief Executive Officer

Subject: Cooperative Agreement with the California Department of

Transportation for the State Route 91 Improvement Project

Between La Palma Avenue and State Route 55

#### Overview

The Orange County Transportation Authority proposes to enter into a cooperative agreement with the California Department of Transportation for construction capital and construction management support services for the State Route 91 Improvement Project between La Palma Avenue and State Route 55.

#### Recommendation

Authorize the Chief Executive Officer to negotiate and execute Cooperative Agreement No. C-5-3985 between the Orange County Transportation Authority and the California Department of Transportation, in the amount of \$269,504,000, comprised of a construction capital share of \$230,314,000 and a construction management services share of \$39,190,000 for the State Route 91 Improvement Project between La Palma Avenue and State Route 55.

#### **Discussion**

The Orange County Transportation Authority (OCTA), in partnership with the California Department of Transportation (Caltrans), is implementing the State Route 91 (SR-91) Improvement Project between State Route 57 (SR-57) and State Route 55 (SR-55) (Project). Measure M2 Project I was advanced as part of the updated Next 10 Delivery Plan approved by the OCTA Board of Directors (Board) in November 2024.

The Project will add general purpose lanes in the eastbound (EB) direction between SR-57 and SR-55 and provide westbound (WB) operational improvements between Lakeview Avenue and SR-55 and between La Palma Avenue and Acacia Street. In addition, the Project will reconstruct La Palma Avenue overcrossing and three interchanges at Lakeview Avenue,

Tustin Avenue and Glassell Street/Kraemer Boulevard, EB widening over the Santa Ana River and WB widening at State College Boulevard and add a new Orangethorpe bypass ramp. The Project is being developed as three 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 SR-55 to Lakeview Avenue
- Segment 2 extends from La Palma Avenue to SR-55
- Segment 3 extends from Acacia Street to La Palma Avenue

Segment 2 will provide a general purpose lane in the EB direction between La Palma Avenue and SR-55, bridge widening over the Santa Ana River, reconstruction of the Glassell Street/Kraemer Boulevard and Tustin Avenue bridges over SR-91.

On June 15, 2019, the Board authorized Cooperative Agreement No. C-9-1274 with Caltrans to provide oversight of the plans, specifications, and estimates (PS&E), and to advertise and award the construction contract for Segment 2. On May 13, 2024, the Board authorized Cooperative Agreement No. C-4-2213 with Caltrans for the right-of-way phase for Segment 2.

A cooperative agreement for the construction phase for Segment 2 is now needed to define the specific roles and funding responsibilities, including construction capital and construction management (CM) support services.

Bid documents for Segment 2 are being prepared for advertisement of the construction contract in fall 2025. The total construction capital funding required for Segment 2 is \$230,314,000, and the construction support funding required is \$39,190,000. The total construction cost of \$269,504,000 will be funded by a combination of \$4,000,000 in federal Community Project Funding/ Congressionally Directed Spending (CPFCDS), \$6,641,000 in state SB 1 (Chapter 5, Statues of 2017) Local Partnership Program - Formula (SB 1 LPP-F), and \$258,863,000 in 91 Express Lanes (EL) net excess revenue.

A table depicting the proposed funding plan for the construction cooperative agreement with Caltrans is provided below.

Funding Programs	Proposed Funding
CPFCDS	\$4,000,000
SB 1 LPP-F	\$6,641,000
91 EL Excess Revenue	\$258,863,000
Total:	\$269,504,000

<sup>\*</sup>OCTA is also continuing to pursue federal competitive program and other external grants and funding that would be used in place of 91 EL surplus revenues.

As the implementing agency for construction of the Project, Caltrans will be responsible for advertisement, award, approval, and administration of the construction contract. Under the proposed cooperative agreement, Caltrans and OCTA have agreed to share in the CM support services for the Project. Caltrans, as the construction phase implementing agency, will provide a resident engineer, structures representative, field surveying, and other field personnel, along with construction administrative support and environmental monitoring. OCTA will retain a consultant firm to augment Caltrans' field staff with electrical, structural and roadway inspection, office engineering, materials testing, and claims support services. OCTA's consultant will also provide a field office to house construction staff on the Project. Through separate contracts, OCTA will lead the public outreach and freeway service patrol efforts.

# Fiscal Impact

The Project will be included in the proposed OCTA Fiscal Year (FY) 2025-26 Budget and subsequent FY budgets, Capital Programs Division, account nos. 0017-9084-FI105-1OR and 0017-9085-FI105-1OR, and will be funded with a combination of federal and local funds.

#### Summary

Staff requests Board approval for the Chief Executive Officer to negotiate and execute Cooperative Agreement No. C-5-3985 with Caltrans, in the amount of \$269,504,000, comprised of a construction capital share of \$230,314,000 and a construction management services share of \$39,190,000 for Segment 2 of the Project.

Cooperative Agreement with the California Department of *Page 4*Transportation for the State Route 91 Improvement Project
Between La Palma Avenue and State Route 55

## Attachment

None.

Prepared by:

Jeannie Lee, P.E. Senior Project Manager (714) 560-5735 Approved by:

James G. Beil, P.E. Executive Director, Capital Programs (714) 560-5646





# **April 14, 2025**

To: Members of the Board of Directors

Andrea West, Clerk of the Board From:

Subject: Amendment to Cooperative Agreement with the California

Department of Transportation for the State Route 55 Improvement

Project Between Interstate 5 and State Route 91

Regional Transportation Planning Committee Meeting of April 7, 2025

Directors Federico, Foley, Klopfenstein, and Stephens Present:

**Directors Carroll and Harper** Absent:

#### **Committee Vote**

This item was passed by the Members present.

# Committee Recommendation(s)

Authorize the Chief Executive Officer to negotiate and execute Cooperative Agreement No. C-3-2465 between the Orange County Transportation Authority and the California Department of Transportation, in the amount of \$1,042,000, for additional right-of-way support services, right-of-way engineering, right-of-way acquisition, and utility relocation for the State Route 55 Improvement Project between Interstate 5 and State Route 91. This will increase the maximum cumulative obligation of the cooperative agreement to a total contract value of \$7,087,000.



April 7, 2025

**To:** Regional Transportation Planning Committee

**From:** Darrell E. Johnson, Chief Executive Officer

**Subject:** Amendment to Cooperative Agreement with the California

Department of Transportation for the State Route 55 Improvement

Aff

Project Between Interstate 5 and State Route 91

#### Overview

On July 10, 2023, the Orange County Transportation Authority Board of Directors approved a cooperative agreement with the California Department of Transportation to provide right-of-way support services, right-of-way engineering, right-of-way acquisition, and utility relocation for the State Route 55 Improvement Project between Interstate 5 and State Route 91. Board of Directors' approval is requested to amend the cooperative agreement for additional funding for right-of-way capital and right-of-way support services.

#### Recommendation

Authorize the Chief Executive Officer to negotiate and execute Cooperative Agreement No. C-3-2465 between the Orange County Transportation Authority and the California Department of Transportation, in the amount of \$1,042,000, for additional right-of-way support services, right-of-way engineering, right-of-way acquisition, and utility relocation for the State Route 55 Improvement Project between Interstate 5 and State Route 91. This will increase the maximum cumulative obligation of the cooperative agreement to a total contract value of \$7,087,000.

#### Discussion

The State Route 55 (SR-55) Improvement Project between Interstate 5 (I-5) and State Route 91 (SR-91) (Project) is part of Project F in the Measure M2 (M2) Freeway Program and is being advanced through the updated Next 10 Delivery Plan approved by the Orange County Transportation Authority (OCTA) Board of Directors (Board) in November 2024.

The Project will construct lane improvements in each direction between I-5 and State Route 22 and provide operational improvements to the southbound (SB) ramps at Katella Avenue and Lincoln Avenue. An additional lane will be added to the SB SR-55 Katella Avenue off- and on-ramps and the northbound and SB off-ramps at Fourth Street, and the existing SB SR-55 Lincoln Avenue off-ramp will be relocated 1,300 feet to the south, next to the existing SB SR-55 Lincoln Avenue hook on-ramp.

On March 10, 2023, the Board authorized Cooperative Agreement No. C-3-2465 with Caltrans to implement right-of-way (ROW) activities, which include property appraisals and acquisitions, if necessary, and coordination of utility relocations needed for ROW certification for the Project.

Additional ROW support services and ROW acquisition are needed due to additional ROW needs identified for the Project. There is an existing Caltrans overhead sign (OHS) that is within a landscape area of private property, and the OHS needs to be replaced to adhere to Caltrans standards. The replacement of an OHS structure requires additional ROW acquisition. An additional ROW acquisition is also needed for the relocation of the SB Lincoln Avenue off-ramp. The City of Orange (City) requested Caltrans to take over the maintenance of the intersection of Tustin Street and SB Lincoln Avenue on-ramp, where the new Lincoln Avenue off-ramp will be relocated, and the existing City easement on private commercial property is not transferable. Caltrans requested ROW acquisition of the entire intersection for placement and maintenance of their traffic signal. The efforts include the development of new ROW maps and documentation of the ROW needs, and acquisitions. The Project is estimated to impact a total of four properties, both privately and publicly-owned properties, and 16 utility conflicts. The current list of impacted properties has land uses, which include commercial/industrial, residential, and public use (Attachment A). The real property requirements are comprised of a combination of partial fee acquisitions and temporary construction easements. There are no anticipated full fee acquisitions. The property rights are required to implement the project scope as defined in the final environmental document.

The total ROW funding previously approved by the Board for the Project was \$6,045,000 in local M2 funds, comprised of \$5,025,000 for ROW capital and \$1,020,000 for ROW support services. This request is for an additional \$1,042,000 in local M2 funds, comprised of \$312,000 for ROW capital and \$730,000 for ROW support services, for a total contract value of \$7,087,000 (Attachment B).

This Project is Project F in the Next 10 Delivery Plan and the use of M2 funds is consistent with the Board-approved Capital Programming Policies to support Next 10 Delivery Plan projects.

# Fiscal Impact

Funding for the Project is proposed in OCTA's Fiscal Year 2025-26 Budget, Capital Programs Division, account nos. 0017-7514-FF102-0X0 and 0017-9081-FF102-0X0, and will be funded with local M2 funds.

# Summary

Staff requests Board of Directors' approval to authorize the Chief Executive Officer to negotiate and execute Amendment No. 1 to Cooperative Agreement No. C-3-2465 with the California Department of Transportation, in the amount of \$1,042,000, for additional right-of-way support services, right-of-way engineering, right-of-way acquisition, and utility relocation for the State Route 55 Improvement Project between Interstate 5 and State Route 91. This will increase the maximum obligation of the cooperative agreement to a total value of \$7,087,000, comprised of a capital share of \$5,337,000 and a support share of \$1,750,000.

#### **Attachments**

- A. State Route 55 Improvement Project (Interstate 5 to State Route 91) Right-of-Way
- B. California Department of Transportation, Cooperative Agreement No. C-3-2465 Fact Sheet

Prepared by:

Jeannie Lee, P.E. Senior Project Manager (714) 560-5735 Approved by:

James G. Beil, P.E. Executive Director, Capital Programs (714) 560-5646

# State Route 55 Improvement Project (Interstate 5 to State Route 91) Right-of-Way

No. of Parcels	Assessor Parcel No.	City	Location	Owner Name	ROW Impacts	Permanent (SF)	TCE (SF)	Permanent Easement (SF)	Land Use
1	Lot A of Tract 8940	Tustin	Marshall Lane	Marshall Lane Homeowners Association	Partial Fee/TCE	121	273	0	Residential
2	374-551-01	Orange	2550 North Tustin Avenue	2550 North Tustin Ave, LLC (Villa Ford)	Partial Fee	624	0	0	Commercial
3	374-541-35	Orange	2734 North Tustin Avenue	Joseph A Spray & Charles P. Gould, Co-Trustees (Nohl Plaza)	Partial Fee	722	0	0	Commercial
4		Orange	City of Orange	City of Orange	Partial Fee	20,666	0	0	Street

Notes: #4 will be acquired from the City of Orange to the California Department of Transportation through Streets and Highway Code.

Acronyms: ROW - right-of-way SF - square feet

TCE - temporary construction easement

# California Department of Transportation Cooperative Agreement No. C-3-2465 Fact Sheet

- 1. July 10, 2023, Cooperative Agreement No. C-3-2465, \$6,045,000, approved by the Board of Directors (Board).
  - Define the terms, conditions, and funding responsibilities between the California Department of Transportation (Caltrans) and the Orange County Transportation Authority to provide right-of-way (ROW) support services, ROW engineering, ROW acquisition, and utility relocation.
- 2. April 14, 2025, Amendment No. 1 to Cooperative Agreement No. C-3-2465, \$1,042,000, pending Board approval.
  - To add \$1,042,000 in M2 funds for additional ROW capital and ROW support services.

Total committed to Caltrans after approval of Amendment No. 1 to Cooperative Agreement No. C-3-2465: \$7,087,000.





# **April 14, 2025**

To: Members of the Board of Directors

Andrea West, Clerk of the Board From:

Subject: Amendment to Agreement for Additional Design Services for

State Route 91 Improvement Project Between Acacia Street and

La Palma Avenue

Regional Transportation Planning Committee Meeting of April 7, 2025

Directors Federico, Foley, Klopfenstein, and Stephens Present:

Absent: **Directors Carroll and Harper** 

#### **Committee Vote**

This item was passed by the Members present.

# **Committee Recommendation(s)**

Authorize the Chief Executive Officer to negotiate and execute Amendment No. 5 to Agreement No. C-0-2073 between the Orange County Transportation Authority and T.Y. Lin International, in the amount of \$2,232,131, for additional design services for the State Route 91 Improvement Project between Acacia Street and La Palma Avenue. This will increase the maximum cumulative obligation of the agreement to a total contract value of \$13,945,033.



# April 7, 2025

**To:** Regional Transportation Planning Committee

**From:** Darrell E. Johnson, Chief Executive Officer

Subject: Amendment to Agreement for Additional Design Services for

State Route 91 Improvement Project Between Acacia Street and

La Palma Avenue

#### Overview

On July 13, 2020, the Orange County Transportation Authority Board of Directors authorized an agreement with T.Y. Lin International, for the preparation of plans, specifications, and estimates for the State Route 91 Improvement Project between Acacia Street and La Palma Avenue. An amendment to the existing agreement is required for additional design services.

#### Recommendation

Authorize the Chief Executive Officer to negotiate and execute Amendment No. 5 to Agreement No. C-0-2073 between the Orange County Transportation Authority and T.Y. Lin International, in the amount of \$2,232,131, for additional design services for the State Route 91 Improvement Project between Acacia Street and La Palma Avenue. This will increase the maximum cumulative obligation of the agreement to a total contract value of \$13,945,033.

#### Discussion

State Route 91 (SR-91) improvements between Acacia Street and La Palma Avenue (Project) is part of Project I in the Measure M2 (M2) Freeway Program. This Project is being advanced through the updated Next 10 Delivery Plan that was approved by the Orange County Transportation Authority (OCTA) Board of Directors (Board) in November 2024.

The project improvements include westbound (WB) operational improvements between Acacia Street and La Palma Avenue, WB improvements at State College Boulevard, and reconstruction of the La Palma Avenue overcrossing bridge. The Project will also provide a new bypass ramp that allows northbound (NB) State Route 57 (SR-57) traffic to exit at Orangethorpe Avenue

in advance of the SR-91/NB SR-57 connector merge. The WB SR-91/NB SR-57 connector will be adjusted to accommodate the new bypass ramp. The existing La Palma Avenue overcrossing bridge will be replaced with a new bridge that includes standard vertical clearance, two lanes with shoulders and sidewalks in each direction, and a median shoulder. The plans, specifications, and estimates (PS&E) for the Project are currently being prepared by T.Y. Lin International (TYLI).

Additional project scope has been identified, which requires further effort by TYLI to complete the design on schedule. An amendment to the project design agreement is recommended for the following additional services:

# Roadway Design

- The California Department of Transportation (Caltrans) requested to revise the vertical design of the ramps and additional design revisions to eliminate nonstandard features along the State College Boulevard on- and off-ramps.
- Additional design surveys need to be conducted to support additional design and drainage improvements.
- Safety fencing was added on top of a concrete barrier on the top of a retaining wall along NB SR-57 next to the Miraloma Avenue overcrossing. Additional details need to be prepared and additional coordination to obtain approvals is needed.
- The City of Anaheim (City) requested a fire access path near the Casa La Palma complex to meet safety concerns. This area was evaluated and discussed early in the final design phase with the City; however, the City is now requesting for this path to be added to the design based on maps found recently. This request was deemed reasonable and necessary by OCTA and Caltrans. This change will require re-grading the area near the apartment complex, revisions to one of the retaining walls, adding a new retaining wall, drainage evaluations, and revisions to plans and quantities.
- Caltrans updates their standard plans and standard specifications twice a year, and roadway and structure designs need to conform to the new Caltrans standards. Design plans and specifications need to be updated and reviewed by various departments at Caltrans to obtain approval.

# Right-of-Way (ROW) Engineering Services

New legal and plat acquisition documents are needed to delineate a ROW acquisition between Caltrans and the City for the new La Palma Avenue overcrossing bridge. Caltrans has requested that the widened bridge be within their ROW.

# Reports

- Changes to add the Casa La Palma Apartments fire access path require a new retaining wall, which will require new calculations and changes to the geotechnical report.
- Due to the 2024 standard updates, all foundation reports will need to be reviewed, revised, and re-approved based on the new standards.
- Additional effort will be required to evaluate the approved materials report pavement sections to develop options to address Caltrans' comments.
- Drainage report and storm water data reports need to be updated to reflect the design changes.
- Additional effort is needed to update the supplemental design standard decision document (SDSDD) to document additional design exceptions due to updates from design changes. Caltrans also requested to update the accident data and analysis based on the recently available collision data, which is to be included in the SDSDD.
- Updates to the supplemental historic property survey report are needed to include the design changes.

# **Environmental Services**

A community impact assessment memorandum is required for the Project to analyze the community impacts from a single-stage demolition and construction of the La Palma Avenue bridge.

# Caltrans Multi-Asset Project (MAP)

Within the SR-91 corridor, including the segment from Acacia Street to La Palma Avenue, Caltrans has also developed a MAP within the project limits that is funded by the State Highway Operation and Protection Program (SHOPP). Caltrans' MAP scope of work (SOW) includes pavement rehabilitation, existing safety device upgrades, census stations installation, lighting replacement, and conduit replacement. The MAP SOW was combined with the Segment 3 PS&E at 100 percent design, which was then submitted to

Caltrans for review in January 2024. Due to Caltrans' comments, design changes at 100 percent design required additional submittals and additional efforts for TYLI to combine the PS&E package with the Caltrans MAP being prepared by others. The combined efforts would be shared by Caltrans' consultant and TYLI, and this amendment includes only additional efforts required by TYLI. Additional meetings and communication with Caltrans and their consultants are also needed to ensure the combined deliverables will be completed within the project schedule. The Caltrans MAP SOW is funded by Caltrans' SHOPP funding for the construction phase.

# **Procurement Approach**

This procurement was handled in accordance with OCTA's Board-approved procedures for architectural and engineering services, which conform to both state and federal laws. The original firm-fixed price agreement was issued on November 30, 2020, in the amount of \$8,709,608, for the preparation of the PS&E. This agreement has been previously amended as shown in Attachment A. It has become necessary to amend the existing agreement to include additional design services.

OCTA staff negotiated the required level of effort with TYLI to provide the additional design services as described above. Staff found TYLI's price proposal, in the amount of \$2,232,131, to be fair and reasonable relative to the negotiated level of effort and the independent cost estimate prepared by the OCTA project manager. Proposed Amendment No. 5 to Agreement No. C-0-2073 will increase the total contract value to \$13,945,033.

#### Fiscal Impact

The Project is included in OCTA's Fiscal Year 2024-25 Budget, Capital Programs Division, Account No. 0017-7519-FI104-0U9, and will be funded through the net 91 Express Lanes excess revenues.

# Summary

Staff requests Board of Directors' approval to authorize the Chief Executive Officer to negotiate and execute Amendment No. 5 to Agreement No. C-0-2073 between the Orange County Transportation Authority and T.Y. Lin International to increase funding, in the amount of \$2,232,131, for additional design services for the State Route 91 Improvement Project between Acacia Street and La Palma Avenue.

# Amendment to Agreement for Additional Design Services for State Route 91 Improvement Project Between Acacia Street and La Palma Avenue

Page 5

## Attachment

A. T.Y. Lin International, Agreement No. C-0-2073 Fact Sheet

Prepared by:

Jeannie Lee, P.E.

Senior Project Manager

(714) 560-5735

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

## T.Y. Lin International Agreement No. C-0-2073 Fact Sheet

- 1. July 13, 2020, Agreement No. C-0-2073, \$8,709,608, approved by the Board of Directors (Board).
  - The agreement was executed on November 30, 2020, for the preparation of plans, specifications, and estimates for the State Route 91 Improvement Project between Acacia Street and La Palma Avenue.
- 2. February 14, 2022, Amendment No. 1 to Agreement No. C-0-2073, \$1,964,639, approved by the Board.
  - Additional design and environmental clearance services for the new Orangethorpe Avenue bypass ramp bridge.
  - Electrical and lighting plans for the La Palma Avenue bridge.
  - Change in key personnel.
- 3. January 10, 2023, Amendment No. 2 to Agreement No. C-0-2073, \$70,007, approved by the Contracts Administration and Materials Management (CAMM) Department.
  - Additional design services for the bypass ramp for the northbound State Route 57.
- 4. November 13, 2023, Amendment No. 3 to Agreement No. C-0-2073, \$968,648, approved by the Board.
  - Additional design services for roadway design, supplemental reports, and additional efforts for combined deliverables that include the California Department of Transportation multi-asset project scope.
- 5. December 17, 2024, Amendment No. 4 to Agreement No. C-0-2073, \$0, approved by the CAMM Department.
  - Change in key personnel.
- 6. April 14, 2025, Amendment No. 5 to Agreement No. C-0-2073, \$2,232,131, pending approval by the Board.
  - Additional design services for roadway design, right-of-way engineering services, reports, and environmental services.

Total funds committed to T.Y. Lin International after approval of Amendment No. 5 to Agreement No. C-0-2073: \$13,945,033.



### April 14, 2025

**To:** Members of the Board of Directors

**From:** Darrell E. Johnson, Chief Executive Officer

**Subject:** Approval to Release Request for Proposals for Program

Management and Construction Management Services for Improvements to Orange County Transportation Authority

**Headquarters Property** 

### Overview

Staff has developed a request for proposals to initiate a competitive procurement process to retain a consultant to provide program management and construction management services for the new Orange County Transportation Authority headquarters property.

### Recommendations

- A. Approve the proposed evaluation criteria and weightings for Request for Proposals 5-3977 to select a firm to provide consultant services for program management and construction management services for improvements to the new Orange County Transportation Authority headquarters property.
- B. Approve the release of Request for Proposals 5-3977 for consultant services for program management and construction management for improvements to the new Orange County Transportation Authority headquarters property.

### Discussion

On August 12, 2024, the Orange County Transportation Authority (OCTA) Board of Directors (Board) approved the purchase of the property located at 2677 North Main Street, Santa Ana to serve as the new headquarters property for OCTA. The acquisition plan presented to the Board for the purchase of the property also included the need to make improvements within the office tower and to construct a new boardroom/conference facility.

Approval to Release Request for Proposals for Program Management and Construction Management Services for Improvements to Orange County Transportation Authority's Headquarters Property

On October 25, 2024, OCTA closed escrow on the purchase of the property. In order to meet the business needs of OCTA, improvements will need to be made within the office tower, which will house OCTA administrative staff and tenants, and a new boardroom/conference room facility will need to be constructed, which will host OCTA's Board and committee meetings, as well as serve as the conference center for OCTA administrative staff. During the acquisition process of the property, OCTA utilized consulting services to develop high-level floor plan layouts for the office tower as well as a high-level site plan for the boardroom/conference room facility.

On January 13, 2025, the Board approved the release of a request for proposals (RFP) for the preparation of plans, specifications, and estimates for improvements to the new OCTA headquarters property. OCTA is now seeking a qualified firm to provide program management and construction management services to support and manage the improvement project, including providing technical expertise related to materials testing, quality assurance, surveying, safety oversight, environmental monitoring, building commissioning, and inspection services.

### **Procurement Approach**

OCTA's Board-approved procurement policies and procedures require that the Board approve all RFPs over \$1,000,000, as well as approve the evaluation criteria and weightings. Staff is submitting for Board approval the draft RFP and evaluation criteria and weightings, which will be used to evaluate proposals received in response to the RFP. The recommended evaluation criteria and weightings are as follows:

•	Qualifications of the Firm	20 percent
•	Staffing and Project Organization	40 percent
•	Workplan	40 percent

The evaluation criteria and weightings are consistent with criteria developed for similar architectural and engineering (A&E) procurements. Several factors were considered in developing the criteria weightings. The firm's qualifications and experience in performing relevant work of similar scope, size, and complexity are important to the success of the project. Next, staff proposes to give a high level of importance to staffing and project organization, as the qualifications of the project manager and other key task leaders are critical to understanding the project requirements and to the timely delivery and successful performance of the work. An equal level of importance is also assigned to the work plan, as the

technical approach to the project is critical to the successful performance of the project. As this is an A&E procurement, price is not an evaluation criterion pursuant to state and federal laws.

This RFP will be released upon Board approval of these recommendations.

### Fiscal Impact

The project is included in OCTA's proposed Fiscal Year 2025-26 Budget, Capital Programs Division, Account No. 0001-9085-HQ003-HQ3, and is funded with Local Transportation funds.

### Summary

Board of Directors' approval is requested to release Request for Proposals 5-3977 for consultant services for program management and construction management services for improvements to the new Orange County Transportation Authority headquarters property, as well as approval of the proposed evaluation criteria and weightings.

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### Attachment

A. Draft Request for Proposals (RFP) 5-3977, Program Management/ Construction Management Services for Improvements to Orange County Transportation Authority's Headquarters Property

Prepared by:

Steven L. King, P.E.

Sr. Project Manager, Capital Programs

(714) 560-5874

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

### **DRAFT REQUEST FOR PROPOSALS (RFP) 5-3977**

## PROGRAM MANAGEMENT / CONSTRUCTION MANAGEMENT SERVICES FOR IMPROVEMENTS TO ORANGE COUNTY TRANSPORTATION AUTHORITY'S HEADQUARTERS PROPERTY



ORANGE COUNTY TRANSPORTATION AUTHORITY
550 South Main Street
P.O. Box 14184
Orange, CA 92863-1584
(714) 560-6282

### **Key RFP Dates**

Issue Date: April 14, 2025

Pre-Proposal Conference Date: April 22, 2025

Question Submittal Date: April 25, 2025

Proposal Submittal Date: May 12, 2025

Interview Date: June 11, 2025

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### **NOTICE OF REQUEST FOR PROPOSALS**

(RFP): 5-3977: "PROGRAM MANAGEMENT / CONSTRUCTION MANAGEMENT SERVICES FOR IMPROVEMENTS TO ORANGE COUNTY TRANSPORTATION AUTHORITY'S HEADQUARTERS PROPERTY"

TO: ALL OFFERORS

FROM: ORANGE COUNTY TRANSPORTATION AUTHORITY

The Orange County Transportation Authority (Authority) invites proposals from qualified consultants to provide program and construction management services for OCTA's headquarter improvements which will include tenant improvements to the existing 10-story building and construction of a new one-story double height building.

### **Prohibition:**

To prevent potential conflicts of interest, the prime consultant firm, including all subconsultants, awarded the contract for this solicitation for PM/CM services for improvements to the headquarters property for the Authority will be ineligible to participate (at any tier) in the contract for construction services for improvements to the headquarters property for Authority.

The prime consultant firm, including all subconsultants (at any tier) awarded the contract for the preparation of plans, specifications and estimates for improvement to the headquarters property for Authority, will be ineligible to participate (at any tier) in this contract for PM/CM services for improvements to the headquarters property for Authority.

Authority will evaluate potential conflicts of interest on a case-by-case basis.

Please note that by submitting a Proposal, Offeror certifies that it is not subject to any Ukraine/Russia-related economic sanctions imposed by the State of California or the United States Government including, but not limited to, Presidential Executive Order Nos. 13660, 13661, 13662, 13685, and 14065. Any individual or entity that is the subject of any Ukraine/Russia-related economic sanction is not eligible to submit a Proposal. In submitting a Proposal, all Offerors agree to comply with all economic sanctions imposed by the State or U.S. Government.

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Proposals must be submitted, electronically, through the following URL link: <a href="http://www.octa.net/Proposal Upload Link">http://www.octa.net/Proposal Upload Link</a>, at or before the deadline of 2:00 p.m. on May 12, 2025. The link has an upload file size limit of 80MB. Authority will not accept hard copy proposals for this RFP.

Offerors are instructed to click the upload link, select "RFP 5-3977" from the drop-down menu, and follow the instructions as prompted to upload the proposal. The upload link will expire at the submittal deadline and will not allow proposals to be uploaded.

Should Offerors encounter technical issues with uploading the proposals via the link provided, Offerors are required to contact the Contract Administrator prior to the submission deadline. Proposals and supplemental information to proposals received after the date and time specified above will be rejected.

Firms interested in obtaining a copy of this Request for Proposals (RFP) may do so by downloading the RFP from CAMM NET at <a href="https://cammnet.octa.net">https://cammnet.octa.net</a>.

All firms interested in doing business with the Authority are required to register their business on-line at CAMM NET. The website can be found at <a href="https://cammnet.octa.net">https://cammnet.octa.net</a>. From the site menu click on CAMM NET to register.

To receive all further information regarding this RFP 5-3977, firms and subconsultants must be registered on CAMM NET with at least one of the following commodity codes for this solicitation selected as part of the vendor's on-line registration profile:

<u>Category:</u>	Commodity:

Professional Consulting Consultant Services - General

Construction Consulting Architectural & Engineering

**Design Consulting** 

Consultant Services - Space -

Interior Design

Professional Services Engineering - Architectural

**Engineering - Environmental** 

Engineering - General General Construction -

Architectural

A pre-proposal conference will be held via teleconference on April 22, 2025, at 9:00 a.m.. Prospective Offerors may join or call-in using the following credentials:

• MS Teams Link

OR Call-in Number: 916-550-9867

Conference ID: 446 267 31#

A copy of the presentation slides and pre-proposal conference registration sheet(s) will be issued via addendum prior to the date of the pre-proposal conference. All prospective Offerors are encouraged to attend the pre-proposal conference.

The Authority has established June 11, 2025, as the date to conduct interviews. All prospective Offerors will be asked to keep this date available.

Certain labor categories under this project are subject to prevailing wages as identified in the State of California Labor Code commencing in Section 1770 et. Seq. It is required that all mechanics and laborers employed or working at the site be paid not less than the basic hourly rates of pay and fringe benefits as shown in the current minimum wage schedules. Offerors must use the current wage schedules applicable at the time the work is in progress.

Offerors are encouraged to subcontract with small businesses to the maximum extent possible.

All Offerors will be required to comply with all applicable equal opportunity laws and regulations.

The award of this contract is subject to receipt of federal, state and/or local funds adequate to carry out the provisions of the proposed agreement including the identified Scope of Work.

The prime consultants and all subconsultants awarded a contract as a result of this solicitation shall maintain an appropriate time-keeping system that identifies labor hours expended by project.

**SECTION I: INSTRUCTIONS TO OFFERORS** 

### SECTION I. INSTRUCTIONS TO OFFERORS

### A. PRE-PROPOSAL CONFERENCE

A pre-proposal conference will be held via teleconference on April 22, 2025, at 9:00 a.m.. Prospective Offerors may join or call-in using the following credentials:

MS Teams Link

o OR Call-in Number: 916-550-9867

o Conference ID: 446 267 31#

A copy of the presentation slides and pre-proposal conference registration sheet(s) will be issued via addendum prior to the date of the pre-proposal conference. All prospective Offerors are encouraged to attend the pre-proposal conference.

### B. EXAMINATION OF PROPOSAL DOCUMENTS

By submitting a proposal, Offeror represents that it has thoroughly examined and become familiar with the work required under this RFP and that it is capable of performing quality work to achieve the Authority's objectives.

### C. ADDENDA

The Authority reserves the right to revise the RFP documents. Any Authority changes to the requirements will be made by written addendum to this RFP. Any written addenda issued pertaining to this RFP shall be incorporated into the terms and conditions of any resulting Agreement. The Authority will not be bound to any modifications to or deviations from the requirements set forth in this RFP as the result of oral instructions. Offerors shall acknowledge receipt of addenda in their proposals. Failure to acknowledge receipt of Addenda may cause the proposal to be deemed non-responsive to this RFP and be rejected.

### D. AUTHORITY CONTACT

All communication and/or contacts with Authority staff regarding this RFP are to be directed to the following Contract Administrator:

Megan Bornman, Senior Contract Administrator Contracts Administration and Materials Management Department 600 South Main Street

P.O. Box 14184

Orange, CA 92863-1584

Phone: 714.560. 5064, Fax: 888.404.6282

Email: mbornman@octa.net

Commencing on the date of the issuance of this RFP and continuing until award of the contract or cancellation of this RFP, no offeror, subcontractor, lobbyist or

agent hired by the offeror shall have any contact or communications regarding this RFP with any Authority's staff; member of the evaluation committee for this RFP; or any contractor or consultant involved with the procurement, other than the Contract Administrator named above or unless expressly permitted by this RFP. Contact includes face-to-face, telephone, electronic mail (e-mail) or formal written communication. Any offeror, subcontractor, lobbyist or agent hired by the offeror that engages in such prohibited communications may result in disqualification of the offeror at the sole discretion of the Authority.

### E. CLARIFICATIONS

### 1. Examination of Documents

Should an Offeror require clarifications of this RFP, the Offeror shall notify the Authority in writing in accordance with Section E.2. below. Should it be found that the point in question is not clearly and fully set forth, the Authority will issue a written addendum clarifying the matter which will be sent to all firms registered on CAMM NET under the commodity codes specified in this RFP.

### 2. Submitting Requests

- a. All questions, including questions that could not be specifically answered at the pre-proposal conference must be put in writing and must be received by the Authority no later than 5:00 p.m., on April 25, 2025.
- b. Requests for clarifications, questions and comments must be clearly labeled, "Written Questions". The Authority is not responsible for failure to respond to a request that has not been labeled as such.
- c. Any of the following methods of delivering written questions are acceptable as long as the questions are received no later than the date and time specified above:
  - (1) Email: mbornman@octa.net

### 3. Authority Responses

Responses from the Authority will be posted on CAMM NET, no later than May 1, 2025. Offerors may download responses from CAMM NET at <a href="https://cammnet.octa.net">https://cammnet.octa.net</a>, or request responses be sent via email.

To receive email notification of Authority responses when they are posted on CAMM NET, firms and subconsultants must be registered on CAMM NET with at least one of the following commodity codes for this solicitation selected as part of the vendor's on-line registration profile:

<u>Category:</u> <u>Commodity:</u>

Professional Consulting Consultant Services - General

Construction Consulting Architectural & Engineering

**Design Consulting** 

Consultant Services - Space -

Interior Design

Professional Services Engineering - Architectural

Engineering - Environmental

Engineering - General General Construction -

Architectural

Inquiries received after 5:00 p.m. on April 25, 2025, will not be responded to.

### F. SUBMISSION OF PROPOSALS

### 1. Date and Time

Proposals must be submitted, electronically, through the following URL link: <a href="http://www.octa.net/Proposal Upload Link">http://www.octa.net/Proposal Upload Link</a>, at or before the deadline of 2:00 p.m. on May 12, 2025. The link has an upload file size limit of 80MB. Authority will not accept hard copy proposals for this RFP.

Offerors are instructed to click the upload link, select "RFP 5-3977" from the drop-down menu, and follow the instructions as prompted to upload the proposal. The upload link will expire at the submittal deadline and will not allow proposals to be uploaded.

Should Offerors encounter technical issues with uploading the proposals via the link provided, Offerors are required to contact the Contract Administrator prior to the submission deadline. Proposals and supplemental information to proposals received after the date and time specified above will be rejected.

### 2. Acceptance of Proposals

- a. The Authority reserves the right to accept or reject any and all proposals, or any item or part thereof, or to waive any informalities or irregularities in proposals.
- b. The Authority reserves the right to withdraw or cancel this RFP at any time without prior notice and the Authority makes no representations that any contract will be awarded to any Offeror responding to this RFP.

- c. The Authority reserves the right to issue a new RFP for the project.
- d. The Authority reserves the right to postpone proposal openings for its own convenience.
- e. Each proposal will be received with the understanding that acceptance by the Authority of the proposal to provide the services described herein shall constitute a contract between the Offeror and Authority which shall bind the Offeror on its part to furnish and deliver at the prices given and in accordance with conditions of said accepted proposal and specifications.
- f. The Authority reserves the right to investigate the qualifications of any Offeror, and/or require additional evidence of qualifications to perform the work.
- g. Submitted proposals are not to be copyrighted.

### G. PRE-CONTRACTUAL EXPENSES

The Authority shall not, in any event, be liable for any pre-contractual expenses incurred by Offeror in the preparation of its proposal. Offeror shall not include any such expenses as part of its proposal.

Pre-contractual expenses are defined as expenses incurred by Offeror in:

- 1. Preparing its proposal in response to this RFP;
- Submitting that proposal to the Authority;
- 3. Negotiating with the Authority any matter related to this proposal; or
- 4. Any other expenses incurred by Offeror prior to date of award, if any, of the Agreement.

### H. JOINT OFFERS

Where two or more firms desire to submit a single proposal in response to this RFP, they should do so on a prime-subcontractor basis rather than as a joint venture. The Authority intends to contract with a single firm and not with multiple firms doing business as a joint venture.

### I. TAXES

Offerors' proposals are subject to State and Local sales taxes. However, the Authority is exempt from the payment of Federal Excise and Transportation Taxes. Offeror is responsible for payment of all taxes for any goods, services, processes and operations incidental to or involved in the contract.

### J. PROTEST PROCEDURES

The Authority has on file a set of written protest procedures applicable to this solicitation that may be obtained by contacting the Contract Administrator responsible for this procurement. Any protests filed by an Offeror in connection with this RFP must be submitted in accordance with the Authority's written procedures.

### K. CONTRACT TYPE

It is anticipated that the Agreement resulting from this solicitation, if awarded, will be a time and expense contract with fully burdened labor rates and anticipated expenses for work specified in the scope of work, included in the RFP as Exhibit A

### L. PREVAILING WAGES

Certain labor categories under this project are subject to prevailing wages as identified in the State of California Labor Code commencing in Section 1770 et.seq. The offeror to whom a contract for the work is awarded by the Authority shall comply with the provision of the California Labor Code, including, without limitation, the obligation to pay the general prevailing rates of wages in the locality in which the work is to be performed in accordance with, without limitation, Sections 1773.1, 1774, 1775 and 1776 of the California Labor Code governing employment of apprentices. Copies of the prevailing rates of per diem wages are on file at the Authority's principal office at 550 S. Main Street, Orange, CA 92868 and are available to any interested party on request.

### M. CONFLICT OF INTEREST

All Offerors responding to this RFP must avoid organizational conflicts of interest which would restrict full and open competition in this procurement. An organizational conflict of interest means that due to other activities, relationships or contracts, an Offeror is unable, or potentially unable to render impartial assistance or advice to the Authority; an Offeror's objectivity in performing the work identified in the Scope of Work is or might be otherwise impaired; or an Offeror has an unfair competitive advantage. Conflict of Interest issues must be fully disclosed in the Offeror's proposal.

All Offerors must disclose in their proposal and immediately throughout the course of the evaluation process if they have hired or retained an advocate to lobby Authority staff or the Board of Directors on their behalf.

Offerors hired to perform services for the Authority are prohibited from concurrently acting as an advocate for another firm who is competing for a contract with the Authority, either as a prime or subcontractor.

### N. CODE OF CONDUCT

All Offerors agree to comply with the Authority's Code of Conduct as it relates to Third-Party contracts which is hereby referenced and by this reference is incorporated herein. All Offerors agree to include these requirements in all of its subcontracts.

### O. OWNERSHIP OF RECORDS/PUBLIC RECORDS ACT

All proposals and documents submitted in response to this RFP shall become the property of the Authority and a matter of public record pursuant to the California Public Records Act, Government Code sections 7920.000 et seq. (the "Act"). Offerors should familiarize themselves with the provisions of the Act requiring disclosure of public information. Offerors are discouraged from marking their proposal documents as "confidential" or "proprietary."

If a Proposal does include "confidential" or "proprietary" markings and the Authority receives a request pursuant to the Act, the Authority will endeavor (but cannot guarantee) to notify the Offeror of such a request. In order to protect any information submitted within a Proposal, the Offeror must pursue, at its sole cost and expense, any and all appropriate legal action necessary to maintain the confidentiality of such information. The Authority generally does not consider pricing information, subcontractor lists, or key personnel, including resumes, as being exempt from disclosure under the Act. In no event shall the Authority or any of its officers, directors, employees, agents, representatives, or consultants be liable to a Offeror for the disclosure of any materials or information submitted in response to the RFP or by failing to notify a Offeror of a request seeking its Proposal. The Authority reserves the right to make an independent decision to disclose records and material.

Notwithstanding the above, all information regarding proposal responses will be held as confidential until such time as the evaluation has been completed; an award has been made by the Board of Directors or Authority Staff, as appropriate; and the contract has been fully negotiated.

### P. STATEMENT OF ECONOMIC INTERESTS

The awarded Offeror (including designated employees and subconsultants) may be required to file Statements of Economic Interests (Form 700) in accordance with the Political Reform Act (Government Code section 81000 et seq.). This applies to individuals who make, participate in making, or act in a staff capacity for making governmental decisions. The AUTHORITY determines which individuals are required to file a Form 700, and if such determination is made, the individuals must file Form 700s with the AUTHORITY's Clerk of the Board no later than 30 days after the execution of the Agreement, annually thereafter for the duration of the Agreement, and within 30 days of termination of the Agreement.

### Q. PROHIBITION

To prevent potential conflicts of interest, the prime consultant firm, including all subconsultants, awarded the contract for this solicitation for PM/CM services for improvements to the headquarters property for the Authority will be ineligible to participate (at any tier) in the contract for construction services for improvements to the headquarters property for Authority.

The prime consultant firm, including all subconsultants (at any tier) awarded the contract for the preparation of plans, specifications and estimates for improvement to the headquarters property for Authority, will be ineligible to participate (at any tier) in this contract for PM/CM services for improvements to the headquarters property for Authority.

Authority will evaluate potential conflicts of interest on a case-by-case basis.

**SECTION II: PROPOSAL CONTENT** 

### **SECTION II. PROPOSAL CONTENT**

### A. PROPOSAL FORMAT AND CONTENT

### 1. Format

Proposals should be typed with a standard 12-point font, double-spaced, and submitted in 8 1/2" x 11" format. Charts and schedules may be included in 11" x 17" format. Proposals should not include any unnecessarily elaborate or promotional materials. Proposals should not exceed fifty (50) pages in length, excluding any appendices, cover letters, resumes, or forms.

### 2. Letter of Transmittal

The Letter of Transmittal shall be addressed to Megan Bornman, Senior Contract Administrator and must, at a minimum, contain the following:

- a. Identification of Offeror that will have contractual responsibility with the Authority. Identification shall include legal name of company, corporate address, telephone and fax number, and email address. Include name, title, address, email address and telephone number of the contact person identified during period of proposal evaluation.
- b. Identification of all proposed subcontractors including legal name of company, whether the firm is a Disadvantaged Business Enterprise (DBE), contact person's name and address, phone number and fax number, and email address; relationship between Offeror and subcontractors, if applicable.
- c. Acknowledgement of receipt of all RFP addenda, if any.
- d. A statement to the effect that the proposal shall remain valid for a period of not less than 180 days from the date of submittal.
- e. Signature of a person authorized to bind Offeror to the terms of the proposal.
- f. Signed statement attesting that all information submitted with the proposal is true and correct.

### 3. Technical Proposal

### a. Qualifications, Related Experience and References of Offeror

This section of the proposal should establish the ability of Offeror to satisfactorily perform the required work by reasons of: experience in

performing work of a similar nature; demonstrated competence in the services to be provided; strength and stability of the firm; staffing capability; work load; record of meeting schedules on similar projects; and supportive client references.

### Offeror to:

- (1) Provide a brief profile of the firm, including the types of services offered; the year founded; form of the organization (corporation, partnership, sole proprietorship); number, size and location of offices; and number of employees.
- (2) Provide a general description of the firm's financial condition and identify any conditions (e.g., bankruptcy, pending litigation, planned office closures, impending merger) that may impede Offeror's ability to complete the project.
- (3) Describe the firm's experience in performing work of a similar nature to that solicited in this RFP, and highlight the participation in such work by the key personnel proposed for assignment to this project.
- (4) Identify subcontractors by company name, address, contact person, telephone number, email, and project function. Describe Offeror's experience working with each subcontractor.
- (5) Identify all firms hired or retained to provide lobbying or advocating services on behalf of the Offeror by company name, address, contact person, telephone number and email address. This information is required to be provided by the Offeror immediately during the evaluation process, if a lobbyist or advocate is hired or retained.
- (6) Provide as a minimum three (3) references for the projects cited as related experience, and furnish the name, title, address, telephone number, and email address of the person(s) at the client organization who is most knowledgeable about the work performed. Offeror may also supply references from other work not cited in this section as related experience.

### b. Proposed Staffing and Project Organization

This section of the proposal should establish the method, which will be used by the Offeror to manage the project as well as identify key personnel assigned.

### Offeror to:

- (1) Identify key personnel proposed to perform the work in the specified tasks and include major areas of subcontract work. Include the person's name, current location, proposed position for this project, current assignment, level of commitment to that assignment, availability for this assignment and how long each person has been with the firm.
- (2) Furnish brief resumes (not more than two [2] pages each) for the proposed Project Manager and other key personnel that includes education, experience, and applicable professional credentials.
- (3) Indicate adequacy of labor resources utilizing a table projecting the resource allocation to the project by individual task.
- (4) Include a project organization chart, which clearly delineates communication/reporting relationships among the project staff.
- (5) Include a statement that key personnel will be available to the extent proposed for the duration of the project acknowledging that no person designated as "key" to the project shall be removed or replaced without the prior written concurrence of the Authority.

### c. Work Plan

Offeror should provide a narrative, which addresses the Scope of Work, and shows Offeror's understanding of Authority's needs and requirements.

### Offeror to:

- (1) Describe the approach to completing the tasks specified in the Scope of Work. The approach to the work plan shall be of such detail to demonstrate the Offeror's ability to accomplish the project objectives and overall schedule.
- (2) Furnish a project schedule for completing the tasks in terms of elapsed weeks.
- (3) Identify methods that Offeror will use to ensure quality control as well as budget and schedule control for the project.
- (4) Identify any special issues or problems that are likely to be encountered in this project and how the Offeror would propose to address them.

(5) Offeror is encouraged to propose enhancements or procedural or technical innovations to the Scope of Work that do not materially deviate from the objectives or required content of the project.

### d. Exceptions/Deviations

State any technical and/or contractual exceptions and/or deviations from the requirements of this RFP, including the Authority's technical requirements and contractual terms and conditions set forth in the Scope of Work (Exhibit A) and Proposed Agreement (Exhibit B), using the form entitled "Proposal Exceptions and/or Deviations" included in this RFP. This Proposal Exceptions and/or Deviations form must be included in the original proposal submitted by the Offeror. If no technical or contractual exceptions and/or deviations are submitted as part of the original proposal, Offerors are deemed to have accepted the Authority's technical requirements and contractual terms and conditions set forth in the Scope of Work (Exhibit A) and Proposed Agreement (Exhibit B). Offerors will not be allowed to submit the Proposal Exceptions and/or Deviations form or any technical and/or contractual exceptions after the proposal submittal date identified in the RFP. Exceptions and/or deviations submitted after the proposal submittal date will not be reviewed by Authority.

All exceptions and/or deviations will be reviewed by the Authority and will be assigned a "pass" or "fail" status. Exceptions and deviations that "pass" do not mean that the Authority has accepted the change but that it is a potential negotiable issue. Exceptions and deviations that receive a "fail" status means that the requested change is not something that the Authority would consider a potential negotiable issue. Offerors that receive a "fail" status on their exceptions and/or deviations will be notified by the Authority and will be allowed to retract the exception and/or deviation and continue in the evaluation process. Any exceptions and/or deviation that receive a "fail" status and the Offeror cannot or does not retract the requested change may result in the firm being eliminated from further evaluation.

### 4. Cost and Price Proposal

Offerors are asked to submit only the technical qualifications as requested in the RFP. No cost proposal or work hours are to be included in this phase of the RFP process. Upon completion of the initial evaluations and interviews, if conducted, the highest ranked Offeror will be asked to submit a detailed cost proposal and negotiations will commence based on both the cost and technical proposals.

### 5. Appendices

Information considered by Offeror to be pertinent to this project and which has not been specifically solicited in any of the aforementioned sections may be placed in a separate appendix section. Offerors are cautioned, however, that this does not constitute an invitation to submit large amounts of extraneous materials. Appendices should be relevant and brief.

### B. FORMS

### 1. Campaign Contribution Disclosure Form

In conformance with the statutory requirements of the State of California Government Code Section 84308, part of the Political Reform Act and Title 2, California Code of Regulations 18438 through 18438.8, regarding campaign contributions to members of appointed Board of Directors, Offeror is required to complete and sign the Campaign Contribution Disclosure Form provided in this RFP and submit as part of the proposal.

This form **must** be completed regardless of whether a campaign contribution has been made or not and regardless of the amount of the contribution.

The prime contractor, subconsultants, lobbyists and agents are required to report all campaign contributions made from the proposal submittal date up to and until the Board of Directors makes a selection.

Offeror is required to submit only **one** copy of the completed form(s) as part of its proposal and it must be included in only the **original** proposal.

Offeror is required to report any campaign contributions made by the prime contractor, subconsultants, lobbyists and agents after the proposal submittal date, and up to the anticipated Board of Directors selection. The offeror shall use the campaign contribution form for any additional reporting. The forms must be submitted at least 15 calendar days prior to the Board Committee date on Finance and Administration and sent via e-mail to the Contract Administrator.

### 2. Status of Past and Present Contracts Form

Offeror shall complete and sign the form entitled "Status of Past and Present Contracts" provided in this RFP and submit as part of its proposal. Offeror shall identify the status of past and present contracts where the firm has either provided services as a prime vendor or a subcontractor during the past five (5) years in which the contract has been the subject of or may be involved in litigation with the contracting authority. This includes, but is not limited to, claims, settlement agreements, arbitrations, administrative

proceedings, and investigations arising out of the contract. Offeror shall have an ongoing obligation to update the Authority with any changes to the identified contracts and any new litigation, claims, settlement agreements, arbitrations, administrative proceedings, or investigations that arise subsequent to the submission of Offeror's proposal.

A separate form must be completed for each identified contract. Each form must be signed by the Offeror confirming that the information provided is true and accurate. Offeror is required to submit one copy of the completed form(s) as part of its proposals and it should be included in only the original proposal.

### 3. Proposal Exceptions and/or Deviations Form

Offerors shall complete the form entitled "Proposal Exceptions and/or Deviations" provided in this RFP and submit it as part of the original proposal. For each exception and/or deviation, a new form should be used, identifying the exception and/or deviation and the rationale for requesting the change. Exceptions and/or deviations submitted after the proposal submittal date will not be reviewed nor considered by the Authority.

SECTION III: EVALUATION AND AWARD

### SECTION III. EVALUATION AND AWARD

### A. EVALUATION CRITERIA

The Authority will evaluate the offers received based on the following criteria:

### 1. Qualifications of the Firm

20%

Technical experience in performing work of a closely similar nature; strength and stability of the firm; strength, stability, experience and technical competence of subcontractors; assessment by client references.

### 2. Staffing and Project Organization

40%

Qualifications of project staff, particularly key personnel and especially the Project Manager; key personnel's level of involvement in performing related work cited in "Qualifications of the Firm" section; logic of project organization; adequacy of labor commitment; concurrence in the restrictions on changes in key personnel.

3. Work Plan 40%

Depth of Offeror's understanding of Authority's requirements and overall quality of work plan; logic, clarity and specificity of work plan; appropriateness of resource allocation among the tasks; reasonableness of proposed schedule; utility of suggested technical or procedural innovations.

### B. EVALUATION PROCEDURE

An evaluation committee will be appointed to review all proposals received for this RFP. The committee is comprised of Authority staff and may include outside personnel. The committee members will evaluate the written proposals using criteria identified in Section III A. A list of top ranked proposals, firms within a competitive range, will be developed based upon the totals of each committee members' score for each proposal.

During the evaluation period, the Authority may interview some or all of the proposing firms. The Authority has established June 11, 2025, as the date to conduct interviews. All prospective Offerors are asked to keep this date available. No other interview dates will be provided, therefore, if an Offeror is unable to attend the interview on this date, its proposal may be eliminated from further discussion. The interview may consist of a short presentation by the Offeror after which the evaluation committee will ask questions related to the firm's proposal and qualifications.

At the conclusion of the proposal evaluations, the evaluation committee will score the proposals to develop a competitive range. Offerors remaining within the competitive range may be asked to submit a Best and Final Offer (BAFO). In the BAFO request, the firms may be asked to provide additional information, confirm or clarify issues and submit a final cost/price offer. A deadline for submission will be stipulated.

At the conclusion of the evaluation process, the evaluation committee will recommend to the Finance and Administration Committee, the Offeror with the highest final ranking or a short list of top ranked firms within the competitive range whose proposal(s) is most advantageous to the Authority. The Finance and Administration Committee will review the evaluation committee's recommendation and forward its recommendation to the Board of Directors for final action.

### C. AWARD

The Authority's Board of Directors will consider the selection of the firm(s) recommended by the Board Committee.

The Authority may also negotiate contract terms with the selected Offeror prior to award, and expressly reserves the right to negotiate with several Offerors simultaneously and, thereafter, to award a contract to the Offeror offering the most favorable terms to the Authority.

Offeror acknowledges that the Authority's Board of Directors reserves the right to award this contract in its sole and absolute discretion to any Offeror to this RFP regardless of the evaluation committee's recommendation or recommendation of a Board Committee.

The Authority reserves the right to award its total requirements to one Offeror or to apportion those requirements among several Offerors as the Authority may deem to be in its best interest. In addition, negotiations may or may not be conducted with Offerors; therefore, the proposal submitted should contain Offeror's most favorable terms and conditions, since the selection and award may be made without discussion with any Offeror.

The selected Offeror will be required to submit to the Authority's Accounting department a current IRS W-9 form prior to commencing work.

### D. NOTIFICATION OF AWARD AND DEBRIEFING

Offerors who submit a proposal in response to this RFP shall be notified via CAMM NET of the contract award. Such notification shall be made within three (3) business days of the date the contract is awarded.

Offerors who were not awarded the contract may obtain a debriefing concerning the strengths and weaknesses of their proposal. Unsuccessful Offerors, who wish to be debriefed, must request the debriefing in writing or electronic mail and the Authority must receive it within three (3) business days of notification of the contract award.

**EXHIBIT A: SCOPE OF WORK** 

## **SCOPE OF WORK**

# RFP 5-3977 PROGRAM MANAGEMENT / CONSTRUCTION MANAGEMENT SERVICES FOR OCTA HEADQUARTERS IMPROVEMENTS

April 2025

### **SCOPE OF WORK**

### A. PROJECT BACKGROUND:

The Orange County Transportation Authority (Authority or OCTA) is seeking proposals from qualified firms to provide program management and construction management services for proposed improvements to an existing office building that will become a new Headquarters Facility (Headquarters) for OCTA. The planned improvements include tenant improvements to the existing 10-story building and construction of a new one-story double-height building, approximately additional 8,000 square feet (SF), adjacent to the 10-story building (Project).

The Project site is approximately X acres and is located at 2677 North Main Street in the City of Santa Ana.

The selected firm (CONSULTANT) shall have experience in providing program and construction management services in the required areas of expertise for similar office building facilities and shall be familiar with all requirements of projects funded by local transportation funds.

### **Project Overview**

The Headquarters will be a "purpose" designed facility for OCTA operations. It will specifically address the needs and requirements of OCTA's administrative operations with the goal of supporting job duties, efficiency, functionality, communication, and related operations. Within this new facility, the following OCTA functions will be housed:

- Employee/Staff Office Space
- Boardroom and Conference Space

### **State and Local Requirements**

Work shall conform to the governing standards and current requirements of state and local agencies such as OCTA, City of Santa Ana, Division of State Architect (DSA), Caltrans, and all other agencies having jurisdiction (AHJ) over the Project. In addition, work shall conform to the guidance and best practices of transportation organizations such as the American Public Transit Association (APTA), American Association of State Highway and Transportation Officials (AASHTO), the National Association of City Transportation Officials (NACTO), and Office of State Fire Marshalls. Other conformance documents/requirements shall include California Title 24, Building Codes, Fire Protection Codes, Occupational Safety and Health (OSHA) requirements, Crime Prevention Through Environmental Design (CPTED), the Manual on Uniform Traffic Control Devices (MUTCD), OCTA Standards for Contract Documents including General Provisions, Special Provisions, and Technical Specifications, and the OCTA Right of Way Manual, and all other applicable codes and regulations. Should state and local requirements change during Project implementation, the Consultant shall discuss scope ramifications with OCTA before proceeding further.

### **B. DEFINITIONS:**

As used throughout this Scope of Work, the following terms shall have the meanings set forth below:

- 1. 'OCTA' or 'AUTHORITY' shall be the ORANGE COUNTY TRANSPORTATION AUTHORITY.
- 'Project Manager' shall mean the Chief Executive Officer of OCTA acting either directly or through properly authorized agents or representatives acting with the scope of particular duties entrusted to them.

- 3. 'City' shall mean the City of Santa Ana.
- 4. 'County' shall mean the County of Orange
- 5. 'Project" or 'Headquarters' shall mean all of the components included in the project plans and specifications and other construction contract documents.
- 6. 'CONSULTANT' shall mean the firm responsible for the scope of work included in this Agreement.
- 7. 'Design Consultant' shall mean the Architectural/Engineering firm responsible for the design of the Project.
- 8. 'Contractor' as used in this Scope of Work means the person or persons, firm, partnership, corporation, or combination thereof, private or municipal who have entered into construction contract with OCTA, to construct the Project.
- 9. 'Construction Contract' shall mean the agreement between OCTA and Contractor to construct the Project.
- 10. 'Construction Contract Documents' shall mean all project plans, specifications, and all other construction documents in the Agreement between OCTA and Contractor.
- 11. 'Agency Having Jurisdiction' (AHJ) shall mean the local City and agencies having jurisdiction over the Project.

### C. SCOPE OF WORK

### 1. <u>General Descriptions and Requirements</u>

CONSULTANT shall function as an agent of OCTA by providing construction management as required to effectively manage the Project construction and administer the construction contract in accordance with the requirements established within the Agreement and OCTA construction management procedures. Under general direction of the Project Manager, the CONSULTANT shall provide staff and technical expertise for construction management services, materials testing, quality assurance surveying, safety oversight, environmental monitoring, building commissioning, inspection services, and all other construction management services for the construction of Headquarters as required in this scope of work. The general responsibilities of the CONSULTANT are:

- a. Perform pre-construction services to support elements of the Project, including constructability review and recommendations, assisting OCTA in bid process, response to bidders' questions, Invitation for Bid (IFB) and addenda preparation support, performing bid analysis, and all other tasks as required.
- b. Perform project inspection, ensure that materials and workmanship are in conformance with the construction contract documents and all applicable codes and regulations.
- c. Monitor the progress of the work to ensure the Project is completed within the allotted construction contract time and within budget. The CONSULTANT shall ensure that the project schedule is prepared and monitored throughout the duration of the Project.
- d. Maintain accurate project records of all construction activities and cost. The CONSULANT shall prepare, implement, and maintain document control procedures throughout the duration of the Project.
- e. Provide materials testing and inspection services and all field inspection services required per Construction Contract Documents. The CONSULANT shall prepare and

- implement a material testing plan for the Project that conforms to the requirements of the Construction Contract Documents, AHJ, and OCTA.
- f. Perform quality assurance survey as required for the Project.
- g. Ensure that the environmental mitigation measure included in the Project environmental documents are implemented and maintained for the duration of the Project. Provide assistance to OCTA in environmental monitoring, compliance and reporting activities, including but not limited to, providing field and reporting support..
- h. Ensure that erosion control measures are implemented and maintained in accordance with the Storm Water Pollution Prevention Plan (SWPPP).
- i. Ensure compliance with all applicable local, state, and federal safety laws.
- j. Provide safety oversight, ensure that a construction safety plan is prepared, implemented, and maintained for the duration of the Project.
- k. Coordinate communications between Contractor and all other Project participants, process, collect and maintain Project communications and records.
- I. Implement the procedures set forth in the AUTHORITY's Facilities Engineering Construction Management Procedures, the latest version.
- m. Perform all other tasks as required and related in this Scope of Work.

CONSULTANT staff shall work with the OCTA's Capital Programs Department in managing the construction of Project. Specific tasks are described in Section 2.0 below.

OCTA shall decide all questions which may arise as to the quality or acceptability of deliverables furnished and work performed by CONSULTANT.

### **Project Schedule:**

Construction of Headquarters project is expected to be completed over a period of approximately thirty-six (36) months starting from Notice to Proceed date of the Construction Contract. CONSULTANT is expected to be involved with the Project earlier for constructability review.

The current project schedule will be as follows:

Program Management /Construction Management (PMCM) Services

PMCM Services Project Advertisement:

PMCM Services Contract Award:

April 2025

August 2025

PMCM Services NTP:

October 2025

Project Design and Construction

100% Tenant Improvement Design December 2025

100% Board Room Design

Tenant Improvement Construction Project Advertisement:

Construction Start:

July 2026

April 2026

May 2026

Board Room Construction Project Advertisement: February 2027

Tenant Improvement Construction completion: October 2026

Board Room Construction completion: May 2028

Construction Closeout Finish: December 2028

### **Level of Support:**

The anticipated level of support required from the CONSULTANT under this Agreement scope of work are as below. The level of support staff and duration of assignments will be re-evaluated periodically and determined by OCTA to assure that the appropriate level of support is maintained as required for the Project. CONSULTANT's personnel shall be available within two (2) weeks from written request by OCTA.

- One (1) full time Project Manager
- One (1) full time Construction Manager/Resident Engineer (CM/RE)
- One (1) full time Assistance Resident Engineer (Assistant RE)
- One (1) full time Administration/Document Control personnel
- One (1) Lead General Building Inspector
- One (1) Lead Mechanical/Electrical/Plumbing (MEP) Inspector
- One (1) full time Health, Safety and Environmental (HSE) Representative
- One (1) part time Structures Representative
- Environmental Specialist based on project needs
- Field inspectors with disciplines based on project needs
- Soils & Materials Testing Personnel based on project needs

- Surveying crew based on project needs
- On-call Specialists (Fire Protection Systems, Elevator ...) based on project needs
- Commissioning Agent

OCTA will provide access to project design documents and an OCTA email address to each of CONSULTANT's staff working on the Project. Any special equipment or supplies including vehicles for transportation, laptop computers, cellular phones, and other mobile devices required for CONSULTANT's staff to perform duties in this Scope of Work shall be provided by the CONSULTANT.

CONSULTANT shall provide and maintain its own field office, utilities, furniture, all necessary instruments, tools, equipment and computer software/programs, safety equipment to its personnel to perform duties in this Scope of Work accurately, efficiently, and safely. Field office shall be in a close proximity within two miles of the Project site, approximately 1,000 square feet in size at rental cost not more than \$2.00 per square foot per month. CONSULTANT's personnel shall be paid for the work time spent only at either Project construction site or in CONSULTANT's field office.

Any expense for new CONSULTANT's staff not listed within the Exhibit entitled "Schedule I – Direct Labor Rates", whether at the prime or sub-consultant level, will not be paid, unless prior written approval has been received from OCTA, and the employee's name, function, their respective payroll records are submitted no later than fourteen (14) days from the performance of the work. Overtime shall not be reimbursed without OCTA's prior written approval and only as required by prevailing wage laws.

Any expense for other direct costs (ODCs) not listed within Exhibit entitled "Schedule II – Other Direct Costs", whether at the prime or sub-consultant level, will not be paid unless submitted and accepted in accordance with the terms of the Agreement.

### **Communication:**

All written and electronic communications between the Contractor and AUTHORITY and between the Contractor and Design Consultant related to the Project shall flow through the CONSULTANT. As the AUTHORITY's agent, the CONSULTANT shall mange the Contractor's communications and submissions directed to the AUTHORITY and Design Consultant, review and forward the submissions, inquiries and requests to the appropriate party for a response, receive the reply, evaluate the reply for completeness, respond to the Contractor, and endeavor to ensure that the Contractor's submissions, inquiries and requests are responded to in a timely manner. CONSULTANT shall create, maintain, file and store all Project correspondence, records and documents in accordance with the AUTHORITY's Document Control System. No direct communication between Contractor and Design Consultant shall be allowed during the Project duration.

CONSULTANT shall include OCTA Project Manager and designated OCTA team members in project-related communications. All project-related communications shall be via platform listed below, unless otherwise directed by OCTA.

- Telephones, cellphones
- Microsoft Outlook emails
- Microsoft Teams
- Other SharePoint (Microsoft OneDrive or Microsoft Teams), at OCTA's discretion.
- No external SharePoint platform will be used for the Project.

## OCTA will provide CONSULTANT with the following:

Approved studies, reports, Construction Contract Documents including plans, specifications, general and special conditions of Project, environmental documents and all other project related documents, manuals, standard forms, policies and procedures to be followed by CONSULTANT's personnel in the performance of the work. Project documents are confidential and shall be used for the purpose of Project only. Dissemination of these documents outside of the Project is strictly prohibited.

### 2. Specific Scope of Services

## 2.1 TASK 1 – Program Management / Construction Management

CONSULTANT shall provide a qualified management team consisting of a Project Manager, Construction Manager/Resident Engineer (CM/RE) and an Assistant RE, and other personnel as required herein this Scope of Work.

CONSULTANT shall provide constructability and safety review of design submittals to ensure Crime Prevention Through Environmental Design (CPTED) best practices are incorporated into the final design. CONSULTANT shall ensure CPTED design features are implemented during construction, site is maintained during construction, and Operating and Maintenance Manuals document CPTED strategies and applications.

CONSULTANT shall perform project construction management related functions including but not limited to, construction oversight, technical assistance, agency coordination and public outreach, materials testing services, field inspections, structural observations, quality assurance surveying, Health, Safety and Environmental (HSE) inspections, on-call services required for construction of Headquarters, project closeout, and all other project construction management related work. CONSULTANT shall take responsibility for the quality, efficient and timely completion of all project work. CONSULTANT will be subject to periodic quality audits as determined by OCTA.

#### 2.1.1 Construction Management Plan

Within three (3) weeks from the Agreement Notice to Proceed (NTP), CONSULTANT shall prepare, submit to OCTA for review and acceptance a construction management plan (CMP). CONSULTANT shall implement the accepted CMP during the Project duration.

Prior to preparation of the CMP, CONSULTANT shall conduct a constructability review of the Construction Contract Documents, including plans, specifications, and other project documentations. CONSULTANT shall meet with the Design Consultant and OCTA to discuss any constructability issues and obtain any necessary design clarifications.

CMP shall demonstrate CONSULTANT's understanding of the Project and all requirements. CMP shall outline CONSULTANT's plans and strategies to manage the construction of the Project to complete the work within budget and schedule in compliance with Construction Contract Documents and all City and AHJ's requirements.

At a minimum, CMP shall demonstrate CONSULTANT's understanding of the following potential issues:

- Public and site safety and security
- Coordination timeline with City, AHJ, and adjacent property's owners
- Environmental and cultural resources
- Site operating hours

- General construction methodology and programs
- Project constructability
- Noise and vibration controls
- Air, dust, stormwater, drainage/sediment controls.
- Site waste management
- Traffic management including access routes to and from the site
- Site specific details which require detailed assessments
- Project document controls

CONSULTANT shall allow OCTA a minimum of two (2) weeks to review and commenton the CMP. CONSULTANT shall address all comments, revise, and resubmit the CMP within one (1) week upon receipt of OCTA's review comments.

## 2.1.2 Construction Management/Oversight and Technical Assistance:

CONSULTANT shall provide construction management services acting as OCTA's Construction Manager. CONSULTANT shall communicate and coordinate closely with OCTA Project Manager in all project-related matters.

CONSULTANT shall be knowledgeable of and comply with, all applicable local, state, and/or federal regulations, cooperate and consult with OCTA officials during the course of the Agreement, and perform other duties as may be required to assure that the construction is being performed in general accordance with construction contract documents. CONSULTANT shall be thoroughly familiar with City's and AHJ's requirements for the Project.

CONSULTANT's personnel shall be thoroughly familiar with the project plans, specifications, and other construction documents. CONSULTANT's CM/RE and Assistant RE shall involve in constructability review at the 100% design phase and shall assist OCTA during the bidding phase. CONSULTANT shall have meeting with Design Consultant to get any design clarifications as needed before start of Project construction.

CONSULTANT shall be responsible for all construction management services for the Project as specified herein below:

- a. Ensure that the Contractor's work meets all requirements under the terms of the agreement between the Contractor and AUTHORITY. Inspect and monitor the Work for defects, deficiencies, and deviations from Construction Contract Documents. Notify OCTA promptly of any Contractor's work defect, deficiencies, and deviations and provide recommendations to OCTA. Subject to review and approval by OCTA, reject work which does not conform the Construction Contract Documents. Monitor the corrections of the defects, deficiencies, and deviations until corrected and accepted by OCTA.
- b. Ensure Contractor has obtained all required permits and that the work is performed and inspected in compliance with City and AHJ requirements.
- c. Assist OCTA in inspecting and verifying the Contractor's compliance with the safety provisions and the accident and injury prevention provisions of the Construction Contract Documents.

- d. Provide technical assistance helping to resolve issues and problems and advise OCTA on any necessary design changes required for the Project due to unforeseen field conditions, for project budget/schedule saving. Technical assistance shall be in the fields of architectural, civil, mechanical, electrical, plumbing, and other technical aspects of Project. The technical assistance will also be in the form of reviews and audits of work done by others.
- e. Assist OCTA in planning and monitoring construction activities, reviewing construction phasing and staging, monitoring, evaluating Contractor's performance and work quality.
- f. Monitor the Contractor's traffic control measures and practices and work to cause any deficiencies to be remedied promptly by the Contractor. Monitor Contractor's pedestrian circulation, access, and safety/security plan that construction activities impact sidewalks. CONSULTANT shall work closely with OCTA's Outreach Department for community communications to minimize unanticipated disruptions to the public.
- g. Along with coordination with the field inspectors, prepare, verify, and maintain a daily log of reports of observed construction progress, containing a record of weather, Contractor's work on the site, number of workers, work accomplished, inspections and tests conducted, problems encountered, delays, other similar relevant data, documenting any significant issues in writing with photographs. Make the daily log and reports available to OCTA.
- h. Be knowledgeable about and keep track of all submittals required by Construction Contract Documents. CONSULTANT shall provide general review of all submittals received from Contractor prior to forwarding to the Design Consultant for review and acceptance. Ensure Design Consultant's review resolution is as "Rejected. Resubmit", "Revise and Resubmit", or "No Exception Taken", as applicable. Review resolution as "Conforms with Corrections as Noted", "Approved as Noted", or likewise is not acceptable. Coordinate with Design Consultant to ensure all submittals are processed in a timely manner, as specified in the Construction Contract Documents. Maintain a log of all submittals received. CONSULTANT, in compliance with the Construction Contract Documents, shall be able to review and accept submittals that do not require technical assistance from Design Consultant, in order to provide responses to Contractor in a timely manner to avoid delay in Project.
- i. Provide a general review of all Request for Information (RFI) from Contractor, thoroughly understand the RFIs prior to forwarding the RFIs to Design Consultant for response. Identify any frivolous RFI and return it back to Contractor. CONSULTANT shall work closely with the Design Consultant to properly respond to the RFI in a timely manner. CONSULTANT shall also provide recommendations and responses to RFIs that do not need consulting with the Design Consultant. Maintain a log of all RFIs received.
- j. Monitor and manage the initiation, preparation, justification for Contract Change Order (CCO). Review, evaluate, and negotiate Change Order Requests (COR) from Contractor, provide recommendations to OCTA. Initiate CCO as required for construction of Project in the manner that benefits the Project. Conduct negotiations with Contractor and advise OCTA of the acceptability of the Contractor's proposed adjustment to the Contract Time and/or Contract Amount for CCOs. CONSULTANT shall coordinate with OCTA and Design Consultant to prepare appropriate CCO documents including revised/additional drawings/sketches, exhibits, detailed engineer's independent cost estimates (ICE), memoranda. CONSULTANT shall

- provide ICE as required and requested by OCTA in order to timely process the CCO's to avoid delay in construction. Inform and coordinate with OCTA for scope, schedule and cost impacts and any coordination issues with City and AHJ. Complete and process CCO packages in compliance to OCTA contract change order procedures. Keep track costs for labor, equipment, and materials for Force Account CCOs; review Contractor's Force Account CCO invoices.
- k. Monitor and aggressively manage the initiation, preparation, review and justification for Project cost reduction proposals submitted by the Contractor, Design Consultant, OCTA, or other Project participants to affect the most desirable benefit to the Project. CONSULTANT shall recommend to OCTA cost reduction ideas judged by the CONSULTANT to be advantageous, or necessary, review all estimates prepared by the Design Consultant and, if appropriate, suggest revisions, prepare independent cost reduction cost estimates, as necessary, evaluate Contractor's cost reduction proposals and express a written opinion about the proposed adjustment to the Contract Sum or Contract Time. Conduct negotiations with the Contractor and advise OCTA of the acceptability of the Contractor's proposed adjustment to the Contract Sum or Contract Time for cost reduction CCOs. Prepare and submit for OCTA's approval the CCO documents and supporting data.
- I. Collect, review certified payroll records for compliance, assist OCTA with labor compliance, including performing field interviews with Contractor's on-site personnel at least once a month and preparing field interview reports.
- m. Review the Contractor's maintained as-built drawings on-site, not less than monthly, to reflect changes and field conditions. Verify Contractor is accurately locating all underground utilities on the as-built drawings.
- n. Mark and record all changes made during construction on CONSULTANT's redlined plans and specifications, and other Construction Contract Documents. Maintain all these records in OCTA SharePoint.
- o. Provide supports, tracking, analysis to OCTA in resolving and negotiating Contractor's claims. Provide recommendations to OCTA for claim resolution. CONSULTANT will maintain a log of all pending issues or claims to include the approximate cost impact, recommendations and implement procedures for reducing the likelihood of disputes and claims.
- p. At the end of each month, prepare and submit to OCTA monthly progress reports describing in detail the construction activities performed during the month, issues resolved, outstanding issues, pending and executed change orders, any other potential obstacles that would impede the progress of the work, and job progress within the allocated construction schedule. Information contained in the report shall include, but not be limited to:
  - Project summary, status, including major work activities, quality, and percentages of completion.
  - Status of all Submittals, RFI's, CCOs, and Claims in process, including copies of tracking logs, project safety and environmental incidents (to include, but not limited to employee injuries/illnesses, environmental issues, observer nonconformities/violations, vehicle accidents, property damage, etc.). Include representative photographs of the work noted in the report.
  - Identification of any performance problems of the Contractor and risks to the Project.

- Description of the Contractor's work activities planned to be performed next month.
- Project budget status and estimate of probable cost. Include earned-value S-curve.
- A description of any Contractor's new notices of claim.
- Project schedule status compare actual progress to objectives, including a summary-level bar-chart showing previous update targets and current schedule update, percent complete per contract value and time.
- q. Contractor will provide and maintain EarthCam system live streaming, time-lapse imaging construction cameras to record and display real-time video of construction activities at the Project site. CONSULTANT shall coordinate with Contractor and OCTA Information Technology department to ensure OCTA project management team and CONSULTANT's construction management team having access to recorded and real-time videos.
- r. Provide daily construction photos and maintain records of all these photos on OCTA Share Point (Microsoft OneDrive) for the entire duration of Project.
- s. Coordinate, provide, and present construction status and project information to OCTA management and staff, other agencies, stakeholders and public relations consultants. Evaluate the completion of the Contractor's work, review project closeout documents and as-built documents.
- t. All services required herein shall be performed in accordance with the Construction Contract Document, the latest City, AHJ, and other applicable regulations, policies, procedures, manuals and standards. All City and AHJ codes, regulations, requirements, policies, procedures, manuals, and standards documents shall be made available for OCTA by CONSULTANT upon request.

#### 2.1.3 Project Controls

CONSULTANT shall provide a project control specialist to:

- Assist in planning, scheduling, and controlling project work. Keep track project schedule, budgets, monitor Design Consultant, Contractor, City and AHJ efforts in support of project construction.
- Review and provide comments to all schedules of all types submitted by the Contractor in accordance with the Construction Contract Documents requirements, conduct analyses and assessments of those schedules, and provide written review comments ensure project completion within the scheduled timeframes.
- Provide time impact analysis, provide advice and opinions to OCTA regarding the Contractor's schedules, schedule updates, progress of the construction work, and project expenditure/budget.

## 2.1.4 Project Administration/Document Controls

CONSULTANT shall provide a project administration and document controls specialist who is responsible for project administration and document controls.

- a. Project Administration:
  - Prepare monthly Contractor's progress pay estimates for OCTA's review and approval. Obtain and review Contractor's monthly invoices and progress reports.
     Process monthly progress payments in accordance with OCTA payment procedures.

- Review invoices from the City, AHJ, and other project stakeholders for accuracy and compliance with agreements between OCTA and stakeholders.
- With each Contractor's, vendors, or other service providers' progress payment request or invoice, the CM/RE shall certify in writing that:
  - "Based on the Resident Engineer's observations at the site of the Project and on the data comprising the Application for Payment or Invoice, the Resident Engineer hereby certifies that the Work has progressed to the point indicated and that, to the best of the Resident Engineer's knowledge, information, and belief, the quality of the Work is in accordance with the Construction Contract Documents. The foregoing representations are subject to minor deviations from the Construction Contract Documents correctable prior to completion and to specific qualifications expressed by the Resident Engineer."
- Obtain and review weekly certified payrolls (CPR) submitted by Contractor for compliance with prevailing wage rates. This project is considered a federal contract with regard to labor compliance. CONSULTANT shall compare labor and hours worked as indicated on the CPR with construction labor records prepared and maintained by CONSULTANT's construction management team. Notify Contractor of any discrepancies between wages paid and the prevailing wages. Verify supplemental checks for back wages are issued, if required.
- Assist as requested by OCTA to review bonds and certificates of insurance from Contractor, vendors, and other service providers for compliance with their contracts. Notwithstanding the review of certificates of insurance by CM, Contractor, vendors, and other service providers shall remain solely liable for providing insurance in accordance with the provisions of their Contracts. On behalf of OCTA, CONSULTANT shall notify Contractor, vendors, and other service providers of the expiration of insurance or increases in bond values due to change order additions. CM shall not recommend progress payments unless insurance and bonds are in full force and effect.
- Coordinate with OCTA to verify Contractor's Disadvantaged Business Enterprise (DBE) compliance.
- Prepare and distribute to Contractor a "Weekly Statement of Calendar Days" report every Monday for the previous reported week. Report format will be furnished by OCTA.

#### b. Document Controls:

Provide all Project document controls services. All project-related documentation shall be stored and maintained in OCTA SharePoint (Microsoft OneDrive). Keep accurate records of Construction Contract Documents, plans, specifications, addenda, change orders and other modifications, RFIs, shop drawings, product data, samples, submittals, purchases, materials, equipment, applicable maintenance and operations manuals instruction, handbooks. and correspondence, reports, and other project related documents. Administer the flow of documents and communications between OCTA staff, Design Consultant, Contractor, City, AHJ, and all other project stakeholders. Maintain Project files of all documents. Assist OCTA to respond to public record requests.

## 2.1.5 Monthly Invoicing and Progress Reports

CONSULTANT shall be paid monthly at time and expense. By the last day of each month, submit monthly invoicing, include a list of personnel and hours spent during the month. Include a monthly progress report, status of Project, projected status in the next month, and any outstanding issues.

2.1.6 Provide payroll records upon OCTA's requests to verify CONSULTANT's staff hours spent for the reported months.

#### 2.1.7 Project Coordination and Meetings

CONSULTANT shall coordinate, schedule, attend, and administer project meetings. Meetings, other than field meetings, may be in-person or virtual on Microsoft Teams at OCTA's solely discretion. Prepare and distribute meeting agenda a minimum of three (3) business days prior to each meeting. Prepare and distribute meeting minutes within three (3) business days after each meeting. CONSULTANT shall expect the meetings below at a minimum during the entire duration of Project:

- Preconstruction meetings after Notice to Proceed of the Construction Contract between OCTA and Contractor.
- Field and office meetings with the Contractor on a regular basis, not less than weekly, for purposes of communication, coordination, discussion, and resolution of problems and/or negotiation of CCOs.
- Weekly meetings, minimum one (1) hour each meeting with OCTA and Contractor.
- Monthly status update meetings with OCTA, minimum one (1) hour each meeting. CONSULTANT shall present monthly progress reports and all construction issues and potential solutions to OCTA.
- Quarterly update meetings with OCTA and other stakeholders, two (2) hours each meeting. CONSULANT shall make a Microsoft PowerPoint presentation for Project updates. No monthly state update meetings are required for the months that quarter update meetings are conducted.
- Any other project technical and coordination meetings as required for the Project.

## 2.2 TASK 2 – Coordination with Agency and other project stakeholders:

CONSULTANT shall assist in coordinating Project with City, AHJ, including but not limited to, FTA, California Department of Transportation (Caltrans), Department of State Architects (DSA), South Coast Air Quality Control Management District (AQMD), and the adjacent property owners. Coordinate the Project construction activities with these agencies and project stakeholders to ensure agency concerns are properly addressed. Keep a record/history of all coordination and communications.

## 2.3 TASK 3 - Construction Field Inspections and Observations

CONSULTANT shall perform daily field inspections during construction of the Project, witness and document all field testing and all inspections by AHJ. For each workday starting from Construction Contract Notice to Proceed date, including the workdays with no construction activities, CONSULTANT shall prepare and submit a daily report to OCTA. Daily reports shall include information of construction work, start and end time, weather conditions, labor, materials, equipment, construction activities, HSE issues, any incidents, and remediations/solutions provided, description of work completed and inspected, and planned activities for next workdays, details of any issues and resolutions discussed. Daily

reports shall also include photos taken aligned with construction activities performed during the reported day, a sign-in/sign-out list of all visitors and Contractor's personnel including its subcontractors' staff, and a telephone log of all pertinent of all telephone calls made or received indicating the parties called and purpose/nature of the calls. CONSULTANT's field inspectors shall also coordinate and work closely with quality assurance survey crew to verify all staking required for construction of Project.

CONSULTANT shall provide structural observations for construction work as required. Structural representative shall perform inspections required in this scope of work to assure compliance with construction plans, specifications, and special provisions on all phases of structural construction including all structural supporting elements, foundations, walls, falsework, shoring, and drainage structures. Provide a separate report for each structural observation. Identify any structural issues and any resolutions discussed and provided.

Daily inspection reports and structural observation reports shall be signed and dated by Contractor, field inspector or structural representative, and CM prior to being submitted to OCTA via email and uploaded to OCTA SharePoint on the following date of the date reported.

### 2.4 TASK 4 - Materials Testing and Inspection Services:

CONSULTANT shall provide all labor, materials, equipment, and facilities to perform materials testing and inspection services, as required by the AUTHORITY, during the construction. The services may include, but not be limited to, performing required testing of asphalt concrete, Portland cement concrete, grout, mortar, reinforcing steel, and structural steel. In addition, special deputy inspection services for welding, high strength bolts, fireproofing, reinforcing steel, masonry, and concrete placement.

All testing shall be performed in accordance with the California Test Methods as specified in Caltrans "Manual of Testing" and shall meet the latest requirements of ASTM and other regulatory requirements.

CONSULTANT may be required to submit the test results on the same day or the following day (within 24 hours) of the day the samples are taken. CONSULTANT may be required to send the test results to local agencies having jurisdiction over the Project.

Special Deputy Inspector shall submit a field inspection report to CONSULTANT Construction Manager, of the work inspected or tested at the end of workday.

All testing laboratories shall be within 30 miles from the Project site and shall provide test results in a timely manner as required for Project construction.

The laboratories shall maintain an inventory of testing equipment listing the manufacturer, model, serial number, calibration, and tolerance.

The laboratories shall maintain a laboratory procedure manual describing the methods used for recording, processing, and reporting data, the sources of reference material, standards, and test methods. The manual will be made available to the AUTHORITY upon request.

The laboratories shall have a quality control plan in effect during the entire time work is being performed under the contract. The plan shall include quality control, quality assurance, and equipment calibration programs for the laboratory.

CONSULTANT shall certify all work (compaction of foundation base, base, sub-base, asphalt concrete, concrete, reinforcing steel, structural steel welding, etc.) conducted, inspected,

and tested under the supervision of its staff, and if required by the local jurisdiction (City of Santa Ana and/or County of Orange).

## 2.5 TASK 5 - Quality Assurance Surveying

CONSULTANT shall perform control points, benchmarks, and other quality assurance surveying as required for the Project. CONSULTANT shall review and comment on Contractor's survey data.

The number of CONSULTANT surveying personnel required for the Project is expected to fluctuate based on the needs of the Project. CONSULTANT shall provide all labor, equipment, and materials required to perform quality assurance surveying services, as well as office engineering and field calculations to support the construction of the Project as needed.

Specific surveying requests will be initiated by the RE, utilizing a survey request form in a mutually agreed upon format. Once the request has been issued, CONSULTANT shall begin work and proceed diligently until all required tasks have been satisfactorily completed. Other special check surveys, quantity measurements, and investigative surveys may be required, as ordered by the RE and authorized by the AUTHORITY.

Surveying work shall not be performed when conditions (such as weather, traffic, and other factors) prevent a safe, efficient operation or as directed by the AUTHORITY.

CONSULTANT may be requested to assist OCTA to review and verify real property/surveying documentations such as legal descriptions, plat maps, etc....

A report of surveying work and results shall be submitted to OCTA within three (3) business days after surveying work being performed. Include all field notes and data as appendices to the reports.

Tasks and assignments to be performed by CONSULTANT personnel will generally include, but are not limited to, the following:

- 2.5.1. Construction Contract Documents. CONSULTANT shall perform quality assurance surveying that is required by AUTHORITY and as described in the Construction Contract between the AUTHORITY and the Contractor. Other surveying and engineering calculations shall be performed as needed to administer and manage the Project. Coordinate with field inspectors to verify project staking by Contractor.
- 2.5.2. <u>Survey Calculations and Adjustments</u>. Survey calculations and adjustments shall be performed with established and computed coordinates based on the California Coordinate System. Cross-Section Data Collection shall be performed by conventional and terrain line interpolation survey methods. Survey Data Formatting will include formatting topography, cross-section, and other survey data into computerized formats compatible with the computerized survey and design systems. Preparing and maintaining survey documents will include compiling any survey field notes, maps, drawing, and other survey documents. Monitoring for settlement shall be performed if required. GPS equipment shall be made available for use if required by AUTHORITY.
- 2.5.3. Existing Right of Way and Easements. CONSULTANT may be requested to verify existing right of way and easements from Authority's record information and existing monumentation. Right of Way related monumentation shall be renewed and restored, if necessary, in accordance with the Land Surveyor's Act. Corner records and records of surveys shall be prepared and filed in accordance with the Land Surveyors' Act. Perpetuating Existing Monumentation Includes restoring, renewing, referencing, and resetting existing

- boundary-related monumentation, staking areas where construction disturbs the existing right of way and preparing and filing required maps and records.
- 2.5.4. New Right of Way and Easements. CONSULTANT may be requested to establish new right of way and easements from plans, right of way maps, utility drawings, and other AUTHORITY'S record information and existing monumentation. Right of Way Surveys Includes research, locating and monumenting right of way and easement lines, staking right of way and easement fences and preparing and filing required maps and records. Final Monumentation Includes the setting of centerline points of control upon completion of construction. Special Design-Data Surveys, including drainage, utility, and those required for special field studies.
- 2.5.5. <u>Control Survey</u>. Horizontal and vertical controls, including project control surveys and aerial mapping control surveys. Also includes the restoring, renewing, referencing, relocating, and resetting existing control monumentation.
- 2.5.6. <u>Topographic Surveys</u>. By ground survey methods only.
- 2.5.7. <u>As-built Drawing Survey Support</u>. Provide electronic record information to support the development of project as-built drawings.
- 2.5.8. Survey Monument Markings. Monuments established by the CONSULTANT shall be marked by CONSULTANT with furnished disks, plugs, or tags acceptable to AUTHORITY and the municipality having jurisdiction over the improvements. In addition, the CONSULTANT shall identify CONSULTANT-established monuments by tagging or stamping the monuments with the license or registration number of the CONSULTANT's surveyor who is in "reasonable charge" of the work.
- 2.5.9. All surveys shall be performed in accordance with the current industry standards, the Professional Land Surveyors Act, and in accordance with the directions of the AUTHORITY.
- 2.5.10. Surveys performed by CONSULTANT shall conform to the requirements of the Land Surveyors' Act. In accordance with the Act, "responsible charge" for the work shall reside with a Licensed Land Surveyor or a pre-January 1, 1982, Registered Civil Engineer, in the state of California.
- 2.5.11. Unless otherwise specified, control surveys shall conform to latest County or City Standards.
- 2.5.12. Additional standards for specific surveying work might be included in a special survey request by the AUTHORITY. Such standards supplement the standards specified herein. If such additional standards conflict with the standards specified herein, the survey request standard shall govern over the standards herein.

## 2.6 TASK 6 - Health, Safety, and Environmental Compliance:

CONSULTANT shall provide a fulltime qualified on-site HSE officer to perform daily inspection when construction activities are commenced.

CONSULTANT'S HSE officer shall fully understand OCTA Level 3 HSE Specifications requirements. After Notice to Proceed of the construction contract, HSE officer shall assist OCTA to review HSE submittals from Contractor. During construction activities, HSE officer shall be on-site to monitor and inspect Contractor's daily work performance in compliance with OCTA Level 3 HSE specifications, the accepted HSE submittals, and all other safety requirements. Notify and report to OCTA any and all HSE violations, reportable and/or recordable injuries and incidents, and any damages to OCTA property. Word closely with Contractor's HSE representative to resolve and document any HSE issues at the site to ensure compliance, effective and safe project constructions.

CONSULTANT's personnel shall comply with all HSE requirements while performing work at the job site as well as in CONSULTANT's field office.

## 2.7 TASK 7 - On-call Specialists

### 2.7.1. Environmental Monitoring Services

CONSULTANT shall fully understand the Project environmental documents and requirements. The Project environmental documents include California Environmental Quality Act (CEQA) Mitigated Negative Declaration (MND) and a National Environmental Policy Act (NEPA) Categorical Exclusion (CE). Environmental documents will be made available for the selected Construction Management Consultant.

CONSULTANT shall perform environmental monitoring services as part of project quality assurance to support the construction of the Project and in conformance with the requirements of the Environmental Mitigation Monitoring and Reporting Program (MMRP).

Tasks and assignments to be performed by CONSULTANT personnel will generally include, but are not limited to, the following:

- a. Cultural Resources Native American Monitoring Implement Measure MM CR-3 of the MMRP.
- b. Biological Monitoring Implement Measure MM BIO-1 of the MMRP.
- c. Archaeological/Paleontological Monitoring Implement Measures MM CR-1, and MM CR-2 of the MMRP. Conduct a preconstruction meeting and monitor progress of excavation work for potential archaeological and paleontological resources in compliance with the project environmental documents. The monitoring should continue until grading and excavation are complete, or until the monitoring archaeologist, based on field observations, is satisfied that there is not likelihood of encountering intact archaeological deposits. Conduct investigations if significant resources are discovered, develop mitigation plans and file reports as required. Prepare and submit reports to documents the methods and results of the investigations.

Prior to the start of monitoring, the archaeologist shall prepare a Cultural Resources Construction Monitoring Plan and a Cultural Resources Discovery Plan which includes archaeological monitor qualification requirements, detailed approaches to archaeological monitoring of various project elements, and the procedures to follow in the event that unanticipated archaeological resources or human remains are discovered. In the event an unanticipated discovery of archaeological resources occurs during construction, the archaeological monitor will halt all construction within a 50-foot radius of the find until the archaeologist can assess the significance of the find.

The Project paleontologist will be present during any excavation into undisturbed sensitive sediments that are determined to be conducive to fossil preservation. If unanticipated fossils are unearthed during construction, work should be halted in that area until the qualified paleontologist can assess the significance of the find. If the resource is considered potentially significant, the qualified paleontologist will work with the lead agency to follow standard industry practice for recovery, identification, and interpretation. The qualified paleontologist will work with the Contractor to establish a minimum 50 feet buffer away from the find so work can commence outside of the buffer. Work within the 50-foot buffer may commence after the paleontologist evaluates the significance of the find.

- d. Architectural/Historical Monitoring Conduct preconstruction and post construction surveys of existing structure adjacent to the construction site. Prepare and submit a report for each survey within one (1) week of the survey day. Areas of special concern include:
  - Analysis of potential vibration impacts
  - Temporary construction fencing
  - On-going recommendation of "adaptive management" techniques during construction
  - Monitoring for damage due to vibration and other construction activities and mitigation measures for any damage that occurs.
- e. Storm Water Pollution Prevention Plan (SWPPP) CONSULTANT shall review and comment on Contractor's SWPPP submittal. Inspect, monitor, and ensure that appropriate SWPPP measures are implemented and maintained throughout the duration of the Project in compliance with the approved SWPPP and the Construction Storm Water General Permit. Daily SWPPP inspections and reports are required. Before-rain and post-rain inspections and reports are required for each rain event during the entire construction duration of Project. Assist OCTA in completing any necessary SMART Storm Water Program database documentation and submittals, including permit registration documents, notice of intent, and submittals of required periodic reports including annual certifications to the California State Water Resources Control Board, and all other SWPPP-related work as required by AHJ.
- f. Hazardous Soils Mitigation Monitoring CONSULTANT shall monitor and document the entire process of the project hazardous soils mitigation in compliance with Construction Contract Documents, including Project environmental documents, and all AHJ requirements. CONSULTANT shall review site conditions, soil test results, locations of hauling off site, oversee movement of impacted materials/soils and manifesting process, coordinate with Design Consultant, OCTA, and other stakeholders to ensure the entire hazardous soils mitigation process is in compliance with Construction Contract Documents and all AHJ requirements.

#### 2.7.2. Building Commissioning

CONSULTANT shall review and thoroughly understand the Design Consultant's building commissioning plan.

In cooperation with the OCTA and participation by the City's, AHJ, and/or maintenance personnel, observe and advise the AUTHORITY of the Contractor's checkout of utilities, operational systems and equipment for readiness and assist in their proof testing, commissioning and turn-over to OCTA. Oversee and manage the commissioning process to insure a complete operating facility based on the building commissioning plans and standard practices, upon Substantial Completion.

## 2.7.3. Utility Locating Services:

As required by OCTA, CONSULTANT shall provide independent third-party utility locating services for the Project.

## 2.8 TASK 8 - Project Closeout

CONSULTANT shall perform Project closeout in compliance with the Construction Contract Documents.

#### 2.8.1 Preliminary and Final Punch Lists:

CONSULTANT shall conduct inspections of the Project site to determine dates of substantial completion. Coordinate with project stakeholders to conduct preliminary and final punch list walks in compliance with Construction Contract Documents.

Coordinate with Design Consultant to prepare preliminary and final punch lists to the Contractor. Monitor and ensure Contractor addressing all punch list items in compliance with Construction Contract Documents and Design Consultant's comments and recommendations.

Obtain all required final documents specified in the Construction Contract Documents including, but not limited to:

- · Any delinquent certified payrolls
- Final Labor Summary and Final Labor Certificate
- Contractor's survey notes and Record Drawings
- Operating and Maintenance Manuals
- Copy of final inspection (permit sign-off cards) from appropriate City's building department and Certificate of Occupancy
- Warranty certificates
- Stop Notice Releases

CONSULTANT shall review written guarantees and related documents assembled by Contractor and shall recommend to Project Manager the issuance of the final certificate for payment.

#### 2.8.2 As-built Documents and Project Records

CONSULTANT shall keep and maintain a redlined (as-built) project plans and specifications documenting all changes during construction. At project closeout phase, CONSULTANT shall review Contractor's redlined as-built plans and specifications submittal in comparison with CONSULTANT's as-built plans and specifications prior to sending Contractor's submittals to the Design Consultant.

After receiving record documents from Design Consultant, CONSULTANT shall verify all record documents and record these documents to OCTA project records.

CONSULTANT shall obtain all other project closeout documents, O&M manuals and all closeout deliverables as required in Construction Contract Documents. Coordinate with Design Consultant to review and accept project closeout documents.

#### 2.8.3 Notice of Completion:

CONSULTANT shall recommend OCTA on Notice of Completion (NOC) date, prepare a NOC document and record the NOC with the County of Orange at the end of the Project.

### 2.8.4 Project Acceptance and Turn-over:

CONSULTANT shall collect, prepare, and submit to OCTA all Project documentation, electronic files, brochures, material records, final as-built plans from Contractor, warranties, operations and maintenance manuals, final punch-list, and all other closeout documents to turn-over the Project to OCTA.

## 3. CONSULTANT'S PERSONNEL QUALIFICATIONS:

Within one (1) week of execution of this Agreement, CONSULTANT shall submit to OCTA for review and acceptance detailed resumes of all proposed personnel for the work in this Scope of Work. Project Manager, CM/RE and Assistant RE shall be approved in writing prior to start of constructability review of the Project. All other CONSULTANT's personnel shall be approved in writing by OCTA at least two weeks prior to start of construction.

If the accepted personnel must be absent from the Project work for a period of time, CONSULTANT shall provide temporary personnel with equal or higher qualifications to perform the work until the accepted personnel returns to the Project. Temporary personnel's qualifications shall be approved by OCTA at least two weeks in advance.

The typical workday includes all hours worked by the AUTHORITY's Contractor, normally 40 hours per week. If ordered by the AUTHORITY, overtime and night work may be required. The Contractor's operations may be restricted to specific hours during the week, which shall become the normal workday for CONSULTANT's personnel. On days when work is not performed by the Contractor, such as weather days, suspension of work, holidays, etc., CONSULTANT services shall not be provided unless authorized by the AUTHORITY. The AUTHORITY will provide eight (8) hours advance notice if CONSULTANT services are not required.

If, at any time, the level of performance is below expectations, OCTA shall have the right to request removal of any CONSULTANT's personnel. OCTA may request another qualified personnel be assigned to the Project as needed.

CONSULTANT's personnel qualifications/requirements shall be as below:

#### 3.1. Project Manager

CONSULTANT shall provide a fulltime Project Manager (PM) who shall review, monito, train, and provide general direction for CONSULTANT's personnel. The PM shall prepare reports for delivery to the OCTA Project Manager. The PM shall provide expert advice and coordinate/communicate with the OCTA Project Manager advising on major project issues and contract status. As minimum qualifications, PM shall:

- a. Have a minimum of 5 years project management experience on similar construction projects.
- b. Ability to make effective decisions concerning field problems and work in progress.
- c. Licensed Civil Engineer in the State of California
- d. Ability to use typical computer programs such as Microsoft Word, Excel, PowerPoint, TEAMS, and other Microsoft Suite applications

PM is key personnel who shall not be removed or replaced without advance written approval from OCTA.

## 3.2. Construction Manager/Resident Engineer

CONSULTANT shall provide a fulltime Construction Manager (CM) who shall also act as the Project Resident Engineer (RE) for the duration of the Project. CM/RE shall, on behalf of the OCTA within the limits authorized in writing by the OCTA, manage and perform all construction management tasks required in this Scope of Work. As minimum qualifications, CM/RE shall:

- a. Have a minimum five (5) years of experience as Construction Manager and/or Resident Engineer on similar projects, with knowledge of local regulatory and funding requirements, local procedures and requirements on a specific project basis, including assisting in coordination of projects with local agencies, or other equivalent experience, as determined by OCTA.
- Have thorough knowledge of construction practices, and the ability to read and interpret plans and specifications, construction schedules, and all other construction related documents.
- c. Be able to work independently and to make effective decisions concerning field problems and work in progress.
- d. Be proficient in the use of computer application programs Microsoft Word, Excel, Teams, and other Microsoft Suite applications.
- e. Possess of a current OSHA 10 Hour Certification.
- f. Be currently licensed Civil Engineer in the State of California.

CM/RE is key personnel who shall not be removed or replaced without advance written approval from OCTA.

## 3.3. Assistant Resident Engineer

CONSULTANT shall provide a fulltime Assistant Resident Engineer (Assistant RE) for the duration of the Project to assist CM/RE and perform construction management work in this Scope of Work. As minimum qualifications, Assistant RE shall:

- a. Have a minimum three (3) years of experience as Civil Engineer and Assistant RE managing construction of similar construction projects, or other equivalent experience, as determined by OCTA.
- b. Be able to work independently and under minimal directions from RE and OCTA, be able to perform all construction management duties.
- c. Have thorough knowledge of construction practices, and the ability to read and interpret plans, specifications, and construction schedules.
- d. Be able to make effective decisions concerning field problems and work in progress.
- e. Be proficient in the use of computer application programs Microsoft Word, Excel, Teams, and other Microsoft Suite applications.
- f. Possess of a current OSHA 10 Hour Certification.
- g. Preferably, be currently licensed Civil Engineer in the State of California.

Assistant RE is key personnel who shall not be removed or replaced without advance written approval from OCTA.

## 3.4. Field Inspectors:

CONSULTANT shall provide field inspectors as required during construction of Project. Field inspectors are needed during the construction depending on the needs of Project and at OCTA's sole discretion, however, a minimum of one inspector shall be on the field full-time during construction activities. As minimum qualification, field inspectors shall:

- a. Have a minimum of four (4) years construction experience on similar projects or other relevant experience.
- b. Have knowledge in the disciplines the field inspector will inspect, knowledge of construction practices, physical characteristics and properties of commercial buildings, government buildings, roadway, structures, drainage and utility systems construction materials, and the approved methods and equipment used in making physical tests of construction materials.
- c. Have thorough knowledge of construction practices, and the ability to read and interpret plans, specifications, and construction schedules.
- d. Be able to work independently and perform duties in the construction field and office.
- e. Be able to effectively make minor decisions concerning work in progress and solving field and office problems.
- f. Be proficient in the use of computer application programs Microsoft Word, Excel, Teams.

#### 3.5. Structural Representative

CONSULTANT shall provide a structural representative based on the needs of Project during construction. As minimum qualifications, structural representative shall:

- a. Have a minimum of five (5) years construction experience on similar projects or other relevant experience
- b. Have thorough knowledge in structural design and construction practices of similar projects, ability to read and interpret plans, specifications, and construction schedules.
- c. Be able to effectively make minor decisions concerning work in progress and solving field and office problems.
- d. Be currently licensed Civil Engineer and/or licensed Structural Engineer in the State of California.
- e. Be proficient in the use of computer application programs Microsoft Word, Excel, Teams.

## 3.6. Health, Safety, and Environmental (HSE) Officer

CONSULTANT shall provide a fulltime on-site HSE Officer with minimum qualifications below:

- a. A minimum of seven years of heavy construction experience in administering safety programs on heavy construction job sites, the last two of which have been administering HSE programs on construction project sites, the last two year of which have been administering HSE in the construction/scope discipline for which Contractor is contracting with OCTA.
- b. Possess of a current certification of Certified Safety Professional (CSP) or Certified Construction Health and Safety Technician (CHST), with current standing from the

Board of Certified Safety Professionals (BCSP); or a Certified Industrial Hygienist (CIH) with current standing from the American Board of Industrial Hygiene (ABIH); or an equal professional HSE Certificate of standing from the National Examination Board in Occupational Safety and Health (NEBOSH).

- c. Possess of current OSHA 10-hour and 30-hour current certifications.
- d. Experience in developing and implementing construction safety plans.
- e. Be proficient in the use of computer application programs Microsoft Word, Excel, Teams.

HSE officer is key personnel who shall not be removed or replaced without advance written approval from OCTA.

## 3.7. Materials Testing Personnel:

CONSULTANT shall provide qualified personnel to perform materials testing required for the Project with a minimum of three (3) years of experience working on similar projects. Materials testing personnel shall be certified in the specific field for which they are engaged in and must have a good knowledge of current construction practices. (Certifications should be valid in Orange County and in the city where project is under construction). Submit certification to OCTA at least three (3) business days prior to performing the work.

#### 3.8. Surveyors:

CONSULTANT shall provide a survey party based on the needs of Project and OCTA's requests with minimum qualifications below:

## 3.7.1. Party Chief:

- a. Licensing requirements.
  - A licensed Land Surveyor in the State of California; or
  - A pre-January 1, 1982, Registered Civil Engineer in the State of California; or
  - An experienced surveyor who serves as chief under the direction or supervision of a
    person who is a licensed Land Surveyor or pre-January 1, 1982 Registered Civil
    Engineer in the state of California. This direction or supervision shall be provided in
    a manner and with a span of control and immediacy that enables the supervisor to
    be in "responsible charge" of the work as defined in Chapter 15 of the Business and
    Professions Code (the Land Surveyors Act) and Title 16, Chapter 5, of the California
    Administrative Code (regulations adopted by the Board of Registration for
    Professional Engineers and Land Surveyors).
- b. Five years survey experience on similar construction projects, or other relevant experience.
- c. Thorough knowledge of construction survey practices and the ability to read and interpret plans and specifications.
- f. Ability to make effective decisions concerning field problems and work in progress.
- g. Familiarity with typical coordinate geometry computer programs.

### 3.7.2. Survey Assistant(s):

- a. One year survey experience on similar construction projects.
- b. Fundamental knowledge of construction survey practices and the ability to read and interpret plans and specifications.
- c. Ability to assist field and office party chiefs in all required surveying work.
- d. One survey party member must have the ability to assume temporary leadership of the survey party in the absence of the party chief.
- e. Trained in the appropriate safety areas for the job decisions each individual is required to make.

## 3.9. On-call Specialists:

CONSULTANT shall provide on-call specialists below based on project needs and at OCTA's requests with the minimum qualifications and responsibilities below:

#### 3.8.1. Native American Monitor:

- a. Be selected from the list of certified Native American monitors maintained by the Gabrieleño Band of Mission Indians Kizh Nation (Kizh Nation)
- b. Proficient in the use of computer application programs Microsoft Word, Excel, and Teams.

#### 3.8.2. Biological Monitoring Specialist (Biologist):

- a. Ten years biological management experience on similar construction projects, or other equivalent experience, as determined by AUTHORITY.
- b. Responsible for overseeing compliance with protective measures for the biological resources during vegetation clearing and work activities within and adjacent to areas of native habitat and/or jurisdictional areas.
- c. Familiar with the local habitats, plants, and wildlife.
- d. Maintain communications with the Contractor to ensure that issues relating to biological resources are appropriately and lawfully managed.
- e. Review final plans, designate areas that need temporary fencing (e.g., environmentally sensitive area [ESA] fencing), and monitor construction.
- f. Monitor activities within construction areas during critical times such as vegetation removal, the implementation of Best Management Practices (BMPs), and installation of fencing to protect native species, and ensure that all permit conditions, conservation measures and general avoidance and minimization measures for the Project are properly constructed and followed.
- g. Proficient in the use of computer application programs Microsoft Word, Excel, and Teams.

#### 3.8.3. Archeological Specialist:

- a. Ten years archaeological monitoring experience on similar construction projects including environmental mitigations for historical and cultural resources, or other equivalent experience, as determined by AUTHORITY.
- b. The Project Archaeologist shall meet the Secretary of the Interior's Professional Qualifications Standards.

- c. The Project Archaeologist and archaeological monitors will be subject to the approval of the lead agency.
- d. Proficient in the use of computer application programs Microsoft Word, Excel, and Teams.
- e. The supervising archaeologists for project monitoring must be certified by the County of Orange and can be found on their website at: <a href="http://ocplanning.net/civicax/filebank/blobdload.aspx?blobid=36449">http://ocplanning.net/civicax/filebank/blobdload.aspx?blobid=36449</a>.

## 3.8.4. Paleontological Specialist:

- a. Ten years paleontological experience on similar construction projects, or other equivalent experience, as determined by AUTHORITY.
- b. Proficient in the use of computer application programs Microsoft Word, Excel, and Teams.
- c. The supervising paleontologists for project monitoring must be certified by the County of Orange and can be found on their website at: <a href="http://ocplanning.net/civicax/filebank/blobdload.aspx?blobid=36448">http://ocplanning.net/civicax/filebank/blobdload.aspx?blobid=36448</a>

#### 3.8.5. Architectural/Historical Monitoring Specialist:

- a. Ten years of Architectural/Historical monitoring experience on similar construction projects, or other equivalent experience, as determined by AUTHORITY.
- b. Proficient in the use of computer application programs Microsoft Word, Excel, and Teams.

## 3.8.6. SWPPP Specialist:

- a. Certified by California Stormwater Quality Association (CASQA) as a Qualified Developer (QSD).
- b. Five years of experience working on similar construction projects or other equivalent experience, as determined by OCTA.
- c. Proficient in the use of computer application programs Microsoft Word, Excel, and Teams.

## 3.8.7. Hazardous Soils Specialist:

- a. California registered professional geologist or Certified Engineering Geologist.
- b. Five years of experience in the management of contaminated soils on similar construction projects.
- c. Proficient in the use of computer application programs Microsoft Word, Excel, and Teams.

## 3.8.8. Building Commissioning Specialist:

- a. Five years of experience in building commissioning with a minimum of three (3) years of experience in building commissioning for similar projects.
- b. Ability to review, comment on the Contractor's building commissioning plan, witness, monitor, document, and report building commissioning process to ensure the building are operating properly and per project documents.
- c. Proficient in the use of computer application programs Microsoft Word, Excel, and Teams.

## 3.10. Project Administrator/Documents Control Specialist

CONSULTANT shall provide a fulltime Project Administrator/Documents Control Specialist who meets the minimum qualifications below:

- a. Five (5) years of experience plus a minimum of 1 year document control experience on similar construction projects, or other equivalent experience, as determined by OCTA.
- b. Knowledge and experience in the use of computer application programs Microsoft Word, Excel, Teams, and other Microsoft Suite applications,
- c. Experience with project documentation requirements and document filing practices on public works construction projects, and experience in using electronic document management systems, for access to, and retention of project documents of all types with document management software such as Primavera Contract Manager, Expedition, Meridian Prolog Manager, e-Builder, or other similar document control systems.
- d. Experience in managing and processing submittals, request for information, change request, change directives, change orders, payment applications, deficiency notices, and other typical duties of an office engineer-document controller.
- e. Experience with web-based systems for the storage and retrieval of shared documents and drawings.
- f. Experience with Certified Payrolls system and requirements, and ability to review and comment on CONTRACTOR's CPRs.
- g. Experience in responding to public record requests.
- h. Ability to work independently and meet deadlines.

## 4. CONSTRUCTION MANAGEMENT DELIVERABLES:

Deliverables to be prepared, submitted to OCTA, and maintained in OCTA project shared point (Microsoft OneDrive) by the CONSULTANT shall include, but not be limited to:

- a. Monthly CONSULTANT progress reports prepared by the CM/RE.
- b. Monthly Project Status Reports prepared by RE.
- c. Approved Construction Contract progress payment and quantity documents delivered to OCTA no later than five (5) working days after the specified payment cut-off date or give (5) working days after the date that all information is provided by the Contractor, whichever is later.
- d. Approved final payment quantity documents delivered to OCTA no later than five (5) working days after acceptance of the completed construction project by OCTA or five (5) working days after the date that all information is provided by the Contractor, whichever is later.
- e. All meeting agenda and minutes of the project meetings including action item list.
- f. Chang order documentations and recommendations as required.
- g. Weekly statement of Calendar Days reports.
- h. Daily Inspection Reports.
- i. All other inspection/observation/monitoring reports.

- j. Log of Submittals and all approved submittals.
- k. Log of RFIs and all responded RFIs.
- I. Contractor's Certified Pay Rolls.
- m. Contractor's Project Baseline, Monthly Updated Schedules, and two-week look-ahead Schedules.
- n. Correspondence Log.
- o. Preliminary and Final Punch Lists.
- p. All Project Closeout Documents required in construction agreement between OCTA and Contractor.
- q. All other documents required and as results of work perform under this Scope of Work.

#### LIMITATION ON GOVERNMENTAL DECISIONS

Nothing contained in this scope of work permits CONSULTANT's personnel to authorize or direct any actions, votes, appoint any person, obligate, or commit AUTHORITY to any course of action or enter into any contractual agreement on behalf of AUTHORITY. In addition, CONSULTANT's personnel shall not provide information, an opinion, or a recommendation for the purpose of affecting a decision without significant intervening substantive review by AUTHORITY personnel, counsel, and management.

**END OF SCOPE OF WORK** 

**EXHIBIT B: PROPOSED AGREEMENT** 

# PROPOSED AGREEMENT NO. C-5-3977

## **BETWEEN**

ORANGE COUNTY TRANSPORTATION AUTHORITY
AND
THIS AGREEMENT is effective as of this day of, 20
("Effective Date"), by and between the Orange County Transportation Authority, 550 South Main Street,
P.O. Box 14184, Orange, CA 92863-1584, a public corporation of the State of California (hereinafter
referred to as "AUTHORITY"), and , , , (hereinafter referred to as "CONSULTANT").
WITNESSETH:
WHEREAS, AUTHORITY requires assistance from CONSULTANT to provide design and
construction support services for Program and Construction Management (PM/CM) Services for OCTA
Headquarters Improvements; and
WHEREAS, said work cannot be performed by the regular employees of AUTHORITY; and
WHEREAS, CONSULTANT has represented that it has the requisite personnel and experience,
and is capable of performing such services; and
WHEREAS, CONSULTANT wishes to perform these services; and
WHEREAS, the AUTHORITY's Board of Directors approved this Agreement on;
NOW, THEREFORE, it is mutually understood and agreed by AUTHORITY and CONSULTANT
as follows:
ARTICLE 1. COMPLETE AGREEMENT

A. This Agreement, including all exhibits and documents incorporated herein and made applicable by reference, constitutes the complete and exclusive statement of the terms and conditions of the agreement between AUTHORITY and CONSULTANT and it supersedes all prior representations, understandings and communications. The invalidity in whole or in part of any term or condition of this Agreement shall not affect the validity of other terms or conditions.

#### PROPOSED AGREEMENT NO. C-5-3977 EXHIBIT B

B. AUTHORITY's failure to insist in any one or more instances upon the performance of any terms or conditions of this Agreement shall not be construed as a waiver or relinquishment of AUTHORITY's right to such performance by CONSULTANT or to future performance of such terms or conditions and CONSULTANT obligation in respect thereto shall continue in full force and effect. Changes to any portion of this Agreement shall not be binding upon AUTHORITY except when specifically confirmed in writing by an authorized representative of AUTHORITY by way of a written Amendment to this Agreement and issued in accordance with the provisions of this Agreement.

## **ARTICLE 2. AUTHORITY DESIGNEE**

The Chief Executive Officer of AUTHORITY, or designee, shall have the authority to act for and exercise any of the rights of AUTHORITY as set forth in this Agreement.

## ARTICLE 3. SCOPE OF WORK

A. CONSULTANT shall perform the work necessary to complete in a manner satisfactory to AUTHORITY the services set forth in Exhibit A, entitled "Scope of Work," which is attached to and, by this reference, incorporated in and made a part of this Agreement. All services shall be provided at the times and places designated by AUTHORITY.

B. CONSULTANT shall provide the personnel listed below to perform the above-specified services, which persons are hereby designated as key personnel under this Agreement.

<u>Names</u> <u>Functions</u>

C. No person named in paragraph B of this Article, or his/her successor approved by AUTHORITY, shall be removed or replaced by CONSULTANT, nor shall his/her agreed-upon function or level of commitment hereunder be changed, without the prior written consent of AUTHORITY. Should the services of any key person become no longer available to CONSULTANT, the resume and

qualifications of the proposed replacement shall be submitted to AUTHORITY for approval as soon as possible, but in no event later than seven (7) calendar days prior to the departure of the incumbent key person, unless CONSULTANT is not provided with such notice by the departing employee. AUTHORITY shall respond to CONSULTANT within seven (7) calendar days following receipt of these qualifications concerning acceptance of the candidate for replacement.

### **ARTICLE 4.** TERM OF AGREEMENT

This Agreement shall commence upon the effective date of this Agreement, and Agreement and shall continue in full force and effect through\_\_\_\_\_\_\_, unless earlier terminated or extended as provided in this Agreement.

## ARTICLE 5. PAYMENT

- A. For CONSULTANT's full and complete performance of its obligations under this Agreement and subject to the maximum cumulative payment obligation provisions set forth in Article 6, AUTHORITY shall pay CONSULTANT on a Time and Expense basis in accordance with the following provisions.
- B. CONSULTANT shall invoice AUTHORITY on a monthly basis for payments corresponding to the work actually completed by CONSULTANT. Work completed shall be documented in a monthly progress report prepared by CONSULTANT, which shall accompany each invoice submitted by CONSULTANT. AUTHORITY shall pay CONSULTANT at the hourly labor rates specified in Exhibit B, entitled "Price Summary Sheet," which is attached to and by this reference, incorporated in and made a part of this Agreement. These rates shall remain fixed for the term of this Agreement and are acknowledged to include CONSULTANT's overhead costs, general costs, administrative costs and profit. CONSULTANT shall also furnish such other information as may be requested by AUTHORITY to substantiate the validity of an invoice. At its sole discretion, AUTHORITY may decline to make full payment until such time as CONSULTANT has documented to AUTHORITY'S satisfaction, that CONSULTANT has fully completed all work required. AUTHORITY's payment in full shall constitute AUTHORITY's final acceptance of CONSULTANT'S work.
  - C. As partial security against CONSULTANT's failure to satisfactorily fulfill all of its obligations

 be paid to CONSULTANT within sixty (60) calendar days of payment of final invoice, unless AUTHORITY elects to audit CONSULTANT's records in accordance with Article 16 of this Agreement. If AUTHORITY elects to audit, retained funds shall be paid to CONSULTANT within thirty (30) calendar days of completion of such audit in an amount reflecting any adjustment required by such audit. During the term of the Agreement, at its sole discretion, AUTHORITY reserves the right to release all or a portion of the retained amount based on CONSULTANT'S satisfactory completion of certain milestones. CONSULTANT shall invoice AUTHORITY for the release of the retention in accordance with ARTICLE 5.

under this Agreement, AUTHORITY shall retain ten percent (10%) of the amount of each invoice

submitted for payment by CONSULTANT. All retained funds shall be released by AUTHORITY and shall

- D. Invoices shall be submitted by CONSULTANT on a monthly basis and shall be submitted in duplicate to AUTHORITY's Accounts Payable office. CONSULTANT may also submit invoices electronically to AUTHORITY's Accounts Payable Department at <a href="mailto:vendorinvoices@octa.net">vendorinvoices@octa.net</a>. Each invoice shall be accompanied by the monthly progress report specified in paragraph B of this Article. AUTHORITY shall remit payment within thirty (30) calendar days of the receipt and approval of each invoice. Each invoice shall include the following information:
  - Agreement No. C-5-3977;
  - Specify the effort for which the payment is being requested;
  - 3. The time period covered by the invoice;
- 4. Labor (staff name, hours charged, hourly billing rate, current charges, and cumulative charges) performed during the billing period;
- 5. Total monthly invoice (including project-to-date cumulative invoice amount); and retention:
  - 6. Itemized expenses including support documentation incurred during the billing period;
  - 7. Monthly Progress Report;
  - 8. Certification signed by the CONSULTANT or his/her designated alternate that a) The

invoice is a true, complete and correct statement of reimbursable costs and progress; b) The backup information included with the invoice is true, complete and correct in all material respects; c) All payments due and owing to subcontractors and suppliers have been made; d) Timely payments will be made to subcontractors and suppliers from the proceeds of the payments covered by the certification and; e) The invoice does not include any amount which CONSULTANT intends to withhold or retain from a subcontractor or supplier unless so identified on the invoice.

- 9. Any other information as agreed or requested by AUTHORITY to substantiate the validity of an invoice including a current payroll register and or an offer of employment for personnel performing work under the classifications which are subject to pay ranges as listed in Exhibit B, "Schedule I- Hourly Range Schedule for Direct Labor by Classification" in order to receive reimbursement for hours worked. Reimbursement for labor hours incurred by personnel designated by a classification, shall be made after AUTHORITY's review of the actual personnel's pay register, and verification that the actual pay falls within the specified range for that classification. If an actual pay rate exceeds the maximum of the range, CONSULTANT will be reimbursed at the maximum of the range. At its sole discretion, AUTHORITY may decline to make full payment until such time as CONSULTANT has documented to AUTHORITY'S satisfaction, that CONSULTANT has fully completed all work required. AUTHORITY's payment in full for any work completed shall not constitute AUTHORITY's final acceptance of CONSULTANT'S work.
  - a) CONSULTANT agrees that billing for personnel under the Exhibit B "Schedule I- Hourly Range Schedule for Direct Labor by Classification" is to be used on a temporary basis, limited to a maximum period of six (6) continuous months for each personnel working under the "Hourly Range Schedule for Direct Labor by Classification". Personnel working or proposed to work on a continuous basis for a period of more than six (6) continuous months are not considered temporary and must be added as named personnel with a specific hourly billing rate.
  - b) CONSULTANT agrees that all personnel billing under all these labor schedules in

#### PROPOSED AGREEMENT NO. C-5-3977 EXHIBIT B

1 Exhibit B, are subject to the annual escalation rate allowable under this Agreement. This is a maximum escalation rate that AUTHORITY will reimburse CONSULTANT for 2 named personnel and classifications. 3 c) CONSULTANT agrees that personnel proposed to work and bill under any of the labor 4 schedules in Exhibit B must be approved in writing by the AUTHORITY's Project 5 Manager prior to start of work. 6 E. For classifications added to the Exhibit B, "Schedule I-Hourly Range Schedule for Direct Labor 7 by Classification" through Amendments, raw billing ranges must be based on current year's actual 8 salaries, and the corresponding fully burdened ranges must be provided by CONSULTANT. 9 **ARTICLE 6. MAXIMUM OBLIGATION** 10 Notwithstanding any provisions of this Agreement to the contrary, AUTHORITY and 11 CONSULTANT mutually agree that AUTHORITY's maximum cumulative payment obligation (including 12 obligation for CONSULTANT's profit) shall be \$\_\_\_\_\_\_ Dollars (\$\_\_\_\_\_) which shall include 13 all amounts payable to CONSULTANT for its subcontracts, leases, materials and costs arising from, or 14 15 due to termination of, this Agreement. **ARTICLE 7. NOTICES** 16 All notices hereunder and communications regarding the interpretation of the terms of this 17 Agreement, or changes thereto, shall be effected by delivery of said notices in person or by depositing 18 said notices in the U.S. mail, registered or certified mail, returned receipt requested, postage prepaid and 19 addressed as follows: 20 To CONSULTANT: To AUTHORITY: 21 Orange County Transportation Authority 22 550 South Main Street 23 P.O. Box 14184 24

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ATTENTION:

Orange, CA 92863-1584

ATTENTION: Megan Bornman

### PROPOSED AGREEMENT NO. C-5-3977 EXHIBIT B

Title: Senior Contractor Administrator

Phone: Phone: (714) 560 - 5064

Email: Email: mbornman@octa.net

CC: Steven King

Title: Project Manager

Phone:

Email: sking@octa.net

## **ARTICLE 8. INDEPENDENT CONTRACTOR**

A. CONSULTANT's relationship to AUTHORITY in the performance of this Agreement is that of an independent contractor. CONSULTANT's personnel performing services under this Agreement shall at all times be under CONSULTANT's exclusive direction and control and shall be employees of CONSULTANT and not employees of AUTHORITY. CONSULTANT shall pay all wages, salaries and other amounts due its employees in connection with this Agreement and shall be responsible for all reports and obligations respecting them, such as social security, income tax withholding, unemployment compensation, workers' compensation and similar matters.

B. Should CONSULTANT's personnel or a state or federal agency allege claims against AUTHORITY involving the status of AUTHORITY as employer, joint or otherwise, of said personnel, or allegations involving any other independent contractor misclassification issues, CONSULTANT shall defend and indemnify AUTHORITY in relation to any allegations made.

#### **ARTICLE 9. INSURANCE**

- A. CONSULTANT shall procure and maintain insurance coverage in full force and effect during the entire term of the Agreement. Coverage shall be full coverage and not subject to self-insurance provisions. CONSULTANT shall provide the following insurance coverage:
- 1. Commercial General Liability, to include Products/Completed Operations, Independent Contractors', Contractual Liability, Advertising (if applicable to Scope of Work) and Personal Injury Liability, and Property Damage with a minimum limit of \$1,000,000 per occurrence, \$2,000,000

general aggregate and \$2,000,000 Products/Completed Operations aggregate;

- 2. Automobile Liability Insurance to include owned, hired and non-owned autos with a combined single limit of \$1,000,000 for each accident;
- 3. Workers' Compensation with limits as required by the State of California including a Waiver of Subrogation in favor of AUTHORITY, its officers, directors and employees; and
- 4. Employers' Liability with minimum limits of \$1,000,000 per accident, \$1,000,000 policy limit-disease, and \$1,000,000 policy limit employee-disease.
- 5. Professional Liability with minimum limits of \$1,000,000 only if the CONSULTANT is required by contract or law to be licensed or specially certified and AUTHORITY is relying on performance based on that specialty license or certification.
- B. Proof of such coverage, in the form of a certificate of insurance and an insurance policy blanket additional insured endorsement, designating the AUTHORITY, its officers, directors and employees as additional insureds on general liability and automobile liability, as required by Agreement. Proof of insurance coverage must be received by AUTHORITY within ten (10) calendar days from the effective date of the Agreement and prior to commencement of any work. Such insurance shall be primary and non-contributive to any insurance or self-insurance maintained by the AUTHORITY. Furthermore, AUTHORITY reserves the right to request certified copies or review all related insurance policies, in response to a related loss.
- C. CONSULTANT shall also include in each subcontract, the stipulation that subconsultants shall maintain insurance coverage in the amounts required of CONSULTANT as provided in the Agreement. Subconsultants will be required to include AUTHORITY as additional insureds on the Commercial General Liability, and Auto Liability insurance policies.
- D. Insurer must provide AUTHORITY with at least thirty (30) days' prior notice of cancellation or material modification of coverage, and ten (10) days' prior notice for non-payment of premium.
- E. CONSULTANT shall submit required insurance certificates to AUTHORITY's insurance tracking contractor, InsureTrack. CONSULTANT shall respond directly to InsureTrack's request for

 updated insurance certificates and other insurance-related matters by email to octa@instracking.com.

- F. CONSULTANT shall include on the face of the certificate of insurance, the following information:
- 1. The Agreement Number C-5-3977 and, the Contract Administrator's Name, Megan Bornman
- 2. For Certificate Holder: The Orange County Transportation Authority, its officers, directors, employers and agents, c/o InsureTrack, P.O. Box 60840 Las Vegas, NV 89160.

## **ARTICLE 10. ORDER OF PRECEDENCE**

Conflicting provisions hereof, if any, shall prevail in the following descending order of precedence:

(1) the provisions of this Agreement, including all exhibits; (2) the provisions of RFP 5-3977; (3)

CONSULTANT's technical proposal dated , CONSULTANT's cost proposal dated , and (4) all other documents, if any, cited herein or incorporated by reference.

## **ARTICLE 11. CHANGES**

- A. By written notice or order, AUTHORITY may, from time to time, order work suspension and/or make changes in the general scope of this Agreement, including, but not limited to, the services furnished to AUTHORITY by CONSULTANT as described in the Scope of Work. If any such work suspension or change causes an increase or decrease in the price of this Agreement or in the time required for its performance, CONSULTANT shall promptly notify AUTHORITY thereof and assert its claim for adjustment within ten (10) calendar days after the change or work suspension is ordered, and an equitable adjustment shall be negotiated. However, nothing in this clause shall excuse CONSULTANT from proceeding immediately with the Agreement as changed.
- B. CONSULTANT shall only commence work covered by an amendment after the amendment is executed by AUTHORITY.

## **ARTICLE 12. DISPUTES**

A. Except as otherwise provided in this Agreement, when a dispute arises between CONSULTANT and AUTHORITY, the project managers shall meet to resolve the issue. If project

managers do not reach a resolution, the dispute will be decided by AUTHORITY's Director of Contracts Administration and Materials Management (CAMM), who shall reduce the decision to writing and mail or otherwise furnish a copy thereof to CONSULTANT. The decision of the Director, CAMM, shall be the final and conclusive administrative decision.

B. Pending final decision of a dispute hereunder, CONSULTANT shall proceed diligently with the performance of this Agreement and in accordance with the decision of AUTHORITY's Director, CAMM. Nothing in this Agreement, however, shall be construed as making final the decision of any AUTHORITY official or representative on a question of law, which questions shall be settled in accordance with the laws of the State of California.

## **ARTICLE 13. TERMINATION**

- A. AUTHORITY may terminate this Agreement for its convenience at any time, in whole or part, by giving CONSULTANT written notice thereof. Upon said notice, AUTHORITY shall pay CONSULTANT its allowable costs incurred to date of termination and those allowable costs determined by AUTHORITY to be reasonably necessary to effect such termination. Thereafter, CONSULTANT shall have no further claims against AUTHORITY under this Agreement.
- B. In the event either Party defaults in the performance of any of their obligations under this Agreement or breaches any of the provisions of this Agreement, the non-defaulting Party shall have the option to terminate this Agreement upon thirty (30) days' prior written notice to the other Party. Upon receipt of such notice, CONSULTANT shall immediately cease work, unless the notice from AUTHORITY provides otherwise. Upon receipt of the notice from AUTHORITY, CONSULTANT shall submit an invoice for work and/or services performed prior to the date of termination. AUTHORITY shall pay CONSULTANT for work and/or services satisfactorily provided to the date of termination in compliance with this Agreement. Thereafter, CONSULTANT shall have no further claims against AUTHORITY under this Agreement. AUTHORITY shall not be liable for any claim of lost profits or damages for such termination.

## **ARTICLE 14. INDEMNIFICATION**

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CONSULTANT shall indemnify. defend and hold harmless AUTHORITY, officers, directors, employees and agents (indemnities) from and against any and all claims (including fees and reasonable expenses for litigation or settlement) for any loss or attornevs' damages, bodily injuries, including death, damage to or loss of use of property caused by the negligent acts, omissions willful misconduct by CONSULTANT, officers, or directors, employees, agents, subconsultants or suppliers in connection with or arising out of the performance of this Agreement.

## **ARTICLE 15. ASSIGNMENTS AND SUBCONTRACTS**

A. Neither this Agreement nor any interest herein nor claim hereunder may be assigned by CONSULTANT either voluntarily or by operation of law, nor may all or any part of this Agreement be subcontracted by CONSULTANT, without the prior written consent of AUTHORITY. Consent by AUTHORITY shall not be deemed to relieve CONSULTANT of its obligations to comply fully with all terms and conditions of this Agreement.

B. AUTHORITY hereby consents to CONSULTANT's subcontracting of portions of the Scope of Work to the parties identified below for the functions described in CONSULTANT's proposal. CONSULTANT shall include in the subcontract agreement the stipulation that CONSULTANT, not AUTHORITY, is solely responsible for payment to the subcontractor for the amounts owing and that the subcontractor shall have no claim, and shall take no action, against AUTHORITY, its officers, directors, employees or sureties for nonpayment by CONSULTANT.

Subconsultant Name/Address	Subconsultant Function
1.	
2.	

## <u>ARTICLE 16.</u> <u>AUDIT AND INSPECTION OF RECORDS</u>

CONSULTANT shall provide AUTHORITY, or other agents of AUTHORITY, such access to

CONSULTANT's accounting books, records, work data, documents and facilities, as AUTHORITY deems necessary. CONSULTANT shall maintain such books, records, data and documents in accordance with generally accepted accounting principles and shall clearly identify and make such items readily accessible to such parties during CONSULTANT's performance hereunder and for a period of four (4) years from the date of final payment by AUTHORITY. AUTHORITY's right to audit books and records directly related to this Agreement shall also extend to all first-tier subcontractors identified in Article 15 of this Agreement. CONSULTANT shall permit any of the foregoing parties to reproduce documents by any means whatsoever or to copy excerpts and transcriptions as reasonably necessary.

## **ARTICLE 17. FEDERAL, STATE AND LOCAL LAWS**

CONSULTANT warrants that in the performance of this Agreement, it shall comply with all applicable federal, state and local laws, statutes and ordinances and all lawful orders, rules and regulations promulgated thereunder.

## **ARTICLE 18. EQUAL EMPLOYMENT OPPORTUNITY**

In connection with its performance under this Agreement, CONSULTANT shall not discriminate against any employee or applicant for employment because of race, religion, color, sex, age or national origin. CONSULTANT shall take affirmative action to ensure that applicants are employed, and that employees are treated during their employment, without regard to their race, religion, color, sex, age or national origin. Such actions shall include, but not be limited to, the following: employment, upgrading, demotion or transfer; recruitment or recruitment advertising; layoff or termination; rates of pay or other forms of compensation; and selection for training, including apprenticeship.

## ARTICLE 19. PROHIBITED INTERESTS

CONSULTANT covenants that, for the term of this Agreement, no director, member, officer or employee of AUTHORITY during his/her tenure in office/employment or for one (1) year thereafter shall have any interest, direct or indirect, in this Agreement or the proceeds thereof.

## ARTICLE 20. OWNERSHIP OF REPORTS AND DOCUMENTS

A. The originals of all letters, documents, reports and other products and data produced under

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this Agreement shall be delivered to, and become the property of AUTHORITY. Copies may be made for CONSULTANT's records but shall not be furnished to others without written authorization from AUTHORITY. Such deliverables shall be deemed works made for hire and all rights in copyright therein shall be retained by AUTHORITY.

- B. All ideas, memoranda, specifications, plans, manufacturing, procedures, drawings, descriptions, and all other written information submitted to CONSULTANT in connection with the performance of this Agreement shall not, without prior written approval of AUTHORITY, be used for any purposes other than the performance for this project, nor be disclosed to an entity not connected with the performance of the project. CONSULTANT shall comply with AUTHORITY's policies regarding such material. Nothing furnished to CONSULTANT, which is otherwise known to CONSULTANT or becomes generally known to the related industry shall be deemed confidential. CONSULTANT shall not use AUTHORITY's name, photographs of the project, or any other publicity pertaining to the project in any professional publication, magazine, trade paper, newspaper, seminar or other medium without the express written consent of AUTHORITY.
- C. No copies, sketches, computer graphics or graphs, including graphic art work, are to be released by CONSULTANT to any other person or agency except after prior written approval by AUTHORITY, except as necessary for the performance of services under this Agreement. All press releases, including graphic display information to be published in newspapers, magazines, etc., are to be handled only by AUTHORITY unless otherwise agreed to by CONSULTANT and AUTHORITY.

### **ARTICLE 21. PATENT AND COPYRIGHT INFRINGEMENT**

A. In lieu of any other warranty by AUTHORITY or CONSULTANT against patent or copyright infringement, statutory or otherwise, it is agreed that CONSULTANT shall defend at its expense any claim or suit against AUTHORITY on account of any allegation that any item furnished under this Agreement or the normal use or sale thereof arising out of the performance of this Agreement, infringes upon any presently existing U.S. letters patent or copyright and CONSULTANT shall pay all costs and damages finally awarded in any such suit or claim, provided that CONSULTANT is promptly notified in writing of

the suit or claim and given authority, information and assistance at CONSULTANT's expense for the defense of same. However, CONSULTANT will not indemnify AUTHORITY if the suit or claim results from: (1) AUTHORITY's alteration of a deliverable, such that said deliverable in its altered form infringes upon any presently existing U.S. letters patent or copyright; or (2) the use of a deliverable in combination with other material not provided by CONSULTANT when such use in combination infringes upon an existing U.S. letters patent or copyright.

B. CONSULTANT shall have sole control of the defense of any such claim or suit and all negotiations for settlement thereof. CONSULTANT shall not be obligated to indemnify AUTHORITY under any settlement made without CONSULTANT's consent or in the event AUTHORITY fails to cooperate fully in the defense of any suit or claim, provided, however, that said defense shall be at CONSULTANT's expense. If the use or sale of said item is enjoined as a result of such suit or claim, CONSULTANT, at no expense to AUTHORITY, shall obtain for AUTHORITY the right to use and sell said item, or shall substitute an equivalent item acceptable to AUTHORITY and extend this patent and copyright indemnity thereto.

## **ARTICLE 22. DESIGN WITHIN FUNDING LIMITATIONS**

A. In order to ensure the accuracy of the construction budget for the benefit of the public works bidders and AUTHORITY's budget process, CONSULTANT shall accomplish the design services required under this Agreement so as to permit the award of a contract, for the construction of the facilities designed at a price that does not exceed the estimated construction contract price as set forth by AUTHORITY. When bids or proposals for the construction contract are received that exceed the estimated price, CONSULTANT shall perform such redesign and other services as are necessary to permit contract award within the funding limitation. These additional services shall be performed at no increase in the price for which the services were specified. However, CONSULTANT shall not be required to perform such additional services at no cost to AUTHORITY if the unfavorable bids or proposals are the result of conditions beyond its reasonable control.

B. CONSULTANT will promptly advise AUTHORITY if it finds that the project being designed will

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exceed or is likely to exceed the funding limitations and it is unable to design a usable facility within these limitations. Upon receipt of such information, AUTHORITY will review CONSULTANT's revised estimate of construction cost. AUTHORITY may, if it determines that the estimated construction contract price is so low that award of a construction contract not in excess of such estimate is improbable, authorize a change in scope or materials as required to reduce the estimated construction cost to an amount within the estimated construction contract price set forth by AUTHORITY, or AUTHORITY may adjust such estimated construction contract price. When bids or proposals are not solicited or are unreasonably delayed, AUTHORITY shall prepare an estimate of constructing the design submitted and such estimate shall be used in lieu of bids or proposals to determine compliance within the funding limitation.

## **ARTICLE 23. REQUIREMENTS FOR REGISTRATION OF DESIGNERS**

All design and engineering work furnished by CONSULTANT shall be performed by or under the supervision of persons licensed to practice architecture, engineering or surveying (as applicable) in the State of California, by personnel who are careful, skilled, experienced and competent in their respective trades or professions, who are professionally qualified to perform the work in accordance with the contract documents and who shall assume professional responsibility for the accuracy and completeness of the design documents and construction documents prepared or checked by them.

#### **ARTICLE 24. FINISHED AND PRELIMINARY DATA**

A. All of CONSULTANT's finished technical data, including but not limited to illustrations, photographs, tapes, software, software design documents, including without limitation source code, binary code, all media, technical documentation and user documentation, photoprints and other graphic information required to be furnished under this Agreement, shall be AUTHORITY's property upon payment and shall be furnished with unlimited rights and, as such, shall be free from proprietary restriction except as elsewhere authorized in this Agreement. CONSULTANT further agrees that it shall have no interest or claim to such finished, AUTHORITY-owned, technical data; furthermore, said data is subject to the provisions of the Freedom of Information Act, 5 USC 552.

B. It is expressly understood that any title to preliminary technical data is not passed to

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AUTHORITY but is retained by CONSULTANT. Preliminary data includes roughs, visualizations, software design documents, layouts and comprehensives prepared by CONSULTANT solely for the purpose of demonstrating an idea or message for AUTHORITY's acceptance before approval is given for preparation of finished artwork. Preliminary data title and right thereto shall be made available to AUTHORITY if CONSULTANT causes AUTHORITY to exercise ARTICLE 11, and a price shall be negotiated for all preliminary data.

# **ARTICLE 25. GENERAL WAGE RATES**

A. CONSULTANT warrants that all mechanics, laborers, journeypersons, workpersons, craftspersons or apprentices employed by CONSULTANT or subcontractor at any tier for any work hereunder, shall be paid unconditionally and not less often than once a week and without any subsequent deduction or rebate on any account (except such payroll deductions as are permitted or required by federal, state or local law, regulation or ordinance), the full amounts due at the time of payment, computed at a wage rate and per diem rate not less than the aggregate of the highest of the two basic hourly rates and rates of payments, contributions or costs for any fringe benefits contained in the current general prevailing wage rate(s) and per diem rate(s), established by the Director of the Department of Industrial Relations of the State of California, (as set forth in the Labor Code of the State of California, commencing at Section 1770 et. seq.), or as established by the Secretary of Labor (as set forth in Davis-Bacon Act, 40 U.S.C. 267a, et. seq.), regardless of any contractual relationship which may be alleged to exist between CONSULTANT or subcontractor and their respective mechanics, laborers, journeypersons, workpersons, craftspersons or apprentices. Copies of the current General Prevailing Wage Determinations and Per Diem Rates are on file at AUTHORITY's offices and will be made available to CONSULTANT upon request. CONSULTANT shall post a copy thereof at each job site at which work hereunder is performed.

B. In addition to the foregoing, CONSULTANT agrees to comply with all other provisions of the Labor Code of the State of California, which is incorporated herein by reference, pertaining to workers performing work hereunder including, but not limited to, those provisions for work hours, payroll records and apprenticeship employment and regulation program. CONSULTANT agrees to insert or cause to be

inserted the preceding clause in all subcontracts which provide for workers to perform work hereunder regardless of the subcontractor tier.

## **ARTICLE 26. CONTRACTOR PURCHASED EQUIPMENT**

- A. If during the course of this Agreement, additional equipment is required, which will be paid for by the AUTHORITY, CONSULTANT must request prior written authorization from the AUTHORITY's project manager before making any purchase. As part of this purchase request, CONSULTANT shall provide a justification for the necessity of the equipment or supply and submit copies of three (3) competitive quotations. If competitive quotations are not obtained, CONSULTANT must provide the justification for the sole source.
- B. CONSULTANT shall maintain an inventory record for each piece of equipment purchased that will be paid for by the AUTHORITY. The inventory record shall include the date acquired, total cost, serial number, model identification, and any other information or description necessary to identify said equipment or supply. A copy of the inventory record shall be submitted to the AUTHORITY upon request.
- C. At the expiration or termination of this Agreement, CONSULTANT may keep the equipment and credit AUTHORITY in an amount equal to its fair market value. Fair market value shall be determined, at CONSULTANT's expense, on the basis of an independent appraisal. CONSULTANT may sell the equipment at the best price obtainable and credit AUTHORITY in an amount equal to the sales price. If the equipment is to be sold, then the terms and conditions of the sale must be approved in advance by AUTHORITY's project manager.
- D. Any subconsultant agreement entered into as a result of this Agreement shall contain all provisions of this clause.

# ARTICLE 27. CONFLICT OF INTEREST

A. CONSULTANT agrees to avoid organizational conflicts of interest. An organizational conflict of interest means that due to other activities, relationships or contracts, the CONSULTANT is unable, or potentially unable to render impartial assistance or advice to the AUTHORITY; CONSULTANT's objectivity in performing the work identified in the Scope of Work is or might be otherwise impaired; or the

#### PROPOSED AGREEMENT NO. C-5-3977 EXHIBIT B

CONSULTANT has an unfair competitive advantage. CONSULTANT is obligated to fully disclose to the AUTHORITY in writing Conflict of Interest issues as soon as they are known to the CONSULTANT. All disclosures must be submitted in writing to AUTHORITY pursuant to the Notice provision herein. This disclosure requirement is for the entire term of this Agreement.

B. If the AUTHORITY determines that CONSULTANT, its employees, or subconsultants are subject to disclosure requirements under the Political Reform Act (Government Code section 81000 et seq.), CONSULTANT and its required employees and subconsultants shall complete and file Statements of Economic Interest (Form 700) with the AUTHORITY's Clerk of the Board disclosing all required financial interests.

# **ARTICLE 28. CODE OF CONDUCT**

CONSULTANT agrees to comply with the AUTHORITY's Code of Conduct as it relates to Third-Party contracts which is hereby referenced and by this reference is incorporated herein. CONSULTANT agrees to include these requirements in all of its subcontracts.

# ARTICLE 29. PROHIBITION ON PROVIDING ADVOCACY SERVICES

CONSULTANT and all subconsultants performing work under this Agreement, shall be prohibited from concurrently representing or lobbying for any other party competing for a contract with AUTHORITY, either as a prime consultant or subconsultant. Failure to refrain from such representation may result in termination of this Agreement.

## <u>ARTICLE 30.</u> <u>HEALTH AND SAFETY REQUIREMENTS</u>

CONSULTANT shall comply with all the requirements set forth in EXHIBIT B, Level 3 SAFETY SPECIFICATIONS. As used therein, "Contractor" shall mean "Consultant," and "Subcontractor" shall mean "Sub-consultant."

# **ARTICLE 31. LIMITATION ON GOVERNMENTAL DECISIONS**

CONSULTANT shall not make, participate in making, or use its position to influence any governmental decisions as defined by the Political Reform Act, Government Code section 8100 et seq., and the implementing regulations in Title 2 of the California Code of Regulations section 18110 et seq. CONSULTANT's personnel performing services under this Agreement shall not authorize or direct any actions, votes, appoint any person, obligate, or commit AUTHORITY to any course of action or enter into any contractual agreement on behalf of AUTHORITY. In addition, CONSULTANT's personnel shall not provide information, an opinion, or a recommendation for the purpose of affecting a decision without significant intervening substantive review by AUTHORITY personnel, counsel, and management.

# **ARTICLE 32. PROHIBITION**

the prime consultant firm, including all subconsultants, awarded the contract for PM/CM services for improvements to the headquarters property for the Authority will be ineligible to participate (at any tier) in the contract for construction services for improvements to the headquarters property for Authority.

## **ARTICLE 33. FORCE MAJEURE**

Either party shall be excused from performing its obligations under this Agreement during the time and to the extent that it is prevented from performing by an unforeseeable cause beyond its control, including but not limited to: any incidence of fire, flood; acts of God; commandeering of material, products, plants or facilities by the federal, state or local government; national fuel shortage; or a material act or omission by the other party; when satisfactory evidence of such cause is presented to the other party, and provided further that such nonperformance is unforeseeable, beyond the control and is not due to the fault or negligence of the party not performing.

# PROPOSED AGREEMENT NO. C-5-3977 EXHIBIT B

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5	IN WITNESS WHEREOF, the parties hereto have caused this Agreement No. C-5-3977 to be				
6					
7	ORANGE COUNTY TRANSPORTATION AUTHORITY				
8					
9   10	By: By: Darrell E. Johnson Chief Executive Officer				
11 12	Offici Excounte Officer				
13	APPROVED AS TO FORM:				
14	By:				
15 16	James M. Donich General Counsel				
17					
18	APPROVED:				
19	<u>_</u>				
20	By: James G. Beil				
21	Capital Programs, Executive Director				
22					
23					
24					

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**EXHIBIT C: FORMS** 

#### CAMPAIGN CONTRIBUTION DISCLOSURE FORM

#### Information Sheet

#### ORANGE COUNTY TRANSPORTATION AUTHORITY

The attached Campaign Contribution Disclosure Form must be completed by applicants for, or persons who are the subject of, any proceeding involving a license, permit, or other entitlement for use pending before the Board of Directors of the OCTA or any of its affiliated agencies. (Please see next page for definitions of these terms.)

#### **IMPORTANT NOTICE**

Basic Provisions of Government Code Section 84308

- A. If you are an applicant for, or the subject of, any proceeding involving a license, permit, or other entitlement for use, you are prohibited from making a campaign contribution of more than \$500 to any board member or his or her alternate. This prohibition begins on the date your application is filed or the proceeding is otherwise initiated, and the prohibition ends three months after a final decision is rendered by the Board of Directors. In addition, no board member or alternate may solicit or accept a campaign contribution of more than \$500 from you during this period.
- B. These prohibitions also apply to your agents, and, if you are a closely held corporation, to your majority shareholder as well. These prohibitions also apply to your subcontractor(s), joint venturer(s), and partner(s) in this proceeding. Also included are parent companies and subsidiary companies directed and controlled by you, and political action committees directed and controlled by you.
- C. You must file the attached disclosure form and disclose whether you or your agent(s) have in the aggregate contributed more than \$500 to any board member or his or her alternate during the 12-month period preceding the filing of the application or the initiation of the proceeding.
- D. If you or your agent have in the aggregate contributed more than \$500 to any individual board member or his/or her alternate during the 12 months preceding the decision on the application or proceeding, that board member or alternate must disqualify himself or herself from the decision. However, disqualification is not required if the board member or alternate returns the campaign contribution within 30 days from the time the director knows, or should have known, about both the contribution and the fact that you are a party in the proceeding. The Campaign Contribution Disclosure Form should be completed and filed with your proposal, or with the first written document you file or submit after the proceeding commences.

- 1. A proceeding involving "a license, permit, or other entitlement for use" includes all business, professional, trade and land use licenses and permits, and all other entitlements for use, including all entitlements for land use, all contracts (other than competitively bid, labor or personal employment contracts), and all franchises.
- Your "agent" is someone who represents you in connection with a proceeding involving a license, permit or other entitlement for use. If an individual acting as an agent is also acting in his or her capacity as an employee or member of a law, architectural, engineering, consulting firm, or similar business entity, both the business entity and the individual are "agents."
- 3. To determine whether a campaign contribution of more than \$500 has been made by you, campaign contributions made by you within the preceding 12 months must be aggregated with those made by your agent within the preceding 12 months or the period of the agency, whichever is shorter. Contributions made by your majority shareholder (if a closely held corporation), your subcontractor(s), your joint venturer(s), and your partner(s) in this proceeding must also be included as part of the aggregation. Campaign contributions made to different directors or their alternates are not aggregated.
- 4. A list of the members and alternates of the Board of Directors is attached.

This notice summarizes the major requirements of Government Code Section 84308 of the Political Reform Act and California Code of Regulations, Title 2 Sections 18438-18438.8.

# ORANGE COUNTY TRANSPORTATION AUTHORITY CAMPAIGN CONTRIBUTION DISCLOSURE FORM

RFP Number: R	REP Title:	
Was a campaign contribution made to any OC regardless of dollar amount of the contribution by e agent/lobbyist?  Yes		
If no, please sign and date below.		
If yes, please provide the following information:		
Prime Contractor Firm Name:		
Contributor or Contributor Firm's Name:		
Contributor or Contributor Firm's Address:		
Is Contributor:		
The Prime Contractor     Subsequently		No
<ul><li>Subconsultant</li><li>Agent/Lobbyist hired by Prime</li></ul>	Yes	No
to represent the Prime in this RFP	Yes	No
Identify the Board Member(s) to whom you, your contributions, the name of the contributor, the dates amount of the contribution. Each date must include	subconsultants, and/or s of contribution(s) in the	e preceding 12 months and dollar
Name of Board Member:		
Name of Contributor:		
Date(s) of Contribution(s):		
Amount(s):		
Name of Board Member:		
Name of Contributor:		
Date(s) of Contribution(s):		
Amount(s):		
Date:	Signature of Cor	ntributor
Print Firm Name	Print Name of Co	ontributor

# ORANGE COUNTY TRANSPORTATION AUTHORITY AND AFFILIATED AGENCIES

# **Board of Directors**

Doug Chaffee, Chair Jamey Federico, Vice Chair Valerie Amezcua, Director Mike Carroll, Director Jon Dumitru, Director Katrina Foley, Director **Patrick Harper, Director** Michael Hennessey, Director Fred Jung, Director Stephanie Klopfenstein, Director **Carlos Leon, Director** Janet Nguyen, Director Tam Nguyen, Director **Vicente Sarmiento, Director** John Stephens, Director **Mark Tettemer, Director Donald Wagner, Director** 

#### STATUS OF PAST AND PRESENT CONTRACTS FORM

On the form provided below, Offeror/Bidder shall list the status of past and present contracts where the firm has either provided services as a prime vendor or a subcontractor during the past five (5) years in which the contract has been the subject of or may be involved in litigation with the contracting authority. This includes, but is not limited to, claims, settlement agreements, arbitrations, administrative proceedings, and investigations arising out of the contract.

A separate form must be completed for each contract. Offeror/Bidder shall provide an accurate contact name and telephone number for each contract and indicate the term of the contract and the original contract value. Offeror/Bidder shall also provide a brief summary and the current status of the litigation, claims, settlement agreements, arbitrations, administrative proceedings, or investigations. If the contract was terminated, list the reason for termination.

Offeror/Bidder shall have an ongoing obligation to update the Authority with any changes to the identified contracts and any new litigation, claims, settlement agreements, arbitrations, administrative proceedings, or investigations that arise subsequent to the submission of the bid. Each form must be signed by an officer of the Offeror/Bidder confirming that the information provided is true and accurate.

Project city/agency/other:	
Contact Name:	Phone:
Project Award Date:	Original Contract Value:
Term of Contract:	
(4) 122 (1)	
(1) Litigation, claims, settlements, arb	itrations, or investigations associated with contract:
(2) Summary and Status of contract:	
(2) Guilliary and Status of Contract.	
(3) Summary and Status of action ident	ified in (1):
,	
(4) Reason for termination, if applicable	<b>)</b> :
By signing this Form entitled "Status of information provided is true and accurate.	Past and Present Contracts," I am affirming that all of the
Name	Signature
Title	 Date

Revised. 03/16/2018

#### PROPOSAL EXCEPTIONS AND/OR DEVIATIONS

The following form shall be completed for each technical and/or contractual exception or deviation that is submitted by Offeror for review and consideration by Authority. The exception and/or deviation must be clearly stated along with the rationale for requesting the exception and/or deviation. If no technical or contractual exceptions or deviations are submitted as part of the original proposal, Offerors are deemed to have accepted Authority's technical requirements and contractual terms and conditions set forth in the Scope of Work (Exhibit A) and Proposed Agreement (Exhibit B). Offerors will not be allowed to submit this form or any contractual exceptions and/or deviation after the proposal submittal date identified in the RFP. Exceptions and/or deviations submitted after the proposal submittal date will not be reviewed by Authority.

Offeror:			
RFP No.:	RFP Title:		
Deviation or Exception No. :			
<ul><li>Check one:</li><li>Scope of Work (Technical</li><li>Proposed Agreement (Co</li></ul>	*		
Reference Section/Exhibit:		Page/Article No	
Complete Description of Deviation	n or Exception:		
Rationale for Requesting Deviation	on or Exception:		
Area Below Reserved for Authority U	se Only:		

# **EXHIBIT D: SAFETY SPECIFICATION**

## LEVEL 3 HEALTH, SAFETY AND ENVIRONMENTAL (HSE) SPECIFICATIONS

#### REQUIRED HSE SUBMITTAL SUMMARY

The contractor shall submit copies of the items listed below for contract scope work on OCTA projects and property. Copies shall be provided prior to contractor's mobilization onto OCTA projects and property. Contractor shall provide compliant written Health, Safety & Environmental (HSE) submittals within 30 days of the contract notice to proceed.

HSE submittals shall comply with the 1988 Drug Free Workplace Act, or the Department of Transportation (DOT), or the Federal Transportation Administration (FTA) requirements (according to OCTA procurement funding guidelines) and comply with the California Code of Regulations (CCR) Title 8 regulatory standards.

Contractor's established written programs/plans shall comply with CCR Title 8 regulatory standards. All HSE related programs/plans submitted to OCTA for acceptance shall be prepared and submitted by a qualified HSE professional who is recognized by an organization of industry standard (i.e., CSP, CIH, CHST, CHMM, etc.) and is experienced in developing compliant written HSE programs. The site safety HSE representative shall participate in the HSE submittal process.

- 1. Contractor shall provide a copy of Company's Injury Illness Prevention Program in accordance with CCR Title 8, Section 3203.
- 2. Contractor shall provide a copy of their Company HSE Policy/Procedure Manual, in compliance with CCR Title 8 Standards for awarded scope.
- 3. Contractor shall provide a copy of their Policy or Substance Abuse Prevention Program.
- 4. Contractor shall provide a copy of their Hazard Communication Program and SDS Management Program in compliance with CCR Title 8, Section 5194, Hazard Communication Standard.
- 5. On-Site HSE Representative:
  - On Facility Modification Projects, The Contractor shall submit a resume of the designated on-site qualified HSE Representative. The HSE Representative shall possess a current certification from the Board of Certified Safety Professionals (BCSP), plus five (5) years construction or scope agreement HSE experience enforcing HSE compliance on heavy or industrial construction project sites, the last two years of which have been administering HSE in the construction or scope discipline for which the Contractor is contracting with the Authority. The designated HSE Representative shall participate in all HSE related submittals through completion of scope.

On Capital Programs, The Contractor's on-site qualified HSE Representative shall be a Certified Safety Professional (CSP) with current standing from the Board of Certified Safety Professionals (BCSP) or a Construction Health and Safety Technician (CHST) with current standing from the (BCSP) or a Certified Industrial Hygienist (CIH) with current standing from the American Board of Industrial Hygiene (ABIH), or an equal professional HSE Certificate of standing from The National Examination Board in Occupational Safety and Health (NEBOSH), that is

acceptable to the Authority. The Contractor's on-site HSE Representative(s) shall provide a resume and have a minimum of seven (7) years heavy construction experience in administering HSE programs on heavy construction project sites, the last two years of which have been administering HSE in the construction/scope discipline for which Contractor is contracting with the Authority.

6. A Detailed Site Specific HSE Work Implementation Plan: This plan shall be prepared and submitted by a recognized HSE professional experienced in developing compliant written HSE programs. Indicate the methods and procedures, and include the sequence of tasks as listed on the project schedule, include the hazards, tools and equipment, and the safe work practices to mitigate the hazards in a format acceptable OCTA. Specify safety measures in accordance with applicable Cal/OSHA standards, South Coast Air Quality Management District (SCAQMD) rules, National Fire Protection Association (NFPA), National Electric Code (NEC), American National Standards Institute (ANSI) codes and regulations, job hazard analysis, policies, procedures, HSE training requirements and known and potential hazards of Contractor's scope. Plans shall be prepared as specified above, and may require if necessary a professional engineer licensed to practice in the state of California, when so required by the provisions of the California Board for Professional Engineer and Surveyors.

#### PART I - GENERAL

- 1.0 GENERAL HEALTH, SAFETY AND ENVIRONMENTAL REQUIREMENTS
  - A. The Contractor, its subcontractors, suppliers, and employees have the obligation to comply with all Authority health, safety and environmental compliance department (HSEC) requirements of this safety specification, project site requirements, and bus yard safety rules, as well as all federal, state, and local regulations pertaining to scope of work or agreements with the Authority including California Department of Transportation safety requirements and special provisions. Additionally, manufacturer requirements are considered incorporated by reference, as applicable, to this scope of work.
  - B. Observance of unsafe acts or conditions, serious violation of health and safety standards, non-conformance of Authority HSEC requirements, or disregard for the intent of these safety specifications to protect people and property, by Contractor may be reason for termination of scope or agreements with the Authority, at the sole discretion of the Authority.
  - C. The Authority HSEC requirements, and references contained within this scope of work shall not be considered all-inclusive as to the hazards that might be encountered. Safe work practices shall be pre-planned and performed, and safe conditions shall be maintained during the course of this work scope.
  - D. The Contractor shall specifically acknowledge that it has primary responsibility to prevent and correct all health, safety and environmental hazards for which it and its employees, or its subcontractors (and their employees) are responsible. The Contractor shall further acknowledge their expertise in recognition and prevention of hazards in the operations for which they are responsible, that the Authority may not have such expertise, and is relying upon the Contractor for such expertise. The Authority retains the right to notify the Contractor of potential

hazards and request the Contractor to evaluate and, as necessary, to eliminate those hazards.

- E. The Contractor shall provide all necessary tools, equipment, and related safety protective devices to execute the scope of work in compliance with the Authority's HSEC requirements, CCR Title 8 Standards, and recognized safe work practices.
- F. The Contractor shall instruct all its employees, and all associated subcontractors under contract with the Contractor who works on Authority projects in the following; recognition, identification, and avoidance of unsafe acts and/or conditions applicable to its work.

#### PART II - SPECIFIC REQUIREMENTS

2.0 While these safety specifications are intended to promote safe work practices, Contractors are reminded of their obligation to comply with all federal (Code of Federal Regulations (CFR) Sections 1926 & 1910 Standards), state (CCR Title 8 Standards), local and municipal safety regulations, and Authority health, safety and environmental requirements applicable to their project scope. Failure to comply with these standards may be cause for termination of scope or agreements with the Authority, at the sole discretion of the Authority.

#### 2.1 REQUIRED DOCUMENTATION / REPORTING REQUIREMENTS

The Contractor at a minimum shall provide the following documents to the Authority's Project Manager. Items A through E below shall be submitted and accepted by the Authority's Project Manager prior to Contractor mobilization. Item F upon each occurrence, and for items G through K, contractor shall verify the following documentation is in place, prior to and during contract scope and make the same available to the Authority upon request within 72 hours.

Contractor's established written programs/plans shall comply with CCR Title 8 regulatory standards. All new programs/plans shall be prepared and submitted by a qualified HSE professional who is recognized by an organization of industry standard (i.e., CSP, CIH, CHST, STS, CHMM, etc.) and is experienced in developing compliant written HSE programs. The site safety HSE representative shall participate in the scope submittal process.

- A. A Comprehensive Project Specific Health, Safety, and Environmental (HSE) Work Plan.
  - a. The Contractor shall develop a site project plan that may include, but is not limited to: Permits, Evacuation, Emergency Plan, Roles and Responsibilities, Scope and Construction Activity Details, Constructability Review, Contractor Coordination Process, Safe Work Methods, Hazard Identification & Risk Control, First Aid and Injury Management, Emergency Procedures, Public Protection, Authority and Contractor Site Rules, Incident Reporting and Investigation, Specialized Work or Licensing, Training and Orientation Requirements, Chemical Management, and Subcontractor Management.

- b. A Detailed Site Specific HSE Implementation Plan: This plan shall be prepared and submitted by a recognized HSE professional (current BCSP Certification in good standing, i.e., CSP, CHST, OHST) experienced in developing compliant written HSE programs, acceptable to OCTA. Indicate the methods and procedures, and include the sequence of tasks as listed on the project schedule, include the hazards, tools and equipment, and the safe work practices to mitigate the hazards in a format acceptable OCTA. Specify safety measures in accordance with applicable Cal/OSHA standards, SCAQMD rules, NFPA, NEC, ANSI codes and regulations, job hazard analysis, policies, procedures, HSE training requirements and known and potential hazards of Contractor's scope. Plans shall be prepared as specified above, and may require if necessary a professional engineer licensed to practice in the state of California, when so required by the provisions of the California Board for Professional Engineer and Surveyors.
- B. Contractor shall provide a copy of their Company HSE Policy/Procedure Manual, in compliance with CCR Title 8 Standards for awarded scope.
- C. Contractor shall provide a copy of Company's Injury Illness Prevention Program in accordance with CCR Title 8, Section 3203.
- D. Contractor shall provide a copy of their Policy or Substance Abuse Prevention Program that complies with the 1988 Drug Free Workplace Act.
- E. Contractor shall provide the resume and qualifications/certifications of assigned project designated Onsite HSE Representative for this scope as identified in section 2.3 of this specification.
- F. Accident/Incident investigation report within 24 hours of event (immediate verbal notification to Authority Project Manager, followed by Written Report).

The following required documentation shall be provided to the Authority's Project Manager, upon Authority request, within 72 hours.

- G. A copy of Contractor weekly site safety inspection report with status of corrections, upon request, within 72 hours.
- H. Contractor shall provide a copy of the Contractors and subcontractors competent person list (submit to Authority Project Manager, upon Authority request, within 72 hours).
- I. Contractors and subcontractors training records for qualified equipment operators, electrical worker certification (NFPA 70E), confined space training, HAZWOPER training, and similar personnel safety training certificates as applicable to the agreement scope and as requested by the OCTA Project Manager and/or HSEC department, upon Authority request, within 72 hours and prior to starting or during the scope activity (submit to Project Manager).
- J. A monthly report that includes number of workers on project, a list of subcontractors, work hours (month, year to date, & project cumulative) of each contractor, labor designation, OSHA Recordable injuries and illnesses segregated by medical treatment cases, restricted workday cases, number of

restricted days, lost workday cases, and number of lost work days, and recordable incident rate. Contractor shall provide to the Authority, upon request, within 72 hours.

#### K. TRAINING DOCUMENTATION

To ensure that each employee is qualified to perform their assigned work, when applicable to scope work, Contractor shall verify training documentation is in place, prior to and during contract scope, and make available to the Authority, upon request, within 72 hours. Training may be required by the Authority or CCR Title 8 Standards and required for activity on Authority's property and/or Authority projects. Contractor shall provide to Authority, upon request, within 72 hours.

# 2.2 HAZARD COMMUNICATION (CCR Title 8, Section 5194)

- A. Contractor shall comply with CCR Title 8, Section 5194 Hazard Communication Standard. Prior to chemical use on Authority property and/or project work areas the Contractor shall provide to the Authority Project Manager copies of Safety Data Sheet (SDS) for all applicable products used, if any.
- B. All chemicals including paint, solvents, detergents and similar substances shall comply with SCAQMD Rules 103, 1113, and 1171.

# 2.3 DESIGNATED HEALTH, SAFETY, ENVIRONMENTAL (HSE) REPRESENTATIVE

- A. Before beginning on-site activities, the Contractor shall designate an On-site HSE Representative. This person shall be a Competent or Qualified Individual as defined by the Occupational, Safety, and Health Administration (OSHA), familiar with applicable CCR Title 8 Standards, and has the authority to affect changes in work procedures that may have associated cost, schedule and budget impacts.
- B. The Contractor's on-site qualified HSE Representative for all Authority projects is subject to acceptance by the Authority Project Manager and the HSEC Department Manager. All contact information of the On-site HSE Representative (name, phone, and fax and pager/cell phone number) shall be provided to the Authority Project Manager.

QUALIFICATIONS – On Capital Programs, the Contractor shall submit a resume of the full time, on-site qualified HSE Representative(s) who reports directly to the Contractor's Project Manager or Superintendent, and who is responsible for HSE oversight for field operations on the project no later than ten (10) days after receipt of Notice to Proceed, and prior to mobilization. The Contractor's On-site HSE Representative(s) shall have a minimum of seven (7) years heavy construction experience in administering HSE programs on heavy construction project sites, the last two years of which have been administering HSE in the construction discipline for which Contractor is contracting with the Authority. The Contractor's On-site HSE Representative shall be a Certified Safety Professional (CSP) with current standing from the Board of Certified Safety Professionals (BCSP), or a Construction Health and Safety Technician (CHST) with current standing from the BCSP or a Certified Industrial Hygienist (CIH) with current standing from the American Board of Industrial Hygiene (ABIH), or an equal

professional HSE Certificate of standing from The National Examination Board in Occupational Safety and Health (NEBOSH), that is acceptable to the Authority. The Contractor's On-site HSE Representatives(s) shall be on site during all operational hours. The On-site HSE Representative(s) shall set up, carry forward and aggressively and effectively maintain the project specific safety program and IIPP covering all phases of the work. If at any time the Contractor wishes to replace their On-site HSE Representative(s), the Contractor must provide written notice thirty (30) days prior to change of personnel to the Authority. The Contractor shall take all precautions and follow all procedures for the safety of, and shall provide all protection to prevent injury to, all persons involved in any way in the scope work and all other persons, including, without limitation, the employees, agents, guests, visitors, invitees and licensees of the Authority who may be involved. This requirement applies continuously and is not limited to normal working hours. The designated HSE Representative shall participate in all HSE related submittals. The Authority reserves the right to allow for an exception to modify these minimum qualification requirements for unforeseen circumstances, at the sole discretion of the Authority Project Manager and HSEC Department Manager.

On Facility Modification Projects, the Contractor shall submit a resume of the full time qualified on-site HSE Representative who reports directly to the Contractor's Project Manager or Superintendent, and who is responsible for safety oversight for field operations on the project no later than ten (10) days after receipt of Notice to Proceed, and prior to mobilization. The Contractor's On-Site HSE Representative shall hold a current certification from the BCSP, plus five (5) years construction or scope HSE experience enforcing HSE compliance on heavy construction or industrial construction project sites, the last two years of which have been administering HSE in the construction or scope discipline for which Contractor is contracting with the Authority. The Contractor's On-site HSE Representative(s) shall be on site during all operational hours. The designated HSE Representative shall participate in all HSE related submittals. The Authority reserves the right to allow for an exception and to modify these minimum qualification requirements for unforeseen circumstances, at the sole discretion of the Authority Project Manager and HSEC Department Manager.

- 1. Capital Programs may include, but are not limited to, projects involving demolition and construction of; heavy construction, rail projects, highway projects, parking lots and structures, fuel stations, building construction, facility modifications, bus base construction, EPA/DTSC remediation, AQMD air or soil monitoring, fuel tank removal or modification, major bus base modifications, handling potential hazardous waste projects, and similar projects as deemed a Capital Program at the sole discretion by the Authority.
- Facility Modification Projects may include, but are not limited to, projects involving minor demolition and construction or improvement projects for transportation centers, bus base sites and/or building modifications, equipment and/or building upgrades, and similar projects as deemed a Facility Modification Project at the sole discretion by the Authority.
- Competent Individual means an individual who is capable of identifying existing and predictable hazards in the surroundings or working conditions which are unsanitary, hazardous, or dangerous to employees and/or

property, and who has authorization to take prompt corrective measures to eliminate them.

- 4. Qualified Individual means an individual who by possession of a recognized degree, certificate, certification or professional standing, or who by extensive knowledge, training, and experience, has successfully demonstrated his/her ability to solve or resolve problems relating to the subject matter, the work, or the project.
- C. The Contractor shall designate a Competent Individual for each task, as required by Cal-OSHA standards or laws. The task Competent Individual shall be responsible for the prevention of accidents. If the Authority or any public agency with jurisdiction notifies the Contractor of any claimed dangerous condition at the site that is within the Contractor's care, custody or control, the Contractor shall take immediate action to rectify the condition at no additional cost to the Authority. The Contractor shall be responsible for the payment of all fines levied against the Authority for deficiencies relating to the Contractor's supervision or conduct and/or control of the scope agreement.
- D. On Facility Modification Projects, the Authority Project Manager reserves the right to require the Contractor to provide one additional full-time safety representative with qualifications as identified in section 2.3 (C), above whenever the number of individuals from the Contractor, its subcontractors, suppliers, and vendors meets or exceeds 15 workers, there are multiple scope work sites, or as warranted by the scope of work at the sole discretion by the Authority.
- E. On Capital Programs, the Authority's Project Manager reserves the right to require the Contractor to provide one additional full-time safety representative with qualifications as identified in item 2.3 (C) above whenever the number of individuals from the Contractor, its subcontractors, suppliers, and vendors meets or exceeds 50 workers, or is warranted by the scope of work.

#### 2.4 SITE HSE ORIENTATION

The Contractor shall conduct and document a project site safety orientation for all Contractor personnel, subcontractors, suppliers, vendors, and new employees assigned to the project prior to performing any work on Authority projects, a copy of the HSE orientation attendance list shall be provided to the Authority Project Manager. The safety orientation, at a minimum, shall include, as applicable, Personal Protection Equipment (PPE) requirements, eye protection, ANSI class 2 reflective vests, designated smoking, eating, and parking areas, traffic speed limit and routing, cell phone policy, and barricade requirements. When required by scope, additional orientation shall include fall protection, energy isolation lock-out/tag-out (LOTO), confined space, hot work permit, security requirements, and similar project safety requirements.

#### 2.5 INCIDENT NOTIFICATION AND INVESTIGATION

- A. The Authority shall be promptly notified of any of the following types of incidents:
  - 1. Damage to Authority property (or incidents involving third party property damage);

- 2. Reportable and/or recordable injuries (as defined by the U. S. Occupational Safety and Health Administration);
- 3. Incidents impacting the environment, i.e. spills or releases on Authority property.
- B. Notifications shall be made to Authority representatives, employees and/or agents. This includes incidents occurring to contractors, vendors, visitors, or members of the general public that arise from the performance of Authority contract work. An initial immediate verbal notification, followed by a written incident investigation report shall be submitted to Authority's Project Manager within 24 hours of the incident.

A final written incident investigative report shall be submitted within seven (7) calendar days, and include the following information. The current status of anyone injured, photos of the incident area, detailed description of what happened, the contributing factors that led to the incident occurrence, a copy of the company policy or procedure associated with the incident and evaluation of effectiveness, copy of the task planning documentation, and the corrective action initiated to prevent recurrence. This information shall be considered the minimum elements required for a comprehensive incident report acceptable to OCTA.

- C. A Serious Injury, Serious Incident, OSHA Recordable Injury / Illness, or Significant Near Miss shall require a formal incident review at the discretion of the Authority's Project Manager. The incident review shall be conducted within seven (7) calendar days of the incident. This review shall require a senior executive from the Contractors' organization to participate in the presentation. The serious incident presentation shall include action taken for the welfare of the injured, a status report of the injured, causation factors leading to the incident, a root cause analysis, and a detailed recovery plan that identifies corrective actions to prevent a similar incident, and actions to enhance safety awareness.
  - Serious Injury: includes an injury or illness to one or more employees, occurring in a place of employment or in connection with any employment, which requires inpatient hospitalization for a period in excess of twenty-four hours for other than medical observation, or in which an employee suffers the loss of any member of the body, or suffers any serious degree of physical disfigurement.
  - Serious Incident: includes property damage of \$500.00 or more, an incident requiring emergency services (local fire, paramedics and ambulance response), news media or OCTA media relations response, and/or incidents involving other agencies (Cal/OSHA, EPA, AQMD, DTSC, etc.) notification or representation.
  - 3. OSHA Recordable Injury / Illness: includes and injury / illness resulting in medical treatment beyond First Aid, an injury / illness which requires restricted duty, or an injury / illness resulting in days away from work.

4. <u>Significant Near Miss Incident;</u> includes incidents where no property was damaged and no personal injury sustained, but where, given a slight shift in time or position, damage and/or injury easily could have occurred.

#### 2.6 REGULAR INSPECTIONS & THIRD PARTY INSPECTIONS

- A. Frequent and regular inspections of the project jobsite shall be made by the Contractor's On-site HSE Representative, or another Competent Individual designated by the Contractor. Unsafe acts and/or conditions noted during inspections shall be corrected immediately.
- B. The Contractor is advised that representatives of regulatory agencies (i.e., CAL-OSHA, EPA, SCAQMD, etc.), upon proper identification, are entitled to access onto Authority property and projects. The Authority Project Manager shall be notified of their arrival as soon as possible.

#### 2.7 ENVIROMENTAL REQUIREMENTS

- A. The Contractor shall comply with Federal, State, county, municipal, and other local laws and regulations pertaining to the environment, including noise, aesthetics, air quality, water quality, contaminated soils, hazardous waste, storm water, and resources of archaeological significance. Expense of compliance with these laws and regulations is considered included in the agreement. Contractor shall provide water used for dust control, or for pre-wetting areas to be paved, as required; no payment will be made by OCTA for this water.
- B. The Contractor shall prevent pollution of storm drains, rivers, streams, irrigation ditches, and reservoirs with sediment or other harmful materials. Fuels, oils, bitumen, calcium chloride, cement, or other contaminants that would contribute to water pollution shall not be dumped into or placed where they will leach into storm drains, rivers, streams, irrigation ditches, or reservoirs. If operating equipment in streambeds or in and around open waters, protect the quality of ground water, wetlands, and surface waters.
- C. The Contractor shall protect adjacent properties and water resources from erosion and sediment damage throughout the duration of the contract. Contractor shall comply with applicable NPDES permits and Storm Water Pollution Prevention Plan (SWPPP) requirements.
- D. Contractor shall comply with all applicable EPA, Cal EPA, Cal Recycle, DTSC, SCAQMD, local, state, county and city standards, rules and regulations for hazardous and special waste handling, recycling and/ disposal. At a minimum, Contractor shall ensure compliance where applicable with SCAQMD Rule 1166, CCR Title 8, Section 5192, 29 CFR Subpart 1910.120, 49 CFR Part 172, Subpart H, 40 CFR Subpart 265.16 and CCR Title 22 Section 6625.16. Contractor shall provide OCTA a schedule of all hazardous waste and special or industrial waste disposal dates in advance of transport date. Only authorized OCTA personnel shall sign manifests for OCTA generated wastes. Contractor shall ensure that only current registered transporters are used for disposal of hazardous waste and industrial wastes. The Contractor shall obtain approval from OCTA for the disposal site locations in advance of scheduled transport date.

- E. If the Contractor encounters on the site material reasonably believed to be asbestos, polychlorinated biphenyl (PCB) or other Hazardous Substance (as defined in California Health and Safety Code, and all regulations pursuant thereto) which has not been rendered harmless, the Contractor shall immediately stop work in that area affected and report the condition to the Authority in writing. The work in the affected area shall not thereafter be resumed except by written agreement of the Authority and Contractor if in fact the material is asbestos or polychlorinated biphenyl (PCB) or other hazardous substance and has not been rendered harmless. The work in the affected area shall be resumed in the absence of asbestos or polychlorinated biphenyl (PCB) or other hazardous substance, or when it has been rendered harmless, by written agreement of the Authority and the Contractor, or in accordance with a final determination by an Environmental Consultant employed by the Authority.
- F. The Contractor shall not permit any hazardous substances to be brought onto or stored at the Project Site or used in the construction of the work, except for specified materials and commonly used construction materials for which there are no reasonable substitutes. All such materials shall be handled in accordance with all manufacturers' quidelines, warnings and recommendations and in full compliance with all applicable laws. All notices required to be given with respect to such materials shall be given by the Contractor. The Contractor shall not intentionally release or dispose of hazardous substances at the Project Site or into the soil, drains, surface or ground water, or air, nor shall the Contractor allow any Sub-Contractor, subcontractor or supplier or any other person for whose acts the Contractor or any subcontractor, vendor or supplier may be liable, to do so. For purposes of Contract Documents, "hazardous substance" means any substance or material which has been determined or during the time of performance of the work is determined to be capable of posing a risk of injury to health, safety, property or the environment by any federal, state or local governmental authority.

#### 2.8 VEHICLE AND ROADWAY SAFETY REQUIREMENTS

- A. The Contractor shall ensure that all Contractor vehicles, including those of its subcontractors, suppliers, vendors and employees are parked in designated parking areas, are identified by company name and/or logo, and comply with traffic routes, and posted traffic signs in areas other than the employee parking lots.
- B. Personal vehicles belonging to Contractor employees shall not be parked on the traveled way or shoulders including any section closed to public traffic, or areas of the community that may cause interference or complaints
- C. The Contractor shall comply with California Department of Transportation safety requirements and special provisions when working on highway projects.
- D. The Contractor shall conform to American Traffic Safety Services Association (Quality Standard for Work Zone Control Devices 1992).

#### 2.9 LANGUAGE REQUIREMENTS

For safety reasons, the Contractor shall ensure employees that do not read, or understand English, shall be within visual and hearing range of a bilingual

supervisor or responsible designee at all times when on the Authority property or projects.

#### 2.10 PERSONAL PROTECTIVE EQUIPMENT AND CLOTHING

Contractors, and all associated subcontractors, vendors and suppliers are required to provide their own personal protective equipment (PPE), including eye, head, foot, and hand protection, respirators, reflective safety vests, and all other PPE required to perform their work safely on Authority projects.

- A. RESPIRATORS (CCR Title 8, Section 5144) The required documentation for training and respirator use shall be provided to the Authority's Project Manager upon request within 72 hours. All compliance documentation as required by CCR Title 8, Section 5144, Respiratory Protective Equipment.
- B. EYE PROTECTION The Authority requires eye protection on construction projects and work areas that meet ANSI Z-87.1 Standards.
- C. BUS BASE Minimum PPE required includes but is not limited to; Eye protection, class 2 reflective vest, steel toe or construction type footwear that meets ANSI Z41 1991 are recommended.
- D. CONSTRUCTION PROJECTS Minimum PPE required includes but is not limited to; hard hat, eye protection, hand protection, class 2 reflective vest, safety toe footwear that meets ANSI Z41 1991 are recommended.
- E. HARD HATS: Approved hard hat that meet ANSI Z89. 1 (latest revision). Hard hats should be affixed with the company/agency logo and/or name. The bill shall be worn forward. Metal hard hats and cowboy style are forbidden on Authority projects.
- F. FOOTWEAR: Enclosed leather that covers the ankles, such as a construction type boot. Employees shall not wear casual dress shoes, open toe, sneakers, sandals, canvas-type shoes, or other shoes that have thin soles or heels that are higher than normal in construction work areas. Safety toe footwear that meets ANSI Z41 1991 are recommended on construction sites and in operating facilities.
- G. CLOTHING/SHIRTS: minimum or waist length shirts with sleeves (4" minimum).
- H. CLOTHING/TROUSERS: Cover the entire leg. If flare-legged trousers are worn, the trouser bottoms must be tied to prevent catching. No sweat pants, or trousers with holes.
- 2.11 AERIAL DEVICES (CCR Title 8, Section 3648)

Aerial devices are defined in CCR Title 8 as any vehicle-mounted or self-propelled device, telescoping extensible or articulating, or both, which is primarily designed to position personnel. If aerial devices are to be used, the required documentation in CCR Title 8, Section 3648 shall be provided to the Authority's Project Manager, upon request, within 72 hours.

## 2.12 CONFINED SPACE ENTRY (CCR Title 8, Section 5157)

Before any employee will be allowed to enter a confined space, the required documentation as required by CCR Title 8, Section 5157 shall be provided to the Authority's Project Manager, upon request, within 72 hours.

A. RECOMMENDED: a copy of the most recent calibration record for each air monitoring unit, 3-gas monitor or "sniffer" to be used by the Entry Supervisor prior to entering permit-required confined spaces.

#### 2.13 CRANES

- A. Crane activity shall comply with 29 CFR 1926.550, CCR Title 8 Standards, manufacture's recommendations and requirements, applicable American Society of Mechanical Engineers (ASME), and ANSI Standards. In addition, Contractor shall comply with the following requirements: Prior to using mobile cranes, the Contractor shall provide to the Authority Project Manager, items I, 2 & 3 of the following documentation a minimum of seven (7) days prior to activity, and item 4 on each day of crane activity.
- 1. Cranes require a submittal of the annual certification, and copy of the cranes most recent quarterly inspection.
- 2. A copy of each crane operator's qualification (NCCCO or equivalent) of company-authorized crane operators that have been properly trained in the equipment's use and limitations. Operator certification as required by CCR Title 8, Section 5006.1.
- 3. A rigging plan is required for all lifts. Critical lifts require an engineered plan designed by a registered professional engineer licensed in the State of California.
- 4. Contractor shall provide the name and qualifications of each "Qualified Rigger" as defined by OSHA.
- 5. Rigging scope activity shall comply with 29 CFR Subparts1926.250, 1929.753 and CCR Title 8 Standards.
- 6. All rigging equipment shall be free from defects, in good operating condition and maintained in a safe condition.
- 7. Rigging equipment shall be inspected by a designated, competent employee prior to initial use on the project, prior to each use, and documented inspections performed regularly. Records shall be kept on jobsite of each of these inspections by contractor and be made available to the Authority upon request within 72 hours.
- 8. Only one (1) sling eye should be in a hook, for multiple slings a shackle shall be used to prevent separation of slings, and prevent stress on weak points of the hook.
- 9. Contractor shall prepare a documented daily crane inspection report.

B. Pick and carry with rubber tired cranes is forbidden on Authority projects.

## C. Engineered Critical Lifts

A critical lifts is established where any one of the following conditions are created:

- 1. Where in the crane's current configuration at any point during the lift, a gross load weight exceeds 75% of the capacity of the crane.
- 2. A gross weight equal to, or greater than 10 tons.
- 3. Lifts over buildings, equipment, public roadways, structures, or power lines.
- 4. A single lift where two or more cranes are used, including tandem lifts and tailing cranes.
- 5. Lifts made in close proximity of power lines, as defined by CCR Title 8 voltage clearance specifications.
- 6. Lifts involving helicopters, and specialized or unique and complex rigging equipment.
- 7. Hoisting of suspended work platforms.
- 8. Static tower crane erection and dismantlement.
- Making lifts below the ground level where the crane is positioned.
   Note: Where the below the ground lift is minimal (evaluated by California registered professional engineer), a critical lift plan may not be required.

#### D. Critical Lift Plan

Where a critical lift will be performed, a written critical lift plan shall be submitted to the Authority Project Manager prior to commencing with the lift. The written plan shall include the following:

- 1. Crane manufacturer, capacity, and all specifications for the configuration to be used for the lift.
- 2. Load chart data for the crane to be used to make the lift. Total calculated weight of the load to be lifted including all rigging and other deductions consistent with the manufacturer's load chart.
- 3. Engineering data shall be provided on the hook assembly (manufacture's certification or independent laboratory testing and load testing within the past

- 60 days), below-the hook rigging, and all specialized below-the-hook lifting devices.
- 4. Diagrams of the lift that provides geometrical conditions of the load, rigging, and all crane positions during the lift. The drawing shall provide the following:
  - A. Locations of all components to be lifted prior, during and after the lift is completed.
  - B. Radius points.
  - C. Swing patterns.
  - D. In the event that the lift must be aborted, positions where the load may be safely landed.
  - E. Areas where any personnel, public, and vehicles must be evacuated during the lift.
- 5. Potential ground loading for each point of contact by the crane in selected locations in which the crane will perform the critical lift.
- 6. Soil and subsurface data and information pertaining to the location on which the crane used for the critical lift will be positioned. This information shall be procured from an authoritative source such as a geotechnical engineer or a professional civil engineer registered in the state of California.
  - **Note:** This information may be available from the Authority for selected locations on some projects.
- 7. An engineer shall use the data provided in #5 and #6 above to verify and confirm the following:
  - A. That the soil and subsurface conditions are capable of supporting all loads imposed during the critical lift.
  - B. That the designs of cribbing and other supports used under the crane load points are appropriate to safely transfer such loads.
- 8. Signature and stamp on the plan by a California registered professional engineer, evidencing review of the plan as meeting the requirements that all loads and load information and calculations contained in the plan are approved, acceptable and safe to perform.
- 9. Operator qualifications.

- 10. Method by which communication will be provided to the crane operator. (Designated signal person, two-way radio, hard wire phone system, etc.).
- 11. A critical lift hazard analysis which identifies the particular hazards (including weather, wind, obstructions, etc.) associated with the lift and the means and methods to reduce, mitigate, or eliminate the hazards.
- 12. Emergency action plan.
- 13. Documentation of lift and pre-job meeting shall be conducted by Contractor's Project Manager.

The written plan shall be submitted 7 days prior to any critical lift for review by the Authority Project Manager and the Authority HSEC department. No critical lifts shall be conducted prior to such review.

#### E. OVERHEAD CRANES

Before using the Authority overhead cranes, each Contractor shall designate a limited number of employees to attend a training session on the use and limitations of overhead cranes with designated Authority personnel.

# 2.14 DEMOLITION OPERATIONS (CCR Title 8, Section 1734)

Before starting demolition activities the required documentation shall be provided to the Authority's Project Manager, upon request, within 72 hours. Contractor shall provide all compliance documentation as required by CCR Title 8 Article 31.

- A. The Contractor shall be responsible for visiting and examining the project site to assess and personally determine the extent of demolition, associated work, debris removal, disposal and general work to be done under this section.
- B. The Contractor shall take possession of all demolished materials, except as noted otherwise in the Contract Documents, and be responsible for disposing of them in accordance with applicable laws and regulations. On-site burning or burial of demolition materials will not be permitted.
- C. Provide continuous noise and dust abatement as required, preventing disturbances and nuisances to the public, workers, and the occupants of adjacent premises and the surrounding areas. Dampen areas affected by demolition operation as necessary to prevent dust nuisance.
- D. Site demolition plan: Indicate methods, procedures, equipment, and structures to be employed. Specify safety measures in accordance with applicable codes including signs, barriers, and temporary walkways. Plans shall be prepared by a qualified person (CSP, CIH, CHST, CHMM, etc.), or as necessary by a professional engineer licensed to practice in the State of California, when so required by the provisions of the California Board for Professional Engineer and Surveyors.

E. Equipment, haul routes, and disposal sites to be used in the demolition and disposal work. Copy of manifests showing delivery of disposed materials in accordance with the plan and permit conditions. Certification that all demolished materials removed from the site have been disposed of in accordance with applicable laws and regulations.

# 2.15 EXCAVATION OPERATIONS (CCR Title 8, Section 1541)

Before starting excavation activities more than 5 feet deep into which people shall enter, the required documentation shall be provided to the Authority's Project Manager, upon request, within 72 hours. All compliance documentation shall comply with the following CCR Title 8, Section 1541 requirements:

- A. A copy of the Contractor's Excavation Permit.
- B. Attention is directed to the applicable sections of the Labor Code concerning trench excavation safety plans, "Trench Safety." Excavation for any trench 5 feet or more in depth shall not begin until the Contractor has received approval from the Engineer of the Contractor's detailed plan for worker protection from the hazards of caving ground during the excavation of that trench and any design calculations used in the preparation of the detailed plan. Excavations 20 feet or greater shall be engineered and plan stamped by a California registered professional engineer.
- C. The detailed plan shall show the details of the design of shoring, bracing, sloping or other provisions to be made for worker protection during the excavation. No plan shall allow the use of shoring, sloping or a protective system less effective than that required by the Construction Safety Orders of the Division of Occupational Safety and Health. If the plan complies with the shoring system standards established by the Construction Safety Orders, the plan shall be submitted at least five (5) days before the Contractor intends to begin excavation for the trench.
- D. Excavations and trenches shall be inspected by a "Competent Person" daily and after every rainfall to determine if they are safe. Daily inspections shall be recorded. Documentation is to be kept on site and available for review upon request.
- E. Excavations are considered class 'C' soil unless documented testing in accordance with 29 CFR Subpart P, Section 1926.650 and CCR Title 8 Standards supports a class 'B' soil classification and is confirmed and stamped by a California registered professional engineer. In no case will excavations be classified as class 'A' soil.

# 2.16 FALL PROTECTION (CCR Title 8, Sections 1669-1671)

The following standards are required when performing work on Authority property. The required documentation shall be provided to the Authority's Project Manager, upon request, within 72 hours.

A. Fall protection is required for workers exposed to falls in excess of six (6) feet.

B. When conventional fall protections methods are impractical or create a greater hazard, a written plan in conformance with CCR Title 8, Article 24, shall be submitted to the Authority a minimum of seven (7) days in advance of the scheduled activity.

# 2.17 FORKLIFTS, BACKHOES AND OTHER INDUSTRIAL TRACTORS (CCR Title 8, Section 3664)

CCR Title 8 defines backhoes as "industrial tractors". All compliance documentation shall be provided as required by CCR Title 8, Section 3664. The following required documentation shall be provided to the Authority's Project Manager, upon request, within 72 hours:

A. A copy of each operator's certificate or a list of company-authorized industrial tractor operators that have been properly trained in the equipment's use and limitations. Please state which equipment, and model each operator has been authorized to operate (i.e. forklifts, backhoe, bulldozer, front-end loader, etc.).

#### 2.18 ELECTRICAL OPERATIONS

# HIGH VOLTAGE (CCR Title 8, Sections 2700-2974)

Any work on electrical equipment defined by OSHA as high-voltage, at or above 600 volts, requires specialized training certifications and personal protective equipment. Before any high-voltage work commences, the Authority Project Manger must be notified and must provide approval. The following required NFPA 70E certification and a certificate of training from a recognized organization of a two day high voltage safety training course shall be provided to the Authority's Project Manager, upon request, within 72 hours:

A. A list of the name(s) of the company-designated high voltage Qualified Electrical Worker(s)

#### LOW VOLTAGE (CCR Title 8, Sections 2299-2599)

Only qualified persons shall work on electrical equipment or systems.

A. <u>Electrical Certification of Training</u>; Contractor employees working on or around electrical panels, wiring, motors, electrical energy sources or similar electrical devices shall have attended a NFPA 70E, Electrical Safety Course and provide to the OCTA Project Manager a copy of employees' NFPA 70E qualification certificate of training for each employee assigned to electrical tasks on OCTA property or projects.

### 2.19 POWDER-ACTUATED TOOLS (CCR Title 8, Section 1685)

Before using tools such as "Hilti guns" or other powder-actuated tools, the following required documentation shall be provided to the Authority's Project Manager, upon request, within 72 hours.

A. A copy of each qualified person's valid operator card.

# 2.20 SCAFFOLDS (CCR Title 8, Sections 1635.1-1677)

Scaffold erection shall be in compliance with CCR Title 8 Standards. All compliance documentation shall be provided as required by CCR Title 8, Sections 1635.1-1677. In addition, the Contractor shall comply with the following additional requirements.

- A. All scaffolds on Authority project shall be inspected by a competent person qualified for scaffolds in accordance with CCR Title 8 Standards.
- B. Contractor shall arrange for a third party inspection, at least quarterly, by a credentialed professional (insurance carrier, scaffold manufacturer representative, or similar) in addition to the contractors daily self inspections.
- C. A proper scaffold inspection and tagging system shall be maintained identifying compliance status (Example: Green/safe, Yellow/modified-fall protection required, Red/unsafe-do not use).
- D. Contractor shall have a fall protection plan that meets CCR Title 8 Standards for scaffold erectors, an erection/dismantling plan shall be submitted to Authority Project Manager for review prior to start of activity.
- E. Scaffold erection/dismantling shall install handrails beginning on the first level above ground erected, and erectors shall plan erection and dismantling in a manner to maximize handrail protection and minimize employees at unprotected areas.

#### 2.21 WARNING SIGNS AND DEVICES

Signs, signals, and/or barricades shall be visible at all times when and where a hazard exists. Overhead tasks, roofing tasks, excavations, roadwork activity, demolition work, and other recognized hazards shall have guardrail protection, warning barricades, or similar protective measures acceptable to the Authority's Project Manager. Signs, signals, and/or barricades shall be removed when the hazard no longer exists.

#### 2.22 STEEL ERECTION

Steel Erection scope activity shall comply with 29 CFR Subpart R, Section 1926.750, and CCR Title 8 Standards. In addition to OSHA Standards, Contractor shall comply with the following requirements.

- A. Erection planning should incorporate installation methods using aerial devices (man-lifts) and elevated work platforms (scissor lift) to minimize fall hazards of climbing steel where possible. A detailed written job safety analysis (JSA) shall identify installation methods, equipment, and control methods to minimize potential fall hazards.
- B. The Contractor shall not allow any employee to walk the steel unprotected from falls. Contractor employees must be tied-off and "coon" the beam until safety cables are provided to which employees shall use 100% tie-off protection. Two lanyards are required to ensure 100% tie-off protection.

- C. A safe means of access to the level being worked shall be planned. Climbing and sliding down columns are not considered safe access and are forbidden on Authority projects.
- D. A qualified rigger shall inspect the rigging prior to each shift and each lift.
- E. Multiple lift rigging (Christmas Treeing) lifts are forbidden on Authority property and controlled projects.

#### 2.23 AUDITS

- A. The Authority may make periodic patrols of the project site as a part of its normal security and safety program. The Contractor shall not be relieved of its aforesaid responsibilities and the Authority shall not assume same, nor shall it be deemed to have assumed, any responsibility otherwise imposed upon the Contractor, as a result of safety patrols by the Authority.
- B. The Authority may audit the Contractor's safety program for HSE compliance at various intervals of the project, at the sole discretion of the Authority. Elements may include, but are not limited to: OSHA injury & illness records and logs, Job Safety Analysis and safety plans, equipment operator licenses and training records, incident reports, meeting minutes, engineered plans, safety meeting records, crane and rigging plans, equipment inspection records, qualifications of and interviews with key Contractor management personnel, and other similar information. The Contractor shall support and cooperate with these audits at no additional compensation or schedule impacts with this contract.

#### 2.24 RAILWAY SAFETY PRECAUTIONS

- A. Work on operating railways shall be in compliance with 49 CFR, Part 214, CCR Title 8 Standards, and the Southern California Regional Rail Authority (SCRRA).
- B. New construction rail projects require that all employers and contractors are responsible to assure employees are trained and understand on-track safety procedures, and follow roadway worker rules identified in 49 CFR, Part 214, CCR Title 8, SCRRA, the California Department of Transportation (CalTrans), and OCTA HSE Construction Management Requirements (i.e., item E references).
- C. Minimum PPE for workers include hard hat, safety glasses, orange (i.e., rail company approved color) class 2 reflective vest, safety toe footwear that meets ANSI Z41 1991 (lace-up type over the ankle) and hearing protection (on person and worn as necessary).

#### 2.25 FINES

The Contractor shall be responsible for the payment of all fines levied against the Authority for HSE violations arising from or related to activities over which Contractor has responsibility per the contract..

#### 2.26 COMPLIANCE COSTS

Compliance with Health, Safety and Environmental Compliance identified in these aforementioned Authority Safety Specifications shall be at the expense of the Contractor, and included in Bid Documents to the Authority for the Contractor's scope. The Authority shall incur no additional cost or schedule impacts by Contractor, for compliance with California Construction Safety Orders, CCR Title 8 Standards, Federal OSHA Standards, and the Authority Safety Specifications for the protection of persons and property.

#### 2.27 REFERENCES

- A. CCR Title 8 Standards (Cal/OSHA)
- B. CFR Including 1910 and 1926 Standards
- C. NFPA, NEC, ANSI, NIOSH Standards
- D. USACE Construction Quality Management Manuel (EM-385-1-1)
- E. Construction Industry Institute (CII)
- F. OCTA Construction Management Procedures Manual
- G. OCTA Yard Safety Rules

**END OF DOCUMENT** 





# April 14, 2025

**To:** Members of the Board of Directors

From: Andrea West, Clerk of the Board

**Subject:** Amendment to Agreement for Security Officer Services

### Executive Committee Meeting of April 7, 2025

Present: Chair Chaffee, Vice Chair Federico, Directors Jung, Klopfenstein,

Nguyen, and Wagner

Absent: Director Hennessey

#### **Committee Vote**

This item was passed by the Members present.

# **Committee Recommendation(s)**

- A. Authorize the Chief Executive Officer to negotiate and execute Amendment No. 2 to Agreement No. C 2 2886 between the Orange County Transportation Authority and Inter Con Security Systems, Inc., in the amount of \$332,158, to provide additional security officer services at the OC Streetcar Maintenance and Storage Facility.
- B. Authorize the Chief Executive Officer to negotiate and execute Amendment No. 2 to Agreement No. C 2 2886 between the Orange County Transportation Authority and Inter Con Security Systems, Inc., in an amount of \$332,158 to exercise six months of the one year option term for continued security officer services at the bus bases. These two actions will increase the maximum obligation of the agreement to a total contract value of \$1,756,316.



## April 7, 2025

**To:** Executive Committee

From: Darrell E. Johnson, Chief Executive Officer

**Subject:** Amendment to Agreement for Security Officer Services

#### Overview

On June 12, 2023, the Orange County Transportation Authority Board of Directors approved an agreement with Inter-Con Security Systems, Inc. to provide security officer services for a two-year initial term with one, one-year option term. Board of Directors' approval is requested to amend the agreement to include security services for the OC Streetcar Maintenance and Storage Facility and exercise the option term.

#### Recommendations

- A. Authorize the Chief Executive Officer to negotiate and execute Amendment No. 2 to Agreement No. C-2-2886 between the Orange County Transportation Authority and Inter-Con Security Systems, Inc., in the amount of \$332,158, to provide additional security officer services at the OC Streetcar Maintenance and Storage Facility.
- B. Authorize the Chief Executive Officer to negotiate and execute Amendment No. 2 to Agreement No. C-2-2886 between the Orange County Transportation Authority and Inter-Con Security Systems, Inc., in an amount of \$332,158 to exercise six months of the one-year option term for continued security officer services at the bus bases. These two actions will increase the maximum obligation of the agreement to a total contract value of \$1,756,316.

#### **Discussion**

In anticipation of the upcoming delivery of OC Streetcar vehicles and specialized equipment and tools to the Maintenance and Storage Facility (MSF), staff has identified a need for supplemental contracted security officer services at the site during the transition between project construction and pre-revenue operations. This measure is necessary to secure streetcar facilities, including critical and

high value project assets in and around the facility and streetcar yard. The original project schedule anticipated a direct transition of site security responsibility from the construction contractor to the operations and maintenance (O&M) contractor. However, a temporary certificate of occupancy was obtained, allowing construction teams to finalize their work while the O&M contractor begins preparing the facility for their use. Shared-use times at the end of construction projects can result in opportunistic crime, such as theft, vandalism, and trespassing. Additionally, the facility security systems will still be undergoing testing during this interim phase and may not be fully operational or activated at all times.

To mitigate this risk, additional security officer services are requested to maintain site security. The Orange County Transportation Authority (OCTA) has successfully utilized Inter-Con Security Systems, Inc.'s (Inter-Con) security services for the past 20 months providing security at both the Santa Ana and Garden Grove bus bases. The need for security services at the bus bases will be scaled back as the gate installation project is expected to be completed by May 1, 2025. The six months of continued service will focus on having Inter-Con provide security services primarily for the MSF.

Similar to the services provided at the bus bases, Inter-Con will provide uniformed, unarmed security professionals staffing three facility perimeter-fixed posts for access control, maintain security control over the facility storeroom, provide roving patrols inside the MSF and within the yard, conduct security inspections, mitigate any security challenges detected, and complete various security logs and reports. The time and expense scalable staffing deployment plan varies to balance protecting assets and the ongoing work at the facility. This contracted service is important to ensure OCTA and its contracted personnel, properties, and equipment remain as secure as practicable during the transition between construction and start-up operations. Once the MSF is complete and accepted by OCTA, including all security systems, site security will be the full responsibility of the O&M contractor.

#### Procurement Approach

The procurement was handled in accordance with OCTA Board of Directors (Board)-approved procedures for professional and technical services. On June 12, 2023, the Board approved the award of the agreement with Inter-Con to provide security officer services. The original agreement was awarded on a competitive basis and includes a two-year initial term in the amount of \$1,092,000 and one, one-year option term. Although the agreement includes one, one-year option term, staff has determined that only six months of the option term is needed to allow Inter-Con to continue providing security officer

services at the MSF. This agreement has been previously amended as shown in Attachment A.

The proposed Amendment No. 2 is to increase the maximum cumulative payment obligation of the initial term by \$332,158 to address the need for additional security officer services at the MSF, and to exercise the option term effective July 1, 2025, through December 31, 2025, in the amount of \$332,158 which will increase the total cumulative payment obligation by \$664,316 for a total contract value of \$1,756,316.

#### Fiscal Impact

The project was not included in OCTA's fiscal year 2025-2026 budget. The estimated \$664,316 cost for these services will be provided through the Transit Development Capital Project Fund, Account No. 0035-7616-OC110-4TZ.

#### Summary

Staff recommends the Board of Directors authorize the Chief Executive Officer to negotiate and execute Amendment No. 2 to Agreement C-2-2886 between the Orange County Transportation Authority and Inter-Con Security Systems, Inc., adding \$332,158 to the initial term and an additional \$332,158 to exercise the option term for continued security officer services and to provide additional security officer services at the OC Streetcar Maintenance and Storage Facility.

#### Attachment

A. Inter-Con Security Systems, Inc., Agreement No. C-2-2886 Fact Sheet

Prepared by:

Matthew ankley

Matt Ankley

Manager, Security and Emergency

Preparedness 714-560-5961

Pia Veesapen

Director, Contracts Administration and Materials Management

714-560-5619

Approved by:

Jennifer L. Bergener

Deputy Chief Executive Officer

714-560-5462

#### Inter-Con Security Systems, Inc. Agreement No. C-2-2886 Fact Sheet

- 1. June 12, 2023, Agreement No. C-2-2886, \$1,092,000, for a two-year initial term with one, one-year option term approved by the Board of Directors (Board).
  - Agreement for security officer services.
  - Initial term effective July 1, 2023, through June 30, 2025, with one, one-year option term.
- 2. October 26, 2023, Amendment No. 1 to Agreement No. C-2-2886, \$0.00, approved by the Contracts Administration and Materials Management Department.
  - To add holiday pay rates to the price summary sheet.
- 3. April 14, 2025, Amendment No. 2 to Agreement No. C-2-2886, \$664,316, pending approval by the Board.
  - Additional budget in the amount of \$332,158 to cover costs to provide security officer services at the OC Streetcar Maintenance and Storage Facility through the initial term.
  - Exercise the option term effective July 1, 2025, through December 31, 2025, in the amount of \$332,158.
  - Revise Key Personnel.

Total committed to Inter-Con Security Systems, Inc. under Agreement No. C-2-2886: \$1,756,316.

# OC Streetcar Maintenance and Storage Facility Interim Security Proposal



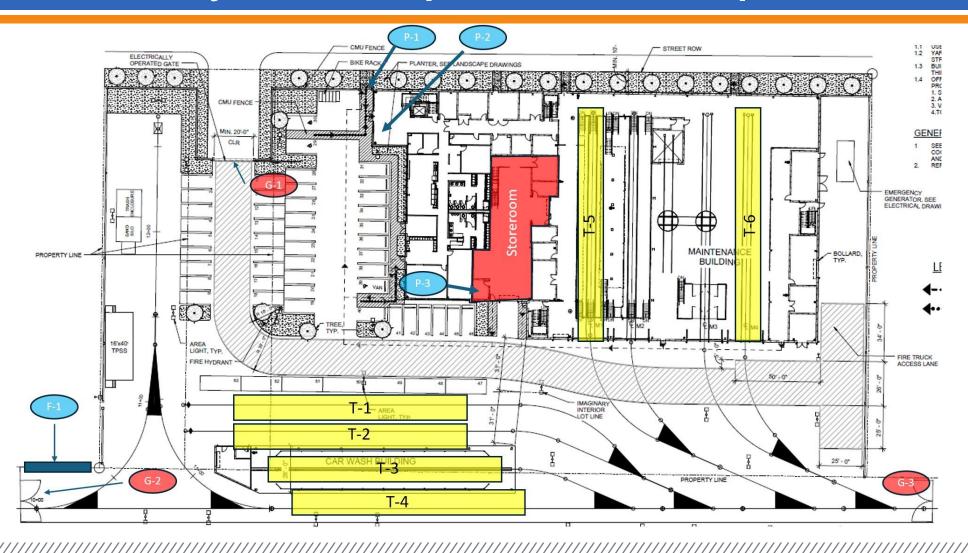
### OC Streetcar MSF Security- Current State

- Walsh Construction-
  - Responsible for construction site security until turn over to OCTA
- Herzog Railroad Services-
  - OC Streetcar Operator and Maintainer (O&M) Contractor
  - Responsible for MSF security once full Certificate of Occupancy is issued
- Transitional periods, such as project completion to operations typically result in opportunities for crime-
  - Trespassing, tagging, vandalism, and theft
- Streetcars will begin arriving on April 30<sup>th</sup>

### MSF Interim Security Considerations

- The complexity of the MSF property, combined with the high-value assets, requires a combination of flexible security strategies to protect the property.
- The arrival of streetcars for storage at the MSF will require a higher degree of physical security than that which currently exists, or which Walsh is required to provide
- The proposal's success will rely on close coordination with OCTA/Transit Police Services and Santa Ana Police Department
- The proposal is scalable and flexible to meet changing needs

### MSF Security Concept – Site Map



### MSF Security Concept - Personnel

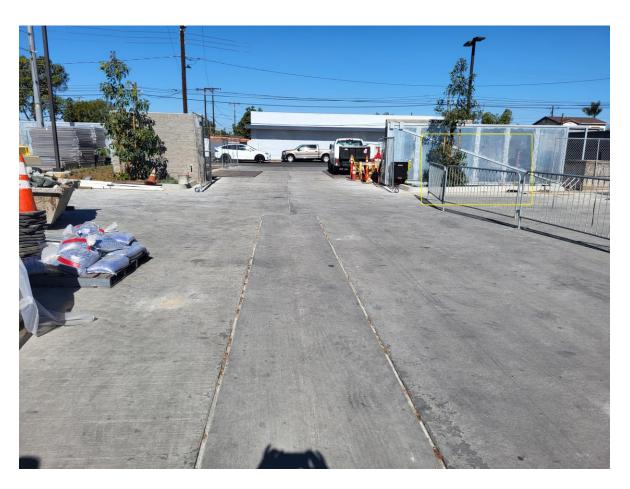
- Five (5) Fixed Posts:
  - G-1 Access control at main gate (SO in security booth, 24/7)
  - G-2 Access control at west gate (SO in security booth, M-F, 0600-2200)
  - G-3 Access control at east gate (SO in security booth, M-F, 0600-2200)
  - P-2 Access control at pedestrian gate P1 (SO at lobby desk, M-F, 0600-2200)
  - P-3 Access/inventory control at storeroom (SO at desk, M-F, 0600-2200)
- One (1) roving foot patrol of entire site (SO on foot, 24/7)
- One (1) Security Supervisor, roving foot patrol of entire site, break relief, fixed post and rover support and supervision, incident response and coordination

### MSF Security Concept - Supplemental

- Training Required:
  - State-mandated basic security officer (BSIS)(security contractor-provided)
  - TSA-mandated security awareness training (TSA)(OCTA-provided)
  - First Aid/AED/CPR (security contractor-provided)
- Equipment Required (security contractor-provided):
  - Three (3) security booths, requiring power but no data
  - Short range portable radios
  - Smart phones

### MSF Security Concept - Recommendations

- Reinforce vulnerable areas:
  - Install 20' tall temporary or permanent privacy screening along entire south perimeter fence line.
    - Reduces and/or eliminates public view of rail cars stored inside the property
    - Helps prevent hand-thrown items such as rocks, bottles, boards, pipes, cans, etc.
  - Increase the height of perimeter fence section "F-1" to match the height of other nearby fencing
    - Reduces risk of site intrusion at this location



- Looking north out of main vehicle gate "G-1."
- Yellow box indicates proposed security booth placement.

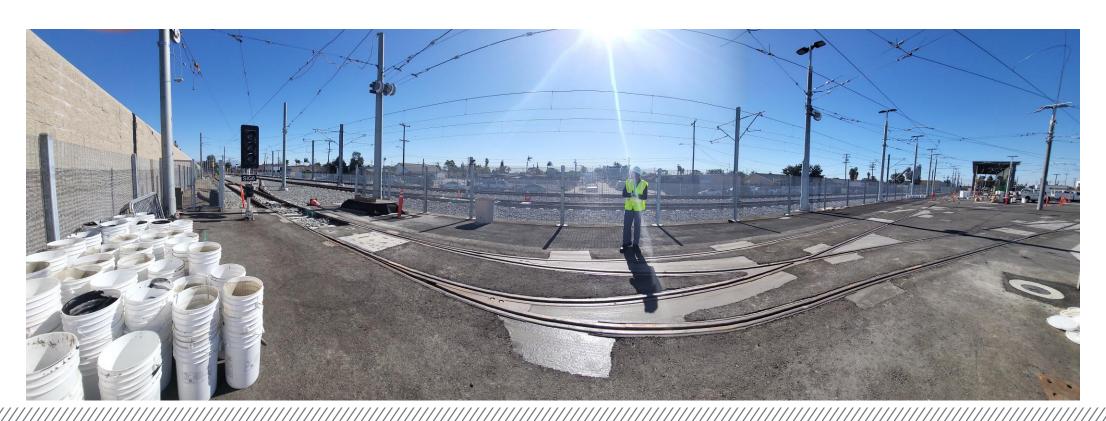


- Looking west out of gate G-2.
- Bottom yellow box indicates proposed security booth placement.
- Right side yellow box indicates perimeter fence we should heighten.



 Looking east out of gate G-3 from proposed placement of the security booth.

• Panoramic view from G-3, showing visibility west along the south perimeter fence.





- Looking north out of pedestrian gate "P-1".
- Fixed post "P-2" will monitor this gate from inside the lobby immediately to the right.

### Recommendations

- A. Authorize the Chief Executive Officer to negotiate and execute Amendment No. 2 to Agreement No. C-2-2886 between the Orange County Transportation Authority and Inter-Con Security Systems, Inc., in the amount of \$332,158, to provide additional security officer services at the OC Streetcar Maintenance and Storage Facility.
- B. Authorize the Chief Executive Officer to negotiate and execute Amendment No. 2 to Agreement No. C-2-2886 between the Orange County Transportation Authority and Inter-Con Security Systems, Inc., in an amount of \$332,158 to exercise six months of the one-year option term for continued security officer services at the bus bases These two actions will increase the maximum obligation of the agreement to a total contract value of \$1,756,316.





#### **April 14, 2025**

Members of the Board of Directors To:

Andrea West, Clerk of the Board From:

Subject: Comprehensive Transportation Funding Programs - 2025 Call for

**Projects Programming Recommendations** 

Regional Transportation Planning Committee Meeting of April 7, 2025

Present: Directors Federico, Foley, Klopfenstein, and Stephens

Absent: **Directors Carroll and Harper** 

#### **Committee Vote**

This item was passed by the Members present.

#### **Committee Recommendation(s)**

- Α. Approve the award of \$25.72 million in 2025 Regional Capacity Program (Project O) funds to nine local jurisdiction projects.
- В. Approve the award of \$11.99 million in 2025 Regional Traffic Signal Synchronization Program (Project P) funds to six local jurisdiction projects.



#### April 7, 2025

**To:** Regional Transportation Planning Committee

**From:** Darrell E. Johnson, Chief Executive Officer

**Subject:** Comprehensive Transportation Funding Programs – 2025 Call for

**Projects Programming Recommendations** 

#### Overview

The Orange County Transportation Authority issued the 2025 Measure M2 Comprehensive Transportation Funding Programs Regional Capacity Program and Regional Traffic Signal Synchronization Program call for projects in August 2024. Project applications were due in October 2024. A list of projects recommended for funding is presented for Board of Directors' review and approval.

#### Recommendations

A. Approve the award of \$25.72 million in 2025 Regional Capacity Program (Project O) funds to nine local jurisdiction projects.

B. Approve the award of \$11.99 million in 2025 Regional Traffic Signal Synchronization Program (Project P) funds to six local jurisdiction projects.

#### **Background**

The Regional Capacity Program (RCP), Project O, is the Measure M2 (M2) competitive funding program through which the Orange County Transportation Authority (OCTA) supports street and road improvement projects. The Regional Traffic Signal Synchronization Program (RTSSP), Project P, is the M2 competitive program that provides funding for regional signal synchronization projects.

Both programs are included in the Comprehensive Transportation Funding Programs (CTFP), which includes all the competitive M2 programs that provide grants to local agencies for transit, streets and roads, and environmental cleanup. These programs are subject to an annual call for projects (call) which is guided by the Board of Directors (Board)-approved CTFP guidelines. The CTFP guidelines are updated before each call and include scoring criteria that are developed in collaboration with the OCTA Technical Advisory Committee (TAC), which is comprised of representatives from the 35 local jurisdictions.

The CTFP guidelines for the 2025 call were approved by the Board on August 12, 2024. At that meeting, the Board also authorized the issuance of the current call. On average, OCTA awards approximately \$40 million annually through these funding programs. The deadline to submit projects for consideration for the 2025 CTFP call was October 24, 2024.

#### Discussion

**RCP** 

OCTA received ten applications for RCP funding, requesting a total of \$33.21 million in funding as further detailed in Attachment A. The applications were reviewed for eligibility, consistency, adherence to the guidelines, and overall M2 program objectives aimed at completing a balanced regional network. Applications were evaluated and ranked based on the scoring criteria identified in the guidelines. During the review process, staff worked with local jurisdictions to address technical issues such as application scoring corrections, scope of work clarifications, and refinement of final project funding requests. One project from the County of Orange could not advance for funding consideration, as it did not meet the basic level of service criteria required.

Based upon these reviews and project consistency with the guidelines, staff recommends funding for nine projects, totaling \$25.72 million (inflationary adjustments would be added, as appropriate). The recommended amount differs from what was originally requested by each local jurisdiction due to OCTA's detailed review of costs as listed in the applications. The revised recommended grant amount reflects only the project scope components and costs that appear to be eligible per the guidelines. Attachment B provides more detail on the programming recommendations.

The recommended RCP funding will support projects in the cities of Anaheim, Irvine, Mission Viejo, Newport Beach, Santa Ana, and Yorba Linda, and the County of Orange. Of the nine recommended projects, six will provide arterial capacity improvement benefits and three will provide intersection capacity

enhancements. Implementation of these projects in aggregate is anticipated to produce notable congestion-reducing benefits in Orange County, while enhancing the arterial system overall.

It should also be noted that the applications submitted by the cities of Irvine and Newport Beach received additional points for providing further details on how the proposed bicycle facilities identified in their projects will help reduce congestion and improve street operations. As such, OCTA is interested in these projects, and they will be evaluated after they are delivered for potential benefits of complementary bicycle improvements to the Master Plan of Arterial Highways network.

#### **RTSSP**

OCTA received six applications for RTSSP funding, requesting a total of \$12.03 million in RTSSP funding. Staff worked with the local jurisdictions to address technical issues related to equipment cost refinements as well as project scope of work clarifications. Attachment A has more detail on the submitted projects.

Staff recommends the award of \$11.99 million to fund all six RTSSP projects. The revised recommended grant amount is a result of cost refinements and scope of work clarifications. The local jurisdictions have indicated that they anticipate implementing these projects in fiscal year 2025-26. Together, these projects will improve throughput on six arterial roadways in the cities of Aliso Viejo, Anaheim, Brea, Costa Mesa, Fullerton, Irvine, Laguna Hills, Laguna Niguel, Mission Viejo, Newport Beach, Orange, and Santa Ana. Additional details on the recommended signal synchronization projects and the recommended awards are provided in Attachment C.

The table below provides an overall summary of the funding recommendations:

2025 CTFP Call Summary (\$ in millions)								
	RCP	RTSSP	Total					
Number of Applications Recommended for Approval	9	6	15					
Amount Recommended for Approval (Escalated)	\$25.72	\$11.99	\$37.71					

Staff recommends the award of \$37.71 million for 15 projects under the RCP and RTSSP. With the addition of these awards, the total amount of RCP and RTSSP M2 grants provided by OCTA to local agencies, since 2011, is more than \$604 million. These grants support the development of a safe, efficient, and modern roadway system. The RCP applications for the recommended projects

demonstrate a future funding need of approximately \$254 million to support right-of-way and construction phases, with \$24 million likely needed within the next three call cycles. A map displaying the 2025 RCP and RTSSP recommended project awards is provided in Attachment D.

The OCTA Technical Steering Committee and TAC reviewed and recommended the RCP and RTSSP awards for Board approval at their meetings in March 2025.

#### **Next Steps**

With Board approval of these recommendations, staff will initiate letter agreements between OCTA and the appropriate local jurisdictions. As these projects advance, staff will continue to monitor their status and project delivery through the semi-annual review process.

#### Summary

Programming recommendations to award \$37.71 million to 15 projects in M2 2025 RCP and RTSSP funds are presented for Board approval.

#### **Attachments**

- A. 2025 Measure M2 Call for Projects Applications Received
- B. 2025 M2 Regional Capacity Program (Project O) Call for Projects Programming Recommendations
- C. 2025 M2 Regional Traffic Signal Synchronization Program (Project P) Call for Projects Programming Recommendations
- D. 2025 Recommended Project O and P Awards Map

Prepared by:

Charvalen Alacar Section Manager III, Measure M Local Programs

(714) 560-5401

Approved by:

Rose Casey

Rose Casey Executive Director, Planning (714) 560-5729

#### 2025 Measure M2 Call for Projects – Applications Received

	Regional Capacity Program (Project O) Applications									
Agency	Project	Fund	Phase	Match Rate	М	Total 2 Request		Match		Total Cost
Anaheim	Lincoln Avenue and Harbor Intersection Improvements	ICE	ROW	25%	\$	940,812	\$	313,604	\$	1,254,416
Anaheim	Lincoln Avenue Improvements (Evergreen Street to State College Boulevard)	ACE	ENG	10%	\$	432,000	\$	48,000	\$	480,000
County of Orange	Los Patrones Parkway Extension – Final Design	ACE	ENG	50%	\$	5,000,000	\$	5,000,000	\$	10,000,000
County of Orange	Ranch Canyon, Bucker Way, and Bucker Way Bridge - Design	ACE	ENG	50%	\$	7,000,000	\$	7,000,000	\$	14,000,000
Irvine	Campus Drive Arterial Capacity Enhancements (Carlson Avenue to University Drive)	ACE	ENG	25%	\$	383,250	\$	127,750	\$	511,000
Mission Viejo	Alicia Parkway and Olympiad Road Intersection Capacity Enhancement Project	ICE	ENG, CON	25%	\$	723,577	\$	241,192	\$	964,769
Newport Beach	West Coast Highway Improvements at Old Newport Boulevard	ACE	ROW, CON	25%	\$	4,111,458	\$	1,370,486	\$	5,481,944
Santa Ana	Fairview Street Improvements (Monte Carlo Drive to Trask Street)	ACE	ROW	25%	\$	5,148,290	\$	1,716,097	\$	6,864,387
Yorba Linda	Lakeview Avenue Improvements (Bastanchury Road to Oriente Drive)	ACE	CON	25%	\$	2,567,831	\$	855,944	\$	3,423,775
Yorba Linda	Yorba Linda Boulevard/Savi Ranch Parkway Improvements - Construction (Phase 1)	ICE	CON	29%	\$	6,904,350	\$	2,873,850	\$	9,778,200
		PROJEC	CT O REQUES	TED TOTALS	\$	33,211,568	\$	19,546,923	\$	52,758,491

Regional Traffic Signal Synchronization Program (Project P) Applications										
Agency	Project	Fund	Signals	Match Rate	M	Total I2 Request		Match		Total Cost
Anaheim	State College Boulevard Corridor (Cliffwood Avenue to Garden Grove Boulevard)	RTSSP	58	20%	\$	3,750,147	\$	937,537	\$	4,687,684
Irvine	Sand Canyon Avenue Corridor (Portola Parkway to I-405 SB ramp)	RTSSP	21	20%	\$	1,558,806	\$	389,702	\$	1,948,508
Laguna Hills	Avenida de Carlota Corridor (Lake Forest Drive to Los Alisos Boulevard)	RTSSP	8	20%	\$	599,996	\$	149,999	\$	749,995
Laguna Niguel	Cabot Road Corridor (La Paz Road to Paseo de Colinas)	RTSSP	12	20%	\$	881,002	\$	220,251	\$	1,101,253
Laguna Niguel	La Paz Road Corridor (Olympiad Road/Felipe Road to Crown Valley Parkway)	RTSSP	23	20%	\$	1,861,644	\$	465,411	\$	2,327,055
Santa Ana	Bristol Street Corridor (SR-22 EB ramp to Jamboree Road)	RTSSP	45	20%	\$	3,374,926	\$	843,731	\$	4,218,657
		PROJECT	T P REQUE	STED TOTALS	\$	12,026,521	\$	3,006,631	\$	15,033,152

#### Acronyms:

ACE - Arterial Capacity Enhancements

CON - Construction

EB - Eastbound

ENG - Engineering

I-405 - Interstate 405

ICE - Intersection Capacity Enhancements

M2 - Measure M2

OCTA - Orange County Transportation Authority

ROW - Right-of-Way

RTSSP - Regional Traffic Signal Synchronization Program

SB - Southbound

SR-22 - State Route 22

#### 2025 M2 Regional Capacity Program (Project O) Call for Projects - Programming Recommendations

#### RECOMMENDED FOR FUNDING

No	Agency	Fiscal Year	Project	Fund	Phase	M2 Funding Engineering	M2 Funding Right-of-Way	M2 Funding Construction	Total M2 Grant*	Estimated Local Match**	Match Rate	Total Programming
1	Anaheim	25/26	Lincoln Avenue and Harbor Intersection Improvements <sup>1</sup>	ICE	ROW		\$ 886,699		\$ 886,699	\$ 295,566	25%	\$ 1,182,265
2	Anaheim	25/26	Lincoln Avenue Improvements (Evergreen Street to State College Boulevard) <sup>2</sup>	ACE	ENG	\$ 360,000			\$ 360,000	\$ 120,000	25%	\$ 480,000
3	County of Orange	25/26	Los Patrones Parkway Extension – Final Design	ACE	ENG	\$ 5,000,000			\$ 5,000,000	\$ 5,000,000	50%	\$ 10,000,000
4	Irvine	25/26	Campus Drive Arterial Capacity Enhancements (Carlson Avenue to University Drive)	ACE	ENG	\$ 383,250			\$ 383,250	\$ 127,750	25%	\$ 511,000
5	Mission Viejo	25/26 <sup>†</sup>	All sign Deduction and Observed Decid Internation Constitution Constitution and Decid All Signs and Decid	ICE	ENG	\$ 52,500			\$ 52,500	\$ 17,500	25%	\$ 70,000
"	Wission Viejo	26/27	Alicia Parkway and Olympiad Road Intersection Capacity Enhancement Project <sup>3</sup>	ICL	CON			\$ 615,627	\$ 615,627	\$ 205,209	2376	\$ 820,836
6	Newport Beach	25/26 <sup>†</sup>	W 10 11 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	ACE	ROW		\$ 2,598,759		\$ 2,598,759		25%	\$ 3,465,013
	Newport Beach	26/27	West Coast Highway Improvements at Old Newport Boulevard <sup>4</sup>	ACE	CON			\$ 1,761,975	\$ 1,761,975	\$ 587,324	2376	\$ 2,349,299
7	Santa Ana	25/26 <sup>†</sup>	Fairview Street Improvements (Monte Carlo Drive to Trask Street) 5	ACE	ROW		\$ 4,914,769		\$ 4,914,769	\$ 1,638,256	25%	\$ 6,553,025
8	Yorba Linda	25/26	Lakeview Avenue Improvements (Bastanchury Road to Oriente Drive) <sup>6</sup>	ACE	CON			\$ 2,238,155	\$ 2,238,155	\$ 746,052	25%	\$ 2,984,207
9	Yorba Linda	25/26	Yorba Linda Boulevard/Savi Ranch Parkway Improvements - Construction (Phase 1) <sup>7</sup>	ICE	CON			\$ 6,904,350	\$ 6,904,350	\$ 2,301,450	25%	\$ 9,205,800
			TOTALS	\$ 5,795,750	\$ 8,400,227	\$ 11,520,107	\$ 25,716,084	\$ 11,905,361		\$ 37,621,445		

<sup>\*</sup>Includes escalation of 1.9% for all construction phases programmed for fiscal year 2026/27.

#### NOT RECOMMENDED FOR FUNDING (Ineligible - Does Not Meet Project O Eligibility Requirements Based Upon Current Traffic Counts)

1 County of Orange	25/26	Ranch Canyon, Bucker Way, and Bucker Way Bridge - Design of	ACE	ENG	\$ 7,000,000		\$ 7,000,000	\$ 7,000,000	50%	\$ 14,000,000
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<sup>^</sup>Project is not recommended for programming due to not complying with CTFP guidelines requirement, specifically with respect to current traffic volumes meeting a minimum LOS "C" (0.71v/c).

- 1. Applicant requested additional funding but award is reduced to reflect eligibility of items within project scope and correct match reduction. Total project cost is \$1.25 million. The M2 grant plus local match is listed as \$1.18 million; an additional \$72k to come from local sources.
- 2. Applicants original request provided only 10 percent match but 25 percent match is required. Award amount was reduced and match increased to fully fund the project and to reflect local match requirement of 25 percent. Total project cost is \$480k.
- 3. Applicant requested additional funding but award is reduced to reflect eligibility of items within project scope and correct match reduction. Total project cost is \$965k for ENG and CON. The M2 grant plus local match is listed as \$890k for ENG and CON; an additional \$75k to come from local sources.
- 4. Applicant initially requested less funding but award is increased to reflect eligibility of items within project scope. Total project cost is \$5.77 million for ROW and CON, which is equivalent to the M2 grant plus local match.
- 5. Applicant requested additional funding but award is reduced to reflect eligibility of items within project scope. Total project cost is \$6.86 million. The M2 grant plus local match is \$6.55 million; an additional \$311k to come from local sources. The recommended grant includes an administrative exception to the CTFP guidelines that would accept the project's categorical CEQA exemption after the October 24, 2024 call for projects application deadline. The notice of exemption was in progress at the time of application submittal and approved by the applicant's city council on February 6, 2025.
- 6. Applicant requested additional funding but award is reduced to reflect eligibility of items within project scope. Total project cost is \$3.42 million. The M2 grant plus local match is \$2.98 million; an additional \$440k to come from local sources. The recommended grant is a reapplication from prior cycles.
- 7. The recommended grant includes a minor exception to the CTFP guidelines to allow work within a 600 feet from intersection for the benefit of the MPAH to reach a logical terminus on Mirage Street. This excludes sidewalk improvements on Mirage Street beyond the beginning curb return.

#### Acronyms

ACE - Arterial Capacity Enhancements

CEQA - Califonria Environmental Quality Act

CON - Construction

CTFP - Comprehensive Transportation Funding Programs

ENG - Engineering

ICE - Intersection Capacity Enhancements

LOS - Level of Service

M2 - Measure M2

MPAH - Master Plan of Arterial Highways

ROW - Right-of-Way

v/c - Volume/Capacity

<sup>\*\*</sup>Actual match amount is determined by the match rate percentage. Dollar amount is listed for estimate purposes.

<sup>†</sup> Pre-award authority requested.

#### 2025 M2 Regional Traffic Signal Synchronization Program (Project P) Call for Projects - Programming Recommendations

No	Agency	Fiscal Year	Project	M2 Funding Primary Implementation	M2 Funding Operations & Maintenance	Total M2 Grant	Estimated Local Match*	Match Rate	Total Programming
1	Anaheim	25/26	State College Boulevard Corridor (Cliffwood Avenue to Garden Grove Boulevard) 1	\$ 3,493,171	\$ 269,120	\$ 3,762,291	\$ 940,573	20%	\$ 4,702,864
2	Irvine	25/26	Sand Canyon Avenue Corridor (Portola Parkway to I-405 SB ramp) <sup>2</sup>	\$ 1,398,259	\$ 96,800	\$ 1,495,059	\$ 373,765	20%	\$ 1,868,824
3	Laguna Hills	25/26	Avenida de Carlota Corridor (Lake Forest Drive to Los Alisos Boulevard)	\$ 580,412	\$ 19,584	\$ 599,996	\$ 149,999	20%	\$ 749,995
4	Laguna Niguel	25/26	Cabot Road Corridor (La Paz Road to Paseo de Colinas) <sup>3</sup>	\$ 761,346	\$ 67,680	\$ 829,026	\$ 207,256	20%	\$ 1,036,282
5	Laguna Niguel	25/26	La Paz Road Corridor (Olympiad Road/Felipe Road to Crown Valley Parkway) <sup>4</sup>	\$ 1,809,061	\$ 124,080	\$ 1,933,141	\$ 483,285	20%	\$ 2,416,426
6	Santa Ana	25/26 <sup>†</sup>	Bristol Street Corridor (SR-22 EB Ramp to Jamboree Road)	\$ 3,262,926	\$ 112,000	\$ 3,374,926	\$ 843,731	20%	\$ 4,218,657
			PROJECT P PROGRAMMING TOTALS	\$ 11,305,175	\$ 689,264	\$ 11,994,439	\$ 2,998,609		\$ 14,993,048

<sup>\*</sup>Actual match amount is determined by the match rate percentage. Dollar amount is listed for estimate purposes.

- 1. Applicant initially requested less funding but award is increased to reflect consistent equipment unit costs. Total project cost is \$4.70 million for IMP and O&M, which is equivalent to the M2 grant plus local match.
- 2. Applicant requested additional funding but award is reduced to reflect updated cost estimate for Task 2. Total project cost is \$1.56 million. The M2 grant plus local match is listed as \$1.87 million; an additional \$64k to come from local sources.
- 3. Applicant requested additional funding but award is reduced to reflect revised budget. Total project cost is \$881k. The M2 grant plus local match is listed as \$1.03 million; an additional \$52k to come from local sources.
- 4. Applicant initially requested less funding but award is increased to reflect one contract with design and CON. Total project cost is \$2.42 million for one contract, which is equivalent to the M2 grant plus local match.

#### Acronyms:

CON - Construction

EB - Eastbound

IMP - Implementation

I-405 - Interstate 405 M2 - Measure M2

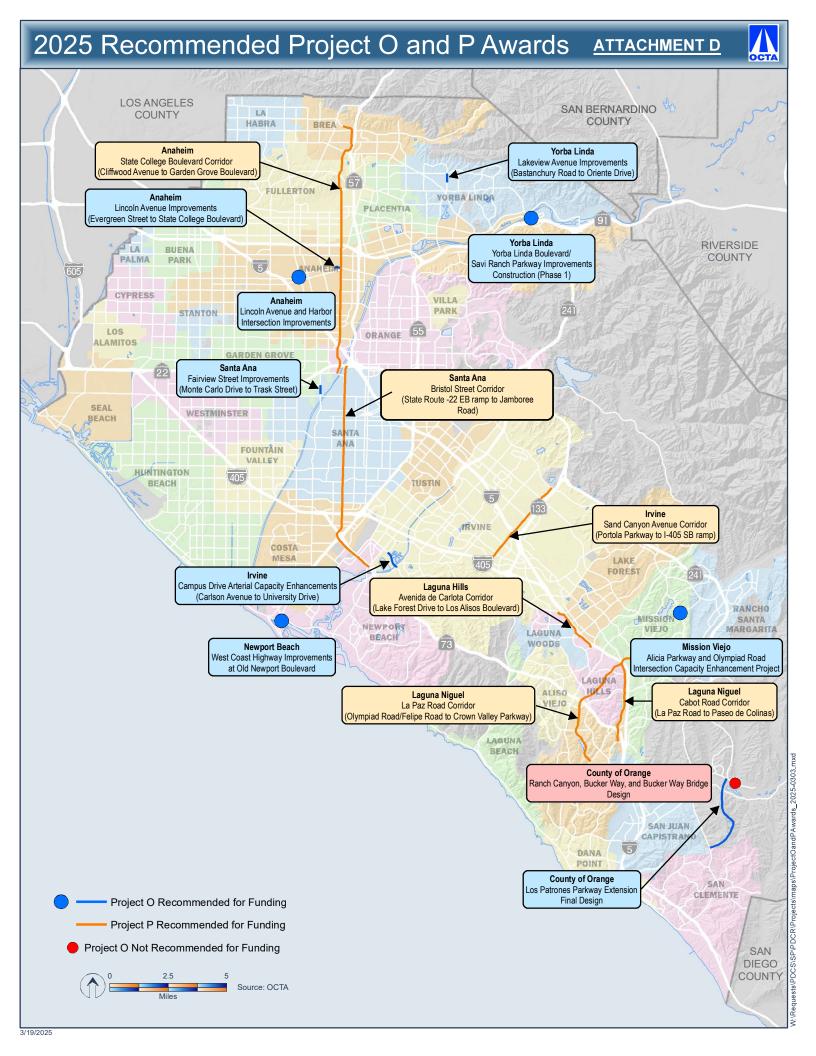
O&M - Operations and Maintenance

RTSSP - Regional Traffic Signal Synchronization Program

SB - Southbound

SR-22 - State Route 22

<sup>†</sup> Pre-award authority requested.









## Comprehensive Transportation Funding Programs - 2025 Call for Projects Programming Recommendations





### Background

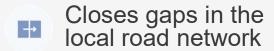


Program	Project O	Project P
Goals and Objective	Project O provides funding to complete the MPAH. In addition, the program provides for intersection improvements and other projects to help improve street operations and reduce congestion.	Project P targets to coordinate over 2,000 signalized intersections in the County across jurisdictional boundaries including cities, County of Orange, and Caltrans.
Percent of M2 Allocation	Ten percent of M2 Net Revenues	Four percent of M2 Net Revenues.
Call Amount (on average)	Approximately \$29 million awarded per call.	Approximately \$10.7 million awarded per call.
Impact	Through 14 calls, 186 projects awarded, more than \$406 million (includes leveraged external funds).	Through 14 calls, 132 projects awarded, more than \$160 million (includes leveraged external funds).

Call – Call for projects
Caltrans – California Department of Transportation
MPAH - Master Plan of Arterial Highways
M2 – Measure M2

### Regional Capacity Program





- Improves intersections to enhance street operations
- Provides better interfaces with the highway system
- Project O funds awarded to date: \$382.1 million

### **Project O Examples**



Del Obispo Improvements City of San Juan Capistrano



Grand Avenue Improvements City of Santa Ana



Brookhurst Street Improvements City of Anaheim



Newport Boulevard Improvements City of Newport Beach

### Regional Traffic Signal Synchronization



- Reduces travel times, stops, and delays
- Invests in futureproofing the system
- Improves traffic flow and makes the system more efficient
- Project P funds awarded to date: \$142.3 million

### **Project P Examples**



Irvine Center Drive/ Edinger Avenue City of Irvine



Seal Beach Boulevard/ Bolsa Avenue City of Seal Beach



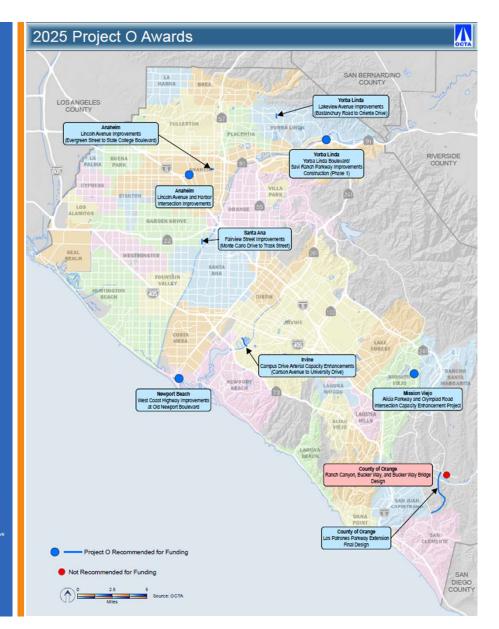
Edinger Avenue
City of
Fountain Valley



Marguerite
Parkway
City of Mission Viejo

### Staff Recommendations

- Approve the 2025 RCP to fund nine projects, totaling \$25.72 million
- Approve the 2025 RTSSP to fund six projects, totaling \$11.99 million



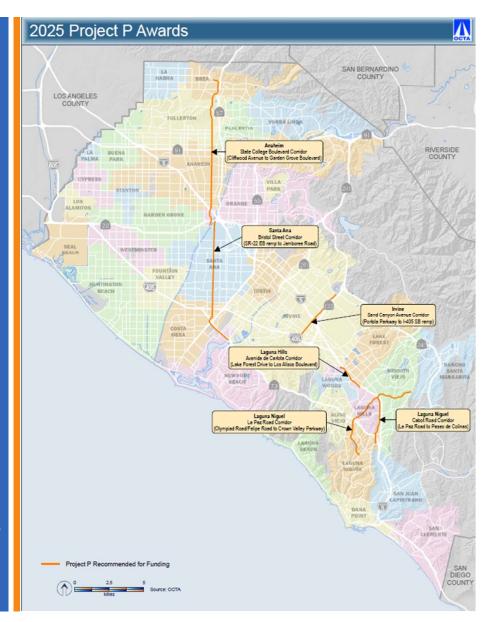


### Approve nine projects totaling \$25.72 million in RCP funds

- \$17.25 million for roadway improvements
- \$8.46 million for intersection enhancements









### **Approve six projects totaling** \$12.03 million in RTSSP funds

- Improvements to 194 signals along 50 miles of streets
- Coordination of traffic flow across 15 local jurisdictions





### 2025 Call Timeline and Milestones

- March 26, 2025 Technical Advisory Committee
- April 7, 2025 Regional Transportation Planning Committee
- April 14, 2025 OCTA Board Final Approval
- July 1, 2025 Programming of 2025 Project O & Project P Grants (Subject to Board Approval)