AGENDA

Regional Planning and Highways Committee Meeting

Committee Members
Mark A. Murphy, Chairman
Barbara Delgleize, Vice Chair
Lisa A. Bartlett
Doug Chaffee
Joe Muller
Richard Murphy
Miguel Pulido

Orange County Transportation Authority
Headquarters
550 South Main Street
Board Room – Conf. Room 07
Orange, California
Thursday, September 5, 2019 at 10:30 a.m.

Any person with a disability who requires a modification or accommodation in order to participate in this meeting should contact the OCTA Clerk of the Board, telephone (714) 560-5676, no less than two (2) business days prior to this meeting to enable OCTA to make reasonable arrangements to assure accessibility to this meeting.

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

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.

Call to Order

Pledge of Allegiance
Director Muller

1. Public Comments

Special Calendar

There are no Special Calendar matters.

Consent Calendar (Items 2 through 8)

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

2. Approval of Minutes

Approval of the minutes of the Regional Planning and Highways Committee meeting of August 5, 2019.

3. Consultant Selection for On-Call Real Property Appraisals and Related Services

Joe Gallardo/James G. Beil

Overview

On April 22, 2019, the Orange County Transportation Authority Board of Directors authorized the issuance of a request for proposals for consultants to provide on-call real property appraisals and related services for highway, environmental mitigation, commuter rail, and transit projects. Proposals were solicited in accordance with the Orange County Transportation Authority's procurement procedures for professional and technical services. Board of Directors' approval is requested to execute the agreements.

Recommendations

A. Approve the selection of Hendrickson Appraisal Company, Inc., Hennessey and Hennessey, LLC, Integra Realty Resources - Los Angeles, and R.P. Laurain & Associates, Inc., as the firms to provide on-call real property appraisals and related services in the aggregate amount of $3,500,000.

B. Authorize the Chief Executive Officer to negotiate and execute Agreement No. C-9-0995 between the Orange County Transportation Authority and Hendrickson Appraisal Company, Inc., as the firm to provide on-call real property appraisals and related services for a five-year term.

C. Authorize the Chief Executive Officer to negotiate and execute Agreement No. C-9-1473 between the Orange County Transportation Authority and Hennessey and Hennessey, LLC, as the firm to provide on-call real property appraisals and related services for a five-year term.

D. Authorize the Chief Executive Officer to negotiate and execute Agreement No. C-9-1474 between the Orange County Transportation Authority and Integra Realty Resources - Los Angeles as the firm to provide on-call real property appraisals and related services for a five-year term.

E. Authorize the Chief Executive Officer to negotiate and execute Agreement No. C-9-1475 between the Orange County Transportation Authority and R.P. Laurain & Associates, Inc., as the firm to provide on-call real property appraisals and related services for a five-year term.

4. Regional Planning Update
Warren Whiteaker/Kia Mortazavi

Overview

Regional planning updates are provided periodically to highlight transportation planning issues impacting the Orange County Transportation Authority and the Southern California region. This update focuses on the development of the Southern California Association of Governments' 2020-2045 Regional Transportation Plan/Sustainable Communities Strategy, federal rulemaking, and Orange County express lane planning and development efforts.

Recommendation

Receive and file as an information item.

5. 2020 State Transportation Improvement Program
Ben Ku/Kia Mortazavi

Overview

Every two years, the Orange County Transportation Authority prepares a program of projects for state funding through the State Transportation Improvement Program. Program recommendations are presented for the Board of Directors' consideration and approval. These recommendations are consistent with programming policies approved by the Board of Directors.

Recommendations

A. Approve the 2020 State Transportation Improvement Program submittal to program $203.645 million to seven projects, from fiscal year 2020-21 through fiscal year 2024-25.

B. Authorize the use of up to $40.512 million in Surface Transportation Block Grant funds, $92.328 million in Measure M2 funds, and $44.791 million in SB 1 (Chapter 5, Statutes of 2017) Local Partnership Program funds for the 2020 State Transportation Improvement Program projects.

C. Authorize staff to make all necessary amendments to the State Transportation Improvement Program and the Federal Transportation Improvement Program, as well as execute any necessary agreements to facilitate the recommendations above.

6. 2019 Project X - Tier 1 Call for Projects Programming Recommendations
Alfonso Hernandez/Kia Mortazavi

Overview

The Orange County Transportation Authority's Environmental Cleanup Program provides Measure M2 funding for water quality improvement projects to address transportation-generated pollution. The fiscal year 2019-20 Tier 1 Grant Program call for projects was issued on March 11, 2019. Evaluations are now complete, and a list of projects and funding allocations are presented for review and approval.

Recommendations

A. Approve the 2019 Tier 1 Environmental Cleanup Program's programming recommendation to fund ten projects, in the amount of $1,962,452.

B. Approve the 2019 Tier 1 Environmental Cleanup Program's programming recommendation to fund one project in the City of Fullerton, in the amount of $82,782, subject to receipt of a revised city council resolution.

7. Grant Award for the Pedestrian and Bicycle Safety Program
Jennifer Haith Farinas/Kia Mortazavi

Overview

The California Office of Traffic Safety awarded the Orange County Transportation Authority $100,000 in competitive Pedestrian and Bicycle Safety Grant Program funding. The grant award will support implementation of bicycle and pedestrian education classes, which are intended to raise public awareness of safe pedestrian and bicycling practices.

Recommendation

Adopt Orange County Transportation Authority Resolution No. 2019-071 authorizing the Chief Executive Officer, or designee, to accept the State of California Office of Traffic Safety award, and to negotiate and execute grant-related agreements and documents with the California Office of Traffic Safety.

8. Draft 2019 Orange County Congestion Management Program Report Release for Public Review
Sam Sharvini/Kia Mortazavi

Overview

The Orange County Transportation Authority is responsible for monitoring and reporting on the Orange County Congestion Management Program every two years. In accordance with state law, a draft 2019 Orange County Congestion Management Program Report has been prepared for public review and will be circulated to local agencies upon direction by the Board of Directors.

Recommendation

Direct staff to release the draft 2019 Orange County Congestion Management Program Report for public review and set November 25, 2019, as a public hearing date for adoption of the final 2019 Orange County Congestion Management Program.

Regular Calendar

9. Consultant Selection for the Preparation of Plans, Specifications, and Estimates for the State Route 91 Improvement Project Between State Route 55 and Lakeview Avenue
Jeannie Lee/James G. Beil

Overview

On May 13, 2019, the Orange County Transportation Authority Board of Directors approved the release of a request for proposals for the preparation of plans, specifications, and estimates for the State Route 91 improvement project between State Route 55 and Lakeview Avenue. Board of Directors' approval is requested for the selection of a firm to perform the required work.

Recommendations

A. Approve the selection of Parsons Transportation Group, Inc., as the firm to prepare the plans, specifications, and estimates for the State Route 91 improvement project between State Route 55 and Lakeview Avenue.

B. Authorize the Chief Executive Officer to negotiate and execute Agreement No. C-9-1160 between the Orange County Transportation Authority and Parsons Transportation Group, Inc., to prepare the plans, specifications, and estimates for the State Route 91 improvement project between State Route 55 and Lakeview Avenue.

10. Interstate 405 Improvement Project Update
Jeff Mills/James G. Beil

Overview

The Orange County Transportation Authority is currently underway with the implementation of the Interstate 405 Improvement Project. This report provides a project update.

Recommendation

Receive and file as an information item.

Discussion Items

11. Beach Boulevard Corridor Study
Dan Phu/Kia Mortazavi

In October 2018, the Orange County Transportation Authority, in partnership with the local agencies and the California Department of Transportation District 12, initiated the Beach Boulevard Corridor Study to identify multi-modal transportation solutions for enhancing local and regional mobility along the corridor. Beach Boulevard is an approximately 21-mile long, north to south arterial that traverses through the following nine Orange County local jurisdictions: Anaheim, Buena Park, Fullerton, Garden Grove, Huntington Beach, La Habra, Stanton, Westminster, and the County of Orange.

As part of the study process, a technical working group was established and includes technical representatives (city engineers, planners, and public works directors) from each of the corridor cities, the California Department of Transportation, and the County of Orange. To date, the technical working group has provided technical input, local perspectives, public outreach support, and assisted in shaping the draft alternatives. A summary of progress to date, draft alternative concepts, and next steps are presented as information for the Board of Directors.

12. Update on State Route 55 Improvement Project from Interstate 5 to State Route 91
Jeannie Lee/James G. Beil

Staff will provide a project update.

13. Chief Executive Officer's Report

14. Committee Members' Reports

15. Closed Session

There are no Closed Session items scheduled.

16. Adjournment

The next regularly scheduled meeting of this Committee will be held at **10:30 a.m. on Monday, October 7, 2019,** at the Orange County Transportation Authority Headquarters, 550 South Main Street, Board Room - Conference Room 07, Orange, California.

Committee Members Present
Mark A. Murphy, Chairman
Barbara Delgleize, Vice Chair
Lisa A. Bartlett
Doug Chaffee
Richard Murphy
Miguel Pulido

Staff Present
Darrell E. Johnson, Chief Executive Officer
Ken Phipps, Deputy Chief Executive Officer
Laurena Weinert, Clerk of the Board
Olga Prado, Assistant Clerk of the Board
James Donich, General Counsel
OCTA Staff and Members of the General Public

Committee Members Absent
Joe Muller

Call to Order

The August 5, 2019 regular meeting of the Regional Planning and Highways (RP&H) Committee was called to order by Committee Chairman M. Murphy at 10:32 a.m.

Pledge of Allegiance

Director Chaffee led in the Pledge of Allegiance.

1. Public Comments

No public comments were received.

Special Calendar

There were no Special Calendar matters.

Consent Calendar (Items 2 through 7)

2. Approval of Minutes

A motion was made by Director R. Murphy, seconded by Committee Vice Chair Delgleize, and declared passed by those present, to approve the minutes of the Regional Planning and Highways Committee meeting of July 1, 2019.

Director Pulido was not present to vote on this item.

3. 2020 State Transportation Improvement Program Overview

This item was pulled by Director Bartlett who requested that staff monitor the State Transportation Improvement Program (STIP) as there will be a funding gap and staff will need to plan for the future. She added that there will be a declining revenue source year after year and future potential projects will be impacted. Director Bartlett stated that until there is a sustainable long-term funding source at the state and federal level, staff needs to remain alert how the shortfall will impact the scheduling of future projects.

Darrell E. Johnson, Chief Executive Officer (CEO), provided background on the STIP funding cycle, and reported that in the September/October timeframe, staff will bring an item to the RP&H Committee and the Board of Directors (Board) with the STIP proposal. He added that this process will be more complicated than it has been in the past as it will require Orange County Transportation Authority (OCTA) staff to make significant changes and adjustments to the funding sources on a project-by-project basis to keep the projects on schedule.

A motion was made by Director Bartlett, seconded by Committee Vice Chair Delgleize, and declared passed by those present, to receive and file as an information item.

4. Measure M2 Environmental Mitigation Program Update and Annual Report

This item was pulled by Director Bartlett to thank Lesley Hill, Project Manager, Planning Division, and OCTA staff. Director Bartlett reported that when the steelhead trout issue for the Interstate 5 (I-5) Improvement Project came up at the Environmental Oversight Committee meeting, there were concerns because to mitigate would cost about $10 million, along with delays to the project. Director Bartlett stated that staff was able to mitigate the issue.

A motion was made by Director Bartlett, seconded by Committee Vice Chair Delgleize, and declared passed by those present, to receive and file as an information item.

5. Measure M2 Comprehensive Transportation Funding Programs – 2020 Annual Call for Projects

A motion was made by Director R. Murphy, seconded by Committee Vice Chair Delgleize, and declared passed by those present, to:

A. Approve proposed revisions to the Comprehensive Transportation Funding Programs Guidelines.

B. Authorize staff to issue the 2020 annual call for projects for the Regional Capacity Program.

5. (Continued)

C. Authorize staff to issue the 2020 annual call for projects for the Regional Traffic Signal Synchronization Program.

Director Pulido was not present to vote on this item.

6. Cooperative Agreements for Regional Traffic Signal Synchronization Program Projects

A motion was made by Director R. Murphy, seconded by Committee Vice Chair Delgleize, and declared passed by those present, to:

A. Authorize the Chief Executive Officer to negotiate and execute Cooperative Agreement No. C-9-1419 between the Orange County Transportation Authority and the cities of Aliso Viejo and Laguna Niguel for the Aliso Creek Road Regional Traffic Signal Synchronization Project, with required local matching funds of $285,994.

B. Authorize the Chief Executive Officer to negotiate and execute Cooperative Agreement No. C-9-1420 between the Orange County Transportation Authority and the cities of Irvine, Laguna Hills, and Lake Forest for the Lake Forest Drive Regional Traffic Signal Synchronization Project, with required local matching funds of $360,411.

C. Authorize the Chief Executive Officer to negotiate and execute Cooperative Agreement No. C-9-1421 between the Orange County Transportation Authority and the cities of Costa Mesa, Irvine, and Tustin for the Red Hill Avenue Regional Traffic Signal Synchronization Project, with required local matching funds of $419,018.

Director Pulido was not present to vote on this item.

7. Consultant Selection for South Orange County Multimodal Transportation Study

A motion was made by Director R. Murphy, seconded by Committee Vice Chair Delgleize, and declared passed by those present, to:

A. Approve the selection of HDR Engineering, Inc., as the firm to conduct the South Orange County Multimodal Transportation Study.

B. Authorize the Chief Executive Officer to negotiate and execute Agreement No. C-9-1121 between the Orange County Transportation Authority and HDR Engineering, Inc., in the amount of $749,969, to conduct the South Orange County Multimodal Transportation Study for a two-year term.

Director Pulido was not present to vote on this item.

Regular Calendar

8. Capital Programs Division - Fourth Quarter Fiscal Year 2018-19 and Planned Fiscal Year 2019-20 Capital Action Plan Performance Metrics

Darrell E. Johnson, CEO, provided opening remarks and introduced Jim G. Beil, Executive Director, Capital Programs, who provided an update on the Capital Action Plan (CAP) delivery and performance metrics as follows:

Fiscal Year (FY) 2018-19 Achieved Milestones

- Nineteen of the 25 milestones planned were achieved.
- The final two segments of the I-5 widening between State Route (SR) 73 and El Toro Road are close to construction.
- Final design was completed on the I-5 widening from Alicia Parkway to El Toro Road, and final review and construction contract packaging is being performed by the California Department of Transportation (Caltrans).
- The SR-73 to Oso Parkway segment is construction ready.
- Caltrans will adverte the I-5 widening between SR-73 to Oso Parkway segment contract for construction bids later this month.
- Landscape construction was completed on the northbound SR-57 replacement planting project from Orangethorpe Avenue to Lambert Avenue.
- Construction of the Fullerton Transportation Center elevator update was completed, and the City of Fullerton is currently working to resolve contractor claims and close out of the contract.

FY 2018-19 Missed Milestones

- The I-5 widening from Interstate 405 (I-405) to SR-55 missed one milestone (complete environmental).
- The Anaheim Canyon Metrolink Station expansion project missed two milestones (completion design and construction ready).
- The Placentia Metrolink Station missed three milestones (construction ready, advertise construction, and award contract).

FY 2019-20 Performance Metrics

- There are 19 major project milestones planned and these include four major freeway projects planned for environmental clearance.

FY 2019-20 Cost and Performance Metrics Risks

- Construction market trends, third party agreements and approvals, and the program funding capacity outlined in the 2020 STIP are influencing project delivery.
- OCTA is beginning to experience escalated anti-pricing in its contract negotiations.

8. (Continued)

- OCTA is in the final steps to complete the environmental clearance of the I-5 widening from the I-405 to the SR-55, and in June, Caltrans informed OCTA that it is requiring an upgrade of approximately nine miles of concrete median barrier to their new standards. Caltrans also requested a plethora of other betterments in the project scope and the Caltrans Traffic Operations group has expressed opposition to the design previously concurred. Staff is currently assessing the scope and what the potential delay and cost impacts will be.
- Delays to completion of the environmental work of the El Toro Road interchange. OCTA has been requested by the cities of Laguna Hills, Lake Forest, and Laguna Woods (Cities) to delay the project preferred alternative selection while the Cities come to a consensus.

A lengthy discussion ensued as follows:

- Inquiry about the request from Caltrans on the I-5 widening from the I-405 to the SR-55 and the request by the Cities on the El Toro Road interchange project, and why the entities waited so long to bring the information forward.

I-5 Widening from the I-405 to the SR-55

- OCTA staff primarily worked through the Caltrans project manager and the design unit that does oversight, and staff believes that at the very end, there was a review by the Caltrans traffic operations group, who submitted the letter to OCTA.

El Toro Road Interchange Project

- Staff involved the Cities through the process of the environmental document production.
- There is a request from the Cities to meet with Caltrans and OCTA.
- One of the options would originally take approximately eight acres of right-of-way (ROW), and the project team has looked at trying to minimize ROW acquisition. If that alternative were to be chosen, that is a design variation that would be worked on during the next phase.
- The developers for the old Laguna Hills Mall are looking at building approximately 2,000 or 2,100 residential units, and the City of Laguna is giving a little push back.
- Concerns that if the developers wait too long, OCTA's costs are going to escalate to the point where there may be no way to move forward with any of the alternatives.
- This is Project D within Measure M2 and specific improvements will be subject to approved plans developed in cooperation with local jurisdictions and affected communities.

8. (Continued)

- When Caltrans and OCTA meet with the Cities, part of the message will be that staff is trying to fix local street traffic and want the Cities to come to a consensus. If the Cities do not want to fix local street traffic, they need to let both Caltrans and OCTA know in a formal way.
- There are between $75 million to $100 million set aside for the project, and if the interchange is $200 million plus, that will be challenging.
- Request that Caltrans and OCTA stress to the Cities that there is a limited pool of funds and if they wait too long to determine a preferred alternative, they may not get any project as the funds may be allocated to other projects that are higher priority.
- Mr. Johnson, CEO, stated that if there is a good project and it costs more than has been allocated, staff can try to identify ways to fund it.
- There is no set deadline for the Cities to make a decision on a preferred alternative. OCTA has its own self-imposed deadline through previous iterations of a Next 10 Delivery Plan.

Placentia Metrolink Station

- Director Chaffee reported that the Placentia Metrolink Station is key to the Enhanced Infrastructure Financing District partnership with the County of Orange that is now ongoing in the City of Placentia (Placentia).
- It has been approximately 15 years that the Placentia has been trying to get a Metrolink stop.
- Other infrastructure improvements include a projected1600 housing units of which the first 200 are already under construction. It is estimated that about 1,100 jobs will be created in the District by the time the statuib is complete.

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

Discussion Items

9. Chief Executive Officer's Report

Darrell E. Johnson, CEO, reported the following:

OC Fair Express –

- Yesterday, OCTA completed the fourth weekend of service on the OC Fair Express.
- Overall, ridership is doing well, with more than 64,000 boardings recorded so far, which is up by about 2.2 percent compared to last year.

9. (Continued)

I-5 Central Project –

- OCTA had a successful demolition of the I-5/Main Street high-occupancy vehicle bridge over the weekend that required overnight closures on Friday and Saturday.
- The process and the traffic detours went well.
- Staff continues to move forward with I-5 Central Project that will add a second carpool lane in each direction on the I-5 between the SR-55 and the SR-57.

Bicycle Safety Workshops –

- OCTA hosted its third bicycle safety workshop on Saturday at the City of Fullerton Main Library.
- This is part of the bicycle safety campaign OCTA launched called "Be Safe Be Seen."
- Funding for this campaign comes from a grant received from the California Office of Traffic Safety.
- OCTA has two more workshops scheduled this month:
    - August 13th – City of Huntington Beach City Hall (5:30 p.m.)
    - August 31st – City of Tustin Senior Center (9:00 a.m.)

10. Committee Members' Reports

Director Chaffee provided a handout at the dais for a proposed project and reported that on Thursday afternoon, he met with the president of the California State University, Fullerton. Director Chaffee stated that one of the issues the university has is crossing the street on a heavily used, very congested intersection, and part of the proposed project includes a bikeway, possibly a little pocket park, among other things.

Darrell E. Johnson, CEO, stated that staff would review the handout and added that one of the key things to figure out is who would be the appropriate project sponsor, and OCTA staff will work with him or his staff to point everyone in the proper direction.

Director Bartlett asked OCTA staff to pass on a compliment to the OC Streetcar contractor, Walsh Construction Company II, LLC, for an outstanding job on placing of signage, posting of detours, having staff direct traffic, and having everything clearly marked. Director Bartlett added that she has not seen any accidents during construction and considering the amount of work that is going on in the area, that is very significant.

Mr. Johnson, CEO, stated that staff would pass her comments to the contractor. He added that there is still a lot of work coming up in 2019 and 2020, he appreciated the early positive feedback, and staff will do its best to keep that up.

11. Closed Session

There were no Closed Session items scheduled.

12. Adjournment

The meeting adjourned at 10:58 a.m.

The next regularly scheduled meeting of this Committee will be held at **10:30 a.m. on Thursday, September 5, 2019,** at the Orange County Transportation Authority Headquarters, 550 South Main Street, Board Room - Conference Room 07, Orange, California.

ATTEST

Olga Prado
Assistant Clerk of the Board

Mark A. Murphy
Committee Chairman

OCTA

September 5, 2019

To: Regional Planning and Highways Committee

From: Darrell E. Johnson, Chief Executive Officer

Subject: Consultant Selection for On-Call Real Property Appraisals and Related Services

Overview

On April 22, 2019, the Orange County Transportation Authority Board of Directors authorized the issuance of a request for proposals for consultants to provide on-call real property appraisals and related services for highway, environmental mitigation, commuter rail, and transit projects. Proposals were solicited in accordance with the Orange County Transportation Authority's procurement procedures for professional and technical services. Board of Directors' approval is requested to execute the agreements.

Recommendations

A. Approve the selection of Hendrickson Appraisal Company, Inc., Hennessey and Hennessey, LLC, Integra Realty Resources – Los Angeles, and R.P. Laurain & Associates, Inc., as the firms to provide on-call real property appraisals and related services in the aggregate amount of $3,500,000.

B. Authorize the Chief Executive Officer to negotiate and execute Agreement No. C-9-0995 between the Orange County Transportation Authority and Hendrickson Appraisal Company, Inc., as the firm to provide on-call real property appraisals and related services for a five-year term.

C. Authorize the Chief Executive Officer to negotiate and execute Agreement No. C-9-1473 between the Orange County Transportation Authority and Hennessey and Hennessey, LLC, as the firm to provide on-call real property appraisals and related services for a five-year term.

D. Authorize the Chief Executive Officer to negotiate and execute Agreement No. C-9-1474 between the Orange County Transportation Authority and Integra Realty Resources – Los Angeles as the firm to provide on-call real property appraisals and related services for a five-year term.

E. Authorize the Chief Executive Officer to negotiate and execute Agreement No. C-9-1475 between the Orange County Transportation Authority and R.P. Laurain & Associates, Inc., as the firm to provide on-call real property appraisals and related services for a five-year term.

Discussion

The Orange County Transportation Authority (OCTA) requires on-call consultants to provide real property appraisals and other related services necessary for public transportation projects involving roadways, highways, freeways, railroad corridors, commuter rail, transit services, land conservation for environmental mitigation, and OCTA-owned facilities. The consultants will also be required to provide additional services in such disciplines as loss of business goodwill, furniture, fixtures, machinery and equipment, appraisal review, and expert witness.

The appraisal process is necessary to determine the fair market value of the properties and to ensure that all property owners are treated fairly and equitably. The appraisal process is also one of the first steps necessary to initiate the real property acquisition process. Services will be utilized on an as-needed basis.

Procurement Approach

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

On April 22, 2019, the Board authorized the release of Request for Proposals (RFP) 9-0995 which was issued electronically on CAMM NET. The project was advertised in a newspaper of general circulation on April 22 and April 29, 2019. A pre-proposal conference took place on May 1, 2019, with seven attendees representing seven firms. Four addenda were issued to make available the pre-proposal conference presentation and registration sheets, provide responses to questions received, and handle administrative issues related to the RFP.

On May 21, 2019, 13 proposals were received. An evaluation committee consisting of staff from OCTA's Contracts Administration and Materials Management, Real Property, and Rail Programs departments, and the California Department of Transportation (Caltrans) met to review the responsive proposals. The proposals were evaluated based on the following evaluation criteria and weights:

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

Several factors were considered in developing the criteria weights. Staff assigned the greatest importance to qualifications of the firm to emphasize the importance of the firm demonstrating experience in performing a variety of right-of-way (ROW) appraisal work. Staffing and project organization was assigned a weight of 25 percent to emphasize the staff's understanding of, and experience in, performing real property appraisals and a variety of related appraisals. Cost and price was weighted at 25 percent to ensure hourly rates remain competitive. The work plan was weighted the lowest at 20 percent, as each contract task order (CTO) issued will define the specific scope of work. However, it is still important that each firm demonstrates its understanding of the potential projects.

The procurement sought to establish a pool of qualified firms to perform work in conformity with OCTA's Real Property Department Policies and Procedures manual and in accordance with the Caltrans ROW manual. Once the pool of qualified firms is established, specific work assignments will be awarded by CTO on a competitive basis, in accordance with OCTA's procurement policy.

The evaluation committee reviewed and discussed all responsive proposals based on the evaluation criteria and short-listed the five most-qualified firms listed below in alphabetical order:

Firm and Location

Hendrickson Appraisal Company, Inc. (Hendrickson)
San Diego, California

Hennessey & Hennessey, LLC (Hennessey)
Tustin, California

Integra Realty Resources – Los Angeles (IRR-LA)
Encino, California

Kiley Company (Kiley)
Irvine, California

R.P. Laurain & Associates, Inc. (Laurain)
Long Beach, California

On June 25, 2019 and July 1, 2019, the evaluation committee interviewed the five short-listed firms. The interviews consisted of a presentation allowing each firm to present its qualifications, highlight its personnel, and respond to evaluation committee questions. In general, each team's presentation addressed the requirements of the RFP, highlighted the project team's experience in working on related projects, its staffing plans, and stressed the firm's commitment to the success of the project. Each firm was asked some general questions related to previous experience with appraisal work, knowledge of the Caltrans ROW manual, the qualifications and role of the firm's subconsultants, ability to complete task orders, and quality control procedures. After considering the responses to the questions asked during the interview, the evaluation committee adjusted the preliminary scores for all five firms, which resulted in a change to the ranking. However, the evaluation committee found all five firms highly qualified to perform the requested services.

Based on the final scores as well as the evaluation of the written proposals and information obtained from the interviews, the evaluation committee found all five firms qualified for award. Following the interviews, OCTA was notified that part-owner of IRR-LA, which is one of the short-listed firms, purchased Kiley. This change in ownership and consolidation of Kiley will result in only four of the five short-listed firms being recommended for award.

Qualifications of the Firm

The four recommended firms have been in business for an average of 32 years with offices located in Southern California. The firms demonstrated a predominant focus on performing various appraisal work for public agencies. All four firms demonstrated the qualifications and relevant experience by describing past experience performing similar work, including appraisals and appraisal review services for roadway, highway, and railroad projects, in addition to specialty areas such as open space land, conservation land, and special-purpose property projects. The four firms are currently or have previous experience on a bench contract, providing on-call appraisal services for OCTA, San Diego Association of Governments, and Caltrans.

Staffing and Project Organization

All four firms proposed qualified staff with experienced project teams that have extensive appraisal experience. The project managers proposed have a minimum of 30 years of appraisal experience specializing in work for public agencies, including appraisals for residential, commercial, special-use properties, large infrastructure projects, and biologically sensitive habitats. In addition, all four firms proposed well-qualified teams of subconsultants to provide real estate appraisals, goodwill valuation and furniture, and fixtures and equipment appraisals. The firms emphasized ability to ensure the necessary staffing levels will be available to propose and complete CTOs when needed.

Work Plan

The work plan proposed by each of the four firms provided a detailed outline to the appraisal process to demonstrate the firms' understanding and ability to complete the typical CTO work assignments that are anticipated under this agreement. The firms emphasized compliance with the Uniform Standard Professional Appraisal Practice for all projects and, where applicable, the Caltrans ROW manual. Each firm detailed the quality control/quality assurance practices utilized to ensure projects are completed on time and within budget.

Cost and Price

Cost was weighted 25 percent of the overall score. All firms provided labor pricing for work identified in the scope of work and for the entire term of the agreement. Pricing scores were based on a formula which assigned the highest score to the firm with the lowest-weighted average hourly rate, and scored the other proposals' weighted average hourly rates based on the relation to the lowest-weighted average hourly rate. The firms' average fully-burdened hourly rates ranged from $207 to $302, and are considered fair and reasonable in comparison to the independent cost estimate.

Procurement Summary

Based on the evaluation of the written proposals and information obtained during the interviews, the evaluation committee recommends award to Hendrickson, Hennessey, IRR-LA, and Laurain as the top-ranked firms to provide on-call real property appraisals and related services.

These firms all proposed a team of qualified staff and subconsultants, have prior experience performing similar services for public agencies, and are familiar with Caltrans requirements in relation to appraisal services. The firms

demonstrated a clear understanding of the project requirements and are capable of supporting OCTA's needs.

The firms presented detailed and thorough interviews, supporting the firms' experience, staffing, work plan, and a complete understanding of the overall project requirements.

Fiscal Impact

The project is included in OCTA's proposed Fiscal Year 2019-20 Budget, Capital Programs Division, Account 0017-M0201-F17-7514, and utilizes a combination of Federal Highway Administration, Federal Transit Administration, and local funds.

Summary

Staff requests Board of Directors' approval for the Chief Executive Officer to negotiate and execute agreements with Hendrickson Appraisal Company, Inc., Hennessey & Hennessey, LLC, Integra Realty Resources – Los Angeles, and R.P. Laurain & Associates, Inc., as the firms to provide on-call real property appraisals and related services, in the aggregate amount of $3,500,000, for a five-year term.

Attachments

A. Review of Proposals, RFP 9-0995 On-Call Real Property Appraisals and Related Services
B. Proposal Evaluation Criteria Matrix (Short-Listed), RFP 9-0995 On-Call Real Property Appraisals and Related Services
C. Contract History for the Past Two Years, RFP 9-0995 On-Call Real Property Appraisals and Related Services

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Review of Proposals

RFP 9-0995 On-Call Real Property Appraisals and Related Services

Presented to Regional Planning and Highways Committee - September 5, 2019

13 proposals were received, 5 firms were interviewed, 4 firms are being recommended

Overall Ranking	Overall Score	Firm & Location	Subcontractors	Evaluation Committee Comments	Weighted Average Hourly Rate
1	85	Hendrickson Appraisal Company, Inc. San Diego, California	Donna Desmond Associates VAP Enterprises Crockett & Associates	Firm has 33 years of experience appraising all types of commercial, industrial, and residential properties for large, multi-parcel infrastructure projects. Firm has experience providing appraisal services for government agencies, including San Diego Association of Governments, California Department of Transportation (Caltrans), cities, counties, and utility companies. Proposed project manager has over 35 years of appraisal experience primarily oriented toward right-of-way (ROW) appraisals. Proposed project team has an average of 20 years of experience and have worked on projects of similar size and scope. Demonstrated an understanding of the appraisal process as a whole and described the quality control/quality assurance measures the firm implements for every project, including project manager involvement at every stage of the assignment. Demonstrated previous experience working with Caltrans appraisal reviewers and a thorough understanding of the Caltrans ROW manual. Presented an in-depth technical approach and provided detailed responses to questions during the interview.	$222
2	83	Hennessey & Hennessey, LLC Tustin, California	Easley & Associates Hawran & Malm, LLC Desmond, Marcello & Amster, LLC Hodges, Lacey & Associates, LLC Donna Desmond Associates Document All Stars	Firm has 40 years of experience providing real estate appraisal, appraisal for eminent domain, appraisal of properties for negotiated acquisitions surplus property dispositions, appraisal review, and consulting services. Firm has experience providing appraisal services for government agencies, including Orange County Transportation Authority (OCTA), cities of Anaheim and Santa Ana, and Riverside County Transportation Commission (RCTC). Proposed project manager has over 30 years of real property appraisal experience with an emphasis on eminent domain and litigation appraisals. Proposed project team has ten to 30 years of experience and have worked on projects of similar size and scope. Demonstrated an understanding of the appraisal process as a whole and described the quality control/quality assurance the firm implements for every project, including the use of subconsultant for proof reading. Demonstrated previous experience working with Caltrans appraisal reviewers and a thorough understanding of the Caltrans ROW manual. Presented an in-depth technical approach and provided detailed responses to questions during the interview.	$255
2	83	Integra Realty Resources - Los Angeles Encino, California	Donna Desmond Associates Hodges, Lacey & Associates, LLC Keith Settle and Company The Recht and Recht Company	Firm has 20 years of experience providing appraisal services for real property in addition to specialty property types such as auto dealerships, parking structures, agricultural property, waterfront property, and residential estates. Firm has experience providing appraisal services for government agencies, including OCTA, Los Angeles Metropolitan Transportation Authority (Metro), RCTC, County of Los Angeles, and Caltrans. Proposed project manager has over 35 years of appraisal experience specializing in valuation and consulting services related to public agency clients for office, industrial, retail, multifamily, and special purpose properties. Proposed project team includes 13 appraisers that have worked on projects of similar size and scope. Demonstrated an understanding of the appraisal process as a whole and described the firm's Excel master tracking spreadsheet for quality control/quality assurance to ensure projects are delivered on time. Demonstrated a thorough understanding of compliance with the Caltrans ROW manual. Presented an in-depth technical approach and provided detailed responses to questions during the interview.	$302
3	77	R.P. Laurain & Associates, Inc. Long Beach, California	Hodges, Lacey & Associates, LLC Donna Desmond Associates	Firm has 50 years of experience providing real estate appraisal services involving ROW projects, full and partial acquisition studies, and special use private and public properties. Firm has experience providing appraisal services for government agencies, including OCTA, Caltrans, Port of Long Beach, California High-Speed Rail, Metro, San Bernardino County Transportation Authority, and various cities. Proposed project manager has over 33 years of real estate appraisal experience, including eminent domain studies, street widening, grade separation, freeway projects, railroad projects, relocation studies, and leasing of publicly-owned properties. Proposed project team 14 years of experience in market research and real estate appraisal. Demonstrated an understanding of the appraisal process as a whole and emphasized communication throughout the appraisal process. Demonstrated previous experience working with Caltrans appraisal reviewers and a thorough understanding of the Caltrans ROW manual. Presented an in-depth technical approach and provided detailed responses to questions during the interview.	$207

Evaluation Panel: Five Members

Internal:

Contracts Administration and Materials Management (1)

Real Property (2)

Metrolink Expansion (1)

External:

Caltrans (1)

Evaluation Criteria:	Weight Factors
Qualifications of the Firm	30%
Staffing and Project Organization	25%
Work Plan	20%
Cost and Price	25%

ATTACHMENT A

ATTACHMENT B

Proposal Evaluation Criteria Matrix (Short-Listed)
RFP 9-0995 On-Call Real Property Appraisals and Related Services

Hendrickson Appraisal Company, Inc.							
Evaluator Number	1	2	3	4	5	Weights	Criteria Score
Qualifications of Firm	4.5	4.0	4.0	4.0	4.5	6	25.2
Staffing/Project Organization	4.0	4.0	4.0	4.0	4.0	5	20.0
Work Plan	4.5	4.0	4.5	4.0	4.0	4	16.8
Cost and Price	4.7	4.7	4.7	4.7	4.7	5	23.3
Overall Score	**88.3**	**83.3**	**85.3**	**83.3**	**86.3**		**85**

Hennessey & Hennessey, LLC							
Evaluator Number	1	2	3	4	5	Weights	Criteria Score
Qualifications of Firm	4.5	4.0	4.5	4.0	4.5	6	25.8
Staffing/Project Organization	4.0	4.0	4.0	4.0	4.0	5	20.0
Work Plan	4.5	4.0	4.5	4.0	4.0	4	16.8
Cost and Price	4.1	4.1	4.1	4.1	4.1	5	20.3
Overall Score	**85.3**	**80.3**	**85.3**	**80.3**	**83.3**		**83**

Integra Realty Resources - Los Angeles							
Evaluator Number	1	2	3	4	5	Weights	Criteria Score
Qualifications of Firm	4.5	4.0	4.5	4.5	4.5	6	26.4
Staffing/Project Organization	4.5	4.0	5.0	4.5	4.5	5	22.5
Work Plan	4.5	4.0	4.5	4.0	4.5	4	17.2
Cost and Price	3.4	3.4	3.4	3.4	3.4	5	17.2
Overall Score	**84.7**	**77.2**	**87.2**	**82.7**	**84.7**		**83**

R.P. Laurain and Associates, Inc.							
Evaluator Number	1	2	3	4	5	Weights	Criteria Score
Qualifications of Firm	4.0	4.0	3.5	3.0	4.0	6	22.2
Staffing/Project Organization	3.5	3.0	3.0	3.0	3.5	5	16.0
Work Plan	3.5	3.5	3.5	3.0	3.5	4	13.6
Cost and Price	5.0	5.0	5.0	5.0	5.0	5	25.0
Overall Score	**80.5**	**78.0**	**75.0**	**70.0**	**80.5**		**77**

The range of scores for the non-short-listed firms was 60-70.

CONTRACT HISTORY FOR THE PAST TWO YEARS

RFP 9-0995 On-Call Real Property Appraisals and Related Services

Prime and Subconsultants	Contract No.	Description	Contract Start Date	Contract End Date	Subconsultant Amount	Total Contract Amount
Hendrickson Appraisal Company, Inc.						
Contract Type: N/A	None		N/A	N/A	N/A	$ -
Subconsultants: N/A						
					Subtotal:	**$ -**
Hennessey & Hennessey, LLC						
Contract Type: Contract Task Order	C-4-1592	On-call real property appraisals and related services	November 11, 2014	September 30, 2019	N/A	$ 460,274
Subconsultants:						
Desmond, Marcello & Amster						
Document All Stars						
Donna Desmond Associates						
Hodges, Lacey Associates, LLC						
Lidgard and Associates, Inc.						
					Subtotal:	**$ 460,274**
Integra Realty Resources - Los Angeles						
Contract Type: Contract Task Order	C-4-1590	On-call real property appraisals and related services	November 11, 2014	September 30, 2019	N/A	$ 766,330
Subconsultants:						
Donna Desmond Associates						
Hodges, Lacey Associates, LLC						
Keith Settle & Company						
The Bernard Johnson Group, Inc.						
					Subtotal:	**$ 766,330**
R.P. Laurain & Associates, Inc.						
Contract Type: Contract Task Order	C-3-1979	On-call real property appraisals and related services	November 11, 2014	September 30, 2019	N/A	$ 165,625
Subconsultants:						
Hodges, Lacey Associates, LLC						
					Subtotal:	**$ 165,625**

ATTACHMENT C

September 5, 2019

To: Regional Planning and Highways Committee

From: Darrell E. Johnson, Chief Executive Officer

Subject: Regional Planning Update

Overview

Regional planning updates are provided periodically to highlight transportation planning issues impacting the Orange County Transportation Authority and the Southern California region. This update focuses on the development of the Southern California Association of Governments' 2020–2045 Regional Transportation Plan/Sustainable Communities Strategy, federal rulemaking, and Orange County express lane planning and development efforts.

Recommendation

Receive and file as an information item.

Background

The Orange County Transportation Authority (OCTA) coordinates regularly with other planning and regulatory agencies within the Southern California region. This kind of regional coordination is conducted at many levels, involving the OCTA Board of Directors (Board), executives, and technical staff. Some examples of the regional planning forums in which OCTA participates include:

- Southern California Association of Governments (SCAG) Regional Council and policy committees,
- State Route 91 Advisory Committee,
- Regional Chief Executive Officers meetings,
- South Coast Air Quality Management District working groups,
- Interregional planning coordination meetings (OCTA, SCAG, the San Diego Association of Governments, and the California Department of Transportation [Caltrans] districts 7, 11, and 12), and
- SCAG technical working groups.

Staff provided a regional planning update to the OCTA Regional Planning and Highways Committee and Board in March 2019. The current status of these issues and other ongoing regional planning activities is provided in Attachment A, which includes a matrix that identifies lead agencies, a summary of each activity, key dates, OCTA's interests, and current involvement.

Since the March update, new activities have developed concerning SCAG's regional planning efforts and the initiation of an OCTA-led study of express lanes in Orange County. A discussion of these issues is provided below.

Discussion

2020-2045 Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS) Development

SCAG, as the federally-designated metropolitan planning organization for the counties of Imperial, Los Angeles, Orange, Riverside, San Bernardino, and Ventura must adopt an RTP/SCS every four years by law. The last RTP/SCS for the SCAG region was adopted in 2016; therefore, an updated plan must be adopted by April 2020. All regionally significant transportation projects must be included to advance through the project delivery process. The RTP/SCS must also meet federal air quality standards, using funding that is reasonably available through 2045.

In addition, SB 375 (Chapter 728, Statutes of 2008) requires the RTP/SCS to identify strategies to reduce greenhouse gas (GHG) emissions from cars and light trucks from 2005 levels. The GHG reduction targets assigned to the SCAG region by the California Air Resources Board are eight percent per capita by 2020 and 19 percent per capita by 2035. If the targets are not met, SCAG must demonstrate how the targets could be met with a financially unconstrained alternative planning strategy.

Project data from County transportation commissions was collected in November 2018, including input from OCTA and consistent with the final 2018 Long-Range Transportation Plan (LRTP). SCAG is using this data to conduct travel demand modeling and air quality emissions analysis.

SCAG has also solicited information from cities, counties, and subregions on current land use, anticipated population, housing, employment growth, resource areas, sustainability practices, and local transit-supportive measures to document how the region is growing. This information is being used to identify and evaluate future growth scenarios for Southern California and associated impacts on GHG emissions.

Conceptual growth scenarios were presented in a series of public workshops in May and June of this year to illustrate the impact of distinctive policy and investment choices. Subsequent development of the growth scenarios will also be compared to a "base case" to evaluate the merits of regional decisions for the 2020 RTP/SCS. The base case considers locally planned growth, land use policies, sustainability practices, local transit-supportive plans and policies, and planned transportation improvements through 2045.

In association with the 2020 RTP/SCS, SCAG is also preparing a program environmental impact report (PEIR) to evaluate potential direct and indirect effects, growth-inducing impacts, and cumulative impacts resulting from the RTP/SCS program of projects. The PEIR can serve as a resource for subsequent, project-specific environmental review documents. Project-level environmental analyses will be prepared by implementing agencies (such as OCTA) as individual projects proceed through the development process.

Key milestones for the 2020 RTP/SCS are summarized below:

September 2019:	Draft land use strategies, transportation strategies, regional aviation strategies, and energy/environment strategies;
October 2019:	Draft outcomes for mobility, safety, air quality/sustainability, economic benefits, and health outcomes; Draft SCS scenario, multimodal transportation investments, and transportation financial plan;
November 2019:	Draft 2020 RTP/SCS release for public review;
December 2019:	Draft PEIR release for public review;
January 2020:	Close of public comment period;
March 2020:	Summary of comments, responses, and proposed modification to RTP/SCS and PEIR;
April 2020:	SCAG Regional Council adopts 2020 RTP/SCS and PEIR.

<u>Express Lanes</u>

Use of express lanes has become a prominent strategy for many transportation agencies throughout the nation. Currently, the state and the SCAG region are looking to express lanes to address mobility and system performance needs.

Express lanes have emerged as a primary approach for addressing high-occupancy lane degradation (i.e. the lane fails to maintain at least 45 miles per hour 90 percent of the time over a consecutive 180-day period during morning or evening weekday peak hour periods).

In fact, Caltrans District 12 is finalizing a project initiation document and plans to soon begin the environmental phase for conversion of carpool lanes to express lanes on Interstate 5, north of State Route 55 to the County line.

As noted in the 2018 LRTP Short-Term Action Plan activities, it is important for OCTA to be engaged in ongoing and future planning efforts in order to monitor how these strategies evolve, and to ensure that OCTA, as the County Transportation Commission, Congestion Management Agency, and administrator of the Measure M Program has a voice in the process as congestion management pricing strategies, such as express lanes, move toward implementation.

Therefore, in May 2019, OCTA staff initiated a study of express lanes in Orange County to identify considerations and priorities important to OCTA, with the intent of developing a preferred phasing strategy. Quantitative and qualitative factors will guide development of the strategy consistent with the draft goals and objectives in the table below.

Goal	Objective
Identify opportunity corridors	a. Identify high-demand commute sheds b. Identify available capacity c. Leverage existing and planned express lanes d. Consider useful life of local tax measure projects
Improve corridor operations and reliability	a. Reduce corridor daily delay from congestion b. Improve mainline peak period speeds c. Maintain free-flow speeds in express lanes d. Identify benefits to adjacent facilities
Ensure financial feasibility and corridor maintenance	a. Demonstrate revenues cover annual debt payments, financing requirements, and operations and maintenance costs b. Identify potential for excess revenues (subsequent studies to determine strategies for reinvestment in the transportation system)
Support local and regional goals	a. Support community and economic development goals b. Address social equity/environmental justice c. Improve air quality and reduce greenhouse gas emissions

The study process will ultimately identify three phases that prioritize implementation generally by 2030, 2045, and beyond 2045. The strategy also supports potential mainline improvements that could accompany express lane implementation, but specific locations and improvement types would be identified in subsequent studies. Staff will provide updates at key milestones throughout the study process.

Safer Affordable Fuel Efficient (SAFE) Vehicles Rule for Model Year 2021-2026 Passenger Cars and Light Trucks

The SAFE Vehicles Rule proposes to hold the national fuel efficiency standard for automakers at 2020 levels. The rule also proposes a “50 state solution” that repeals California's ability to have higher fuel efficiency standards, which was originally allowed to address California's unique air quality challenges. If finalized as proposed, the rule would revoke California's authority to implement the Advanced Clean Cars (I and II) and zero-emission vehicle mandates. Revoking these mandates will negatively impact the state’s ability to meet its GHG and criteria pollutant emissions reductions goals.

The rule may also impede California transportation agencies’ ability to demonstrate that their projects conform to federal Clean Air Act requirements. This means that transportation agencies may be unable to make new transportation conformity determinations for their regional transportation plans, transportation improvement programs, and amendments for projects not exempt from federal Clean Air Act requirements, as applicable.

The rule was submitted to the federal Office of Management and Budget (OMB) in August 2019. OMB review is one of the last steps in the federal rule making process. A final rule is anticipated in September 2019.

Express Lanes Connector

OCTA, the Riverside County Transportation Commission, the Transportation Corridor Agencies, and Caltrans have engaged in joint meetings to address implementation efforts for a direct connector linking the northbound State Route 241 (SR-241) toll road to eastbound 91 Express Lanes and westbound 91 Express Lanes to southbound SR-241 toll road. Discussions have focused on determining agency responsibilities, agreements, timing of improvements, and ongoing activities. A more detailed update to the Board is anticipated in a subsequent item.

Summary

Staff is engaged in ongoing activities regarding transportation planning in Orange County and Southern California. As drafts of these planning documents are released, staff will review and provide comments as needed to protect the interests of OCTA. Staff will continue to keep the Board informed on the status of these ongoing activities.

Attachment

A. September 2019, Regional Planning Activities

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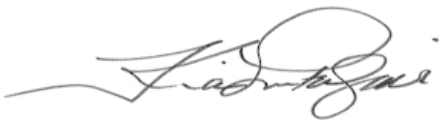

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September 2019
Regional Planning Activities

National Highway Traffic Safety Administration (NHTSA) and United States Environmental Protection Agency (EPA)

	Summary	Key Dates	Orange County Transportation Authority (OCTA) Interest	OCTA Role
Safer Affordable Fuel Efficient (SAFE) Vehicles Rule for Model Year 2021-2026 Passenger Cars and Light Trucks	The SAFE Vehicles Rule would hold the national fuel efficiency standard for automakers at 2020 levels. The rule also proposes a "50 state solution" that repeals California's ability to have higher fuel efficiency standards, which was originally allowed to address California's unique air quality challenges. If finalized, the rule would revoke California's authority to implement the Advanced Clean Cars (I and II) and zero emission vehicle (ZEV) mandates. Revoking these mandates will negatively impact the state's ability to meet its greenhouse gas (GHG) and criteria pollutant emissions reductions goals. The rule may also impede California transportation agencies' ability to demonstrate that their projects conform to federal Clean Air Act requirements. This means that transportation agencies may be unable to make new transportation conformity determinations for their regional transportation plans, transportation improvement programs, and amendments for projects not exempt from federal Clean Air Act requirements, as applicable.	August 2018 – NHTSA and EPA issued proposed rule September 2018 – Public hearings held on proposed rule October 2018 – End of public comment period on proposed rule Anticipated September 2019 - NHTSA and EPA to issue final rule	Monitor rule making process to determine opportunities to limit delay or loss of funding for Orange County projects.	Coordinate with the Southern California Association of Governments (SCAG) and California Association of Councils of Government.

September 2019
Regional Planning Activities

California Department of Transportation (Caltrans)

	Summary	Key Dates	(OCTA) Interest	OCTA Role
Interstate 5 (I-5) High-Occupancy Toll (HOT) Lanes	Caltrans District 12 is studying implementation of HOT lanes on I-5 between the Los Angeles County line and State Route 55. Caltrans District 12 staff has stated that this effort is District 12's highest planning priority at this time. District 12 is simultaneously finalizing a project study report (PSR) and a concept of operations (ConOps) before beginning environmental studies.	December 2017 – Kick-off meeting to begin ConOps February 2018 – Kick-off for PSR January 2019 – Comments submitted on 65 percent draft ConOps and PSR April 2019 – Comments submitted on 95 percent draft PSR August 2019 – Anticipate final PSR	Prioritize corridor-wide (general purpose and carpool lanes) operational benefits and reliability.	Coordinate with Caltrans and other partner agencies throughout development of the ConOps, PSR, and subsequent studies.
Updates to the California Environmental Quality Act (CEQA) Guidelines incorporating SB 743 (Chapter 386, Statutes of 2013)	A key element of the update is the focus on promoting the reduction of greenhouse gas (GHG) emissions, the development of multimodal transportation networks, and a diversity of land uses, as required by SB 743. This puts an emphasis on the use of vehicle miles traveled (VMT) for determining transportation impacts in CEQA documents. For transportation projects, lead agencies have discretion over how to evaluate a project's transportation impact. However, the evaluation criteria must promote the reduction of GHG emissions, the development of multimodal transportation networks, and a diversity of land uses. Caltrans is drafting guidance for evaluation criterial consistent with SB 743 for transportation projects involving the state highway system.	December 2018 - Governor's Office of Planning and Research released technical advisory on evaluating transportation impacts in CEQA pursuant to SB 743 January 2019 – Office of Administrative Law approved new regulations for implementing CEQA, including changes related to SB 743 Anticipated Fall 2019 – Caltrans to release guidance on evaluating transportation projects involving the state highway system July 2020 – Lead agencies must comply with latest CEQA guidelines, including those related to SB 743	Minimize potential for CEQA-related litigation concerns, negative mobility impacts, and increased time and cost for project development and implementation.	Prepare internal procedures to address final rule. Coordinate with SCAG on opportunities to tier off programmatic-level environmental documents.

CALTRANS (continued)

	Summary	Key Dates	(OCTA) Interest	OCTA Role
California Transportation Plan (CTP) 2050	Update to the state's Long-Range Transportation Plan (LRTP), which establishes strategic goals, policies, and recommendations to improve multimodal mobility and accessibility while reducing GHG emissions.	2018 – Public and stakeholder engagement, tribal listening sessions, future of mobility white paper 2019 – Transportation scenario development, economic and transportation modeling, and technical reviews 2020 – Public workshop report, implementation plan, and final plan 2021 – Implement CTP strategies and recommendations	Ensure that the goals, policies, and strategies do not conflict with OCTA plans or projects. Emphasize the need for any CTP strategies to be vetted at the local and regional levels, prior to including in local/regional plans.	Participate in stakeholder workshops. Provide comments. Coordinate with Caltrans.

September 2019
Regional Planning Activities

South Coast Air Quality Management District (AQMD)

	Summary	Key Dates	(OCTA) Interest	OCTA Role
Sales Tax Ballot Initiative Authorization	AQMD is sponsoring SB 732 (Allen, D-Santa Monica), which would authorize the AQMD Board, or the voter initiative process, to place a sales tax increase proposal ranging from a quarter-cent up to one-cent on the 2020 ballot to fund the strategies identified in the 2016 Air Quality Management Plan. The proposal is estimated to generate up to $1.4 billion a year for air pollution emission reduction including providing incentives to businesses to promote the development and deployment of clean technology and facilitate truck fleet turnover.	May 2019 – OCTA Board adopted oppose position on SB 732 2020 – Potential legislative action on SB 732	Ensure funding sources currently utilized by OCTA are not diverted. Identify opportunities for funding that could benefit OCTA plans and projects.	Monitoring and communicating with AQMD.

September 2019
Regional Planning Activities

SCAG

	Summary	Key Dates	(OCTA) Interest	OCTA Role
2020–2045 Regional Transportation Plan/ Sustainable Communities Strategy (2020 RTP/SCS)	Federally required transportation planning document. Addresses needs over a 20-plus year planning horizon and constrained by a reasonably foreseeable revenue forecast. Must also demonstrate air quality conformity and GHG emissions reductions with budgeted levels set by EPA and California Air Resources Board (CARB). SCAG has branded the 2020 RTP/SCS as "Connect SoCal".	Spring 2018 – Initiated working groups November 2018 – OCTA submitted projects consistent with 2018 LRTP May – June 2019 – SCS Workshops November 2019 – Release draft RTP/SCS for public review April 2020 – SCAG to adopt final 2020 RTP/SCS	Ensure inclusion of projects identified in the final 2018 LRTP. Support policies that are consistent with OCTA positions.	Coordinate with SCAG and other partner agencies. Participate in working groups. Monitor SCAG policy committees. Review and comment on related materials.
Sustainable Communities Program	Grant program that funds sustainability planning efforts and development of local plans that support the implementation of the 2016 RTP/SCS. The grant program is comprised of three main categories: active transportation, integrated land use, and green region initiative projects. Four Orange County projects were selected for funding through the 2018 Sustainable Communities Program. Seven Orange County projects were selected for funding through the 2017 active transportation call for proposals. An additional seven Orange County projects were previously selected through the 2016 call for proposals.	October 2018 – Application workshop November 2018 – Application deadline March 7, 2019 – SCAG Regional Council approval of application rankings	Funding opportunity for Orange County planning efforts.	Coordinate with SCAG and partner agencies, as necessary, to initiate the projects in a timely manner.

September 2019
Regional Planning Activities

SCAG (continued)

	Summary	Key Dates	(OCTA) Interest	OCTA Role
Greenline Extension Study	Planning study to identify and evaluate feasible alternatives for extending the Metro Green Line to the Norwalk/ Santa Fe Springs Metrolink Station. Study is currently on hold per the request of the City of Norwalk to allow for a separate Firestone Boulevard Visioning Study to be initiated and completed, prior to recommencing this study.	Fall 2016 – Initiated study January 2017 – Open house meeting Spring 2018 – Study put on hold while City of Norwalk conducts a separate visioning effort for Firestone Boulevard	Support alternatives that provide improved access for Orange County Metrolink riders to Metro rail services and the Los Angeles International Airport.	Monitoring.
Transportation Control Measure (TCM) Substitution	Express Lanes Connector (ELC) Project between State Route 241 (SR-241) and State Route 91 is being substituted for signal synchronization projects: El Toro Road signal synchronization, Magnolia Street signal synchronization, and Brookhurst Street signal synchronization.This TCM requires implementation by 2021. The ELC project has been postponed beyond 2021 at the request of OCTA and the Riverside County Transportation Commission, requiring the need for a substitution.	February 2018 – Initiated substitution process with SCAG May 2018 – Presented to the SCAG Transportation Conformity Working Group September 2018 – Presented to the SCAG Energy and Environment Committee and Regional Council for approval April 2019 – CARB and EPA issued concurrence	Complete the substitution process to avoid potential impacts to regional transportation funding.	Complete.

September 2019
Regional Planning Activities

SCAG (continued)

	Summary	Key Dates	(OCTA) Interest	OCTA Role
Transportation Demand Management Strategies Study	SCAG is conducting a study to determine what strategies will be effective in reducing demand for roadway travel, particularly in single occupancy vehicles. Major study tasks include assessing the current state of transportation demand management (TDM) strategy deployment in the region, identifying best practices and opportunities for improvement and expansion, establishing TDM goals that align with state and federal mandates for congestion reduction and air quality improvement, and developing performance measures for evaluating the effectiveness of TDM strategies at the corridor, local, and regional levels.	May/June 2018 – Contract Execution February 2019 – Presentation on existing conditions to SCAG Transportation Committee June 2019 – Presentation of draft study recommendations to SCAG Transportation Committee August 2019 – Presentation of final study to SCAG Transportation Committee	Monitor the progress of the study and possible strategies for Orange County.	Coordinate with SCAG and provide comments as necessary. Participate in technical meetings.

September 2019
Regional Planning Activities

San Diego Association of Governments (SANDAG)

	Summary	Key Dates	(OCTA) Interest	OCTA Role
2020 Federal Regional Transportation Plan and 2021 Regional Plan	Federal and state laws require that SANDAG complete an RTP/SCS every four years. Under this timeline, the next RTP/SCS would be required by October 2019. However, the SANDAG Board approved an action plan to postpone the next RTP/SCS to 2021. To do so, AB 1730 (Gonzales) was passed, which allows SANDAG's current 2015 RTP/SCS and its associated California Environmental Quality Act document to remain valid after October 9, 2019. While this extends the state's deadline, SANDAG must still conform to federal conformity requirements. Under federal law, SANDAG has a 12-month grace period to adopt the next Regional Plan and maintain air quality conformity. The federal grace period expires on December 2, 2020. Therefore, SANDAG is currently preparing a minimal update to the 2015 RTP that that will be submitted to the federal agencies in spring 2020 to obtain an air quality conformity finding from the U.S. Department of Transportation. This will keep SANDAG in compliance with federal requirements until the full RTP/SCS update is completed in 2021.	February 2019 – SANDAG Board approved action plan to develop 2021 Regional Plan August 2019 – Draft 2020 Federal Regional Transportation Plan available for public review Spring 2020 – SANDAG Board adoption of 2020 Federal Regional Transportation Plan Spring 2021 – Release draft 2021 Regional Plan for public review Fall 2021 – SANDAG Board to adopt final 2021 Regional Plan	Monitor development of plans and projects that approach the Orange County border.	Monitoring.

September 2019
Regional Planning Activities

Los Angeles County Metropolitan Transportation Authority (METRO)

	Summary	Key Dates	(OCTA) Interest	OCTA Role
2028 Olympics	The Greater Los Angeles Area must begin preparing for the 2028 Olympics. This will include greater coordination between OCTA, Metro, and other planning agencies in the area OCTA, in collaboration with Metro and other transit operators along the county line, recently initiated the LA-OC Transit Connections Study. The study will develop recommendations for both short-term route changes and long-term improvements based on existing and future transit needs. The effort will build on recent bus restructuring efforts at OCTA, Metro, Long Beach Transit, and Foothill Transit. In addition, the study will consider existing service and future changes to Metrolink and Metro rail transit services.	November 2, 2017 – Memorandum of understanding signed between OCTA and Metro November 30, 2017 – Metro announced the Twenty-Eight by '28 initiative January 2018 – Metro Board approved a list of projects, 20 of which are already slated for completion by 2028 and eight require additional funding (estimated at $26.2 billion) to deliver by 2028 September 2018 – Metro Board directed development of Twenty-Eight by '28 funding plan December 2018 – Twenty-Eight by '28 Program Financing/Funding White Paper, which included recommendations for congestion pricing as new source of revenue June 2019 – OCTA executed contract to begin the LA-OC Transit Connections Study Summer 2019 – Metro to initiate Feasibility Study for Congestion Pricing Pilot strategy, including Equity Strategy	Coordinate with Metro and the City of Los Angeles as preparations begin for the 2028 Olympics. Monitor development of financing/funding strategy and potential implementation of the Twenty-Eight by '28 program of projects. Coordinate with Metro on a new Intercounty Study.	Coordinate with Metro and other partner agencies.

September 2019
Regional Planning Activities

METRO (continued)

	Summary	Key Dates	(OCTA) Interest	OCTA Role
Gold Line Eastside Extension Phase II	Study of three alternatives for extending the Gold Line to more eastern Los Angeles County communities. One alternative traverses the northern side of State Route 60 (SR-60), another travels along Washington Boulevard, terminating near Orange County, and the third would build both the SR-60 and Washington Boulevard alignments. With sales tax measure funding, Metro will build both alternatives, but it remains to be determined which will be first. One would start construction in 2029 and open in 2035; the second would start construction in 2053 and open in 2057. Included in Twenty-Eight by '28 program of projects for potential acceleration of one of the alignments.	November 2014 – Metro Board direction to study implementation of one or both alternatives, as well as potential connections with the West Santa Ana Branch Corridor project on the Pacific Electric Right-of-Way Spring 2016 – Metro hosted five public meetings to obtain input for the draft studies. May 2017 – Metro Board approved updates to alternatives May 2019 – Metro issues notice of preparation of supplemental draft environmental document 2021 – Supplemental draft environmental document to be recirculated	Support alternatives that create potential for future connections into Orange County.	Monitoring.

September 2019
Regional Planning Activities

METRO (continued)

	Summary	Key Dates	(OCTA) Interest	OCTA Role
West Santa Ana Branch Transit Corridor Project	A new 20-mile light rail transit line that would connect downtown Los Angeles to southern Los Angeles County, which could provide potential for a future extension into Orange County along the Pacific Electric Right-of-Way. Included in Twenty-Eight by '28 program of projects for potential acceleration.	Summer 2017 – Initiated environmental studies and conducted public scoping meetings March 2018 – Four additional northern alignment options evaluated May 2018 – Two of the four northern alignment options added to environmental studies July 2018 – Additional scoping meetings 2020 – Anticipate release of draft environmental document for public comment 2020 – Anticipate selection of a locally preferred alternative 2021 – Anticipate final environmental document 2028 – Anticipate opening service	Support alternatives that create potential for future connections into Orange County.	Monitoring.

September 2019
Regional Planning Activities

METRO (continued)

	Summary	Key Dates	(OCTA) Interest	OCTA Role
Countywide Express Lanes Strategic Plan	Establishes a vision for a system of Express Lanes for Los Angeles County that is intended to address federal performance standards and provide a more reliable and faster travel option, utilizing existing capacity in carpool lanes. Express lanes on Interstate 105 and Interstate 10 (from Interstate 605 to San Bernardino County line) included in Twenty-Eight by '28 program of projects for potential acceleration.	Pending – Initiation of planning studies and a financial plan for the Tier 1 projects that are intended to be delivered in the next five to ten years	Monitor development of plans and projects that approach the Orange County border.	Monitoring.

September 2019
Regional Planning Activities

Transportation Corridor Agencies (TCA)

	Summary	Key Dates	(OCTA) Interest	OCTA Role
South County Traffic Relief Effort Project Approval / Environmental Review	Project initiation document (PID) developed by TCA to identify and analyze potential alternatives for toll road alignments in southern Orange County. With PID approval from Caltrans, TCA has initiated scoping for the Project Approval /Environmental Document phase of project development. This reevaluation of alignments is being conducted by TCA due to a settlement agreement that eliminated the previously identified alignment.	September 2018 – Final Draft PSR-PDS submitted to Caltrans November 2018 – TCA Board approved a $5 million contract to initiate Project Approval / Environmental Document. Directed TCA staff to return at the conclusion of the Scoping Phase to seek authorization to proceed. May 2019 – Caltrans approved PID 2020 – Anticipate release of draft and final environmental document 2021 – Anticipate Record of Decision on environmental document	Ensure consistency with OCTA plans and projects.	Coordinate with TCA and other stakeholder agencies. Provide comments as necessary.
Transportation Control Measure (TCM) substitution	TCA is evaluating options for removing the TCM designation from three portions of TCA facilities: 1) the San Joaquin Hills Transportation Corridor (FTIP Project ID: ORA10254), 2) the Eastern Transportation Corridor (ORA050), and 3) the Foothill Transportation Corridor-North (ORA051). TCA will work with OCTA and SCAG on next steps, including the potential to prepare a formal substitution. TCA will participate in interagency consultation on any requested TCM substitutions through SCAG's Transportation Conformity Working Group.	February 2019 – Request to remove TCM designation TBD 2019 – Initiated substitution process with SCAG (as applicable) TBD – Presentation to the SCAG Transportation Conformity Working Group TBD – Present to the SCAG Energy and Environment Committee and Regional Council for approval TBD – Anticipate CARB and EPA concurrence	Avoid potential impacts to regional transportation funding.	Coordinating with SCAG and TCA.

September 5, 2019

To: Regional Planning and Highways Committee

From: Darrell E. Johnson, Chief Executive Officer

Subject: 2020 State Transportation Improvement Program

Overview

Every two years, the Orange County Transportation Authority prepares a program of projects for state funding through the State Transportation Improvement Program. Program recommendations are presented for the Board of Directors' consideration and approval. These recommendations are consistent with programming policies approved by the Board of Directors.

Recommendations

A. Approve the 2020 State Transportation Improvement Program submittal to program $203.645 million to seven projects, from fiscal year 2020-21 through fiscal year 2024-25.

B. Authorize the use of up to $40.512 million in Surface Transportation Block Grant funds, $92.328 million in Measure M2 funds, and $44.791 million in SB 1 (Chapter 5, Statutes of 2017) Local Partnership Program funds for the 2020 State Transportation Improvement Program projects.

C. Authorize staff to make all necessary amendments to the State Transportation Improvement Program and the Federal Transportation Improvement Program, as well as execute any necessary agreements to facilitate the recommendations above.

Background

The State Transportation Improvement Program (STIP) is a major source of funding for transportation improvements throughout the State of California. Every two years, state and federal transportation revenues are forecasted and programmed for the subsequent five-year period.

The Orange County Transportation Authority (OCTA) is responsible for the development and programming of the STIP, which is submitted to the California Transportation Commission (CTC) for approval and adoption. OCTA dedicates STIP funds for use on projects of countywide significance, consistent with the Board of Directors' (Board) adoption of the Capital Programming Policies (CPP).

Every STIP cycle includes a fund estimate (FE), which determines funding shares for each county. For the 2020 STIP, the FE determined that Orange County's new capacity would be $6.960 million. On August 12, 2019, the OCTA Board received the 2020 STIP overview as an information item that provided more detail regarding the funding share for Orange County. As noted in the 2020 STIP Overview Board item, the diminished STIP will require significant modifications to existing projects. Additionally, CTC staff has indicated that the CTC would likely be unable to allow funding advancement of existing projects.

Discussion

Due to the CTC's extremely limited ability to advance funding into earlier years, the overall strategy is to fund priority projects utilizing local funds in order to keep projects on schedule such as the Interstate 5 (I-5) Improvement Project from Alicia Parkway to El Toro Road (Segment 3). This I-5 Improvement Project is programmed to receive STIP funds in fiscal year (FY) 2022-23, but will be ready to advertise for construction in FY 2019-20. To delay the project to align with the STIP programming year would be costly and problematic as the other two segments (from State Route 73 {SR-73} to Alicia Parkway) have proceeded to construction. OCTA is proposing to request $80 million in STIP funds authorized for the State Route 55 (SR-55) Improvement Project from Interstate 405 (I-405) to I-5 as early as possible by requesting to advance those funds from FY 2021-22 to FY 2020-21. By delaying most of the other funding in the STIP to later years, it provides CTC the option to potentially approve this advancement for the SR-55 Improvement Project.

OCTA is further proposing to maximize the use of other state, federal, and Measure M2 (M2) funds for those projects which are ready to proceed or are prioritized in later years. The STIP dollars made available in later years will be applied to upcoming M2 projects, such as the construction phase of the I-5 Improvement Project from I-405 to Yale Avenue (Segment 1), and the Interstate 605 (I-605) Katella Avenue Interchange Project.

OCTA staff is recommending the following changes to the 2020 STIP:

STIP Projects ($000)	2018 Amount	2020 Amount
Carry Over Projects		
SR-55 Improvements from I-405 to I-5	$80,000	$80,000
I-5 Improvements from SR-73 to El Toro Road (replacement planting/landscaping)	$6,000	$6,000
Planning, Programming, and Monitoring	$3,696	$5,267
New Additions		
I-5 Improvements from I-405 to Yale Avenue (Segment 1) (Construction Phase)	$0	$95,338
State Route 74 Ortega Highway Improvements – Calle Entradero to City/County Line	$0	$8,540
I-5 Improvements from Avenida Pico to San Diego County Line	$0	$5,500
I-605 Katella Avenue Interchange	$0	$3,000
Locally-Funded with M2 and Other State Funding		
I-5 Improvements from Alicia Parkway to El Toro Road (Segment 3)	$69,911	$0
I-5 Improvements from I-405 to SR-55 (Segments 1 and 2 [Design Phase])	$12,628	$0
Seek Future Funding		
State Route 57 Truck Climbing Lane Phase II – Lambert Road to County Line	$4,050	$0
Total	$176,285	$203,645

The total funding available in the 2020 STIP is made up from the projects programmed in the prior 2018 STIP ($176.285 million), plus Orange County's new STIP capacity ($6.960 million). Per the STIP FE, the CTC may approve and program STIP funding above the targets up to the STIP maximum. OCTA staff will be requesting $20.400 million over the STIP target, which results in a total STIP request of $203.645 million. If approved, the $20.400 million will be an advance from the next 2022 STIP cycle and taken out of the 2022 FE. A map, which includes the 2020 STIP, is provided as Attachment A. Attachment B provides a brief description of each project and details of the funding changes. Attachment C provides a table that depicts the projects prepared for the 2020 STIP.

In order to program any phase of work in the STIP, that particular phase must be fully funded. Staff is proposing to fully fund all phases programmed by using a combination of federal Surface Transportation Block Grant (STBG [$40.512 million]), state SB 1 Local Partnership Program (LPP [$44.791 million]), and M2 ($92.328 million). Additional details on how this funding is programmed to each project is provided in Attachment B. The use of federal STBG and state SB 1 LPP funds for these projects is consistent with the CPP, which prioritizes state and federal funds to fulfill commitments to Next 10 projects first. SB 1 LPP is subject to CTC approval. Additionally, the use of M2 funds is consistent with the CPP regarding the use of M2 funds for Next 10 projects.

It is possible that CTC staff may request changes due to revised funding capacity or timing constraints related to the state and federal funding. Adjustments to the recommended program may be necessary, and staff will continue to work with the CTC, the California Department of Transportation (Caltrans), and other appropriate agencies to ensure the projects continue to move toward the 2020 STIP adoption by spring 2020. Staff will keep the Board apprised if material changes are necessary.

Attachment D provides the updated Capital Funding Plan, which includes recommended changes pending approval by the Board on September 23, 2019, and also by the CTC, which is anticipated in March 2020.

Additionally, OCTA staff has had discussions with Caltrans Division of Mass Transit and has requested they consider the Orange Olive Wye Connection Project for $16 million for Interregional Transportation Improvement Program funding. Attachment B provides additional project information.

Next Steps

With Board approval, staff will finalize and submit the 2020 STIP to the Southern California Association of Governments by September 24, 2019, and then to the CTC by December 15, 2019. The CTC will hold public hearings on the proposed 2020 STIP on January 30, 2020, in Northern California and on February 6, 2020, in Southern California. The CTC is expected to adopt the program on March 25-26, 2020. A 2020 STIP development schedule is included as Attachment E.

Summary

OCTA is responsible for the development and programming of the STIP for Orange County. OCTA is proposing to submit seven projects for $203.645 million in STIP for FY 2020-21 through FY 2024-25. The use of STIP funds for these projects supplements the local M2 Program and will provide a range of benefits to all of Orange County.

Attachments

A. OCTA 2020 State Transportation Improvement Program, Proposed Projects
B. Orange County Transportation Authority, 2020 State Transportation Improvement Program, Project Descriptions and Programming Information
C. Funding Plan for 2020 STIP-Recommended Projects
D. Capital Funding Program Report
E. 2020 STIP Development Schedule

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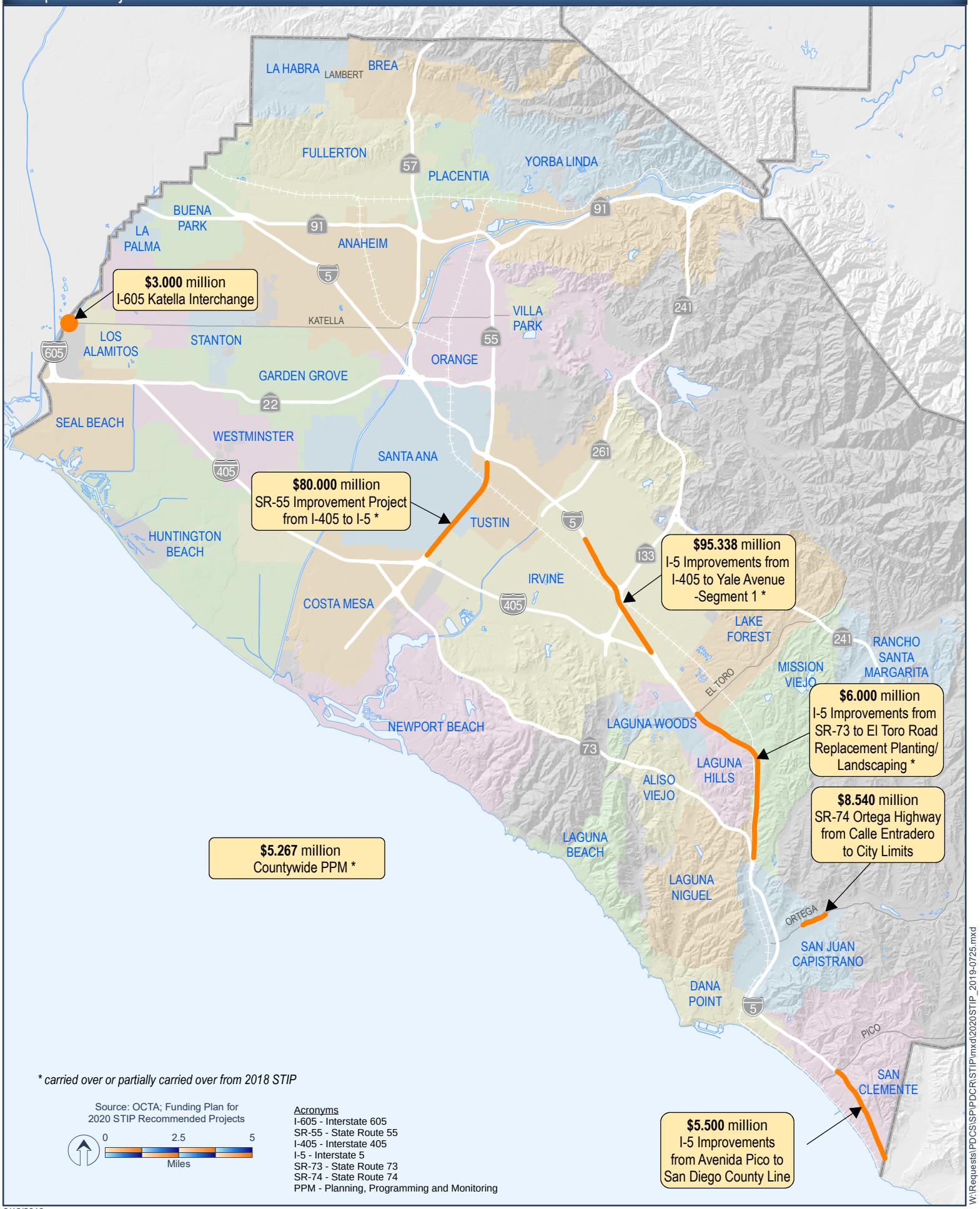
OCTA 2020 State Transportation Improvement Program

Proposed Projects

ATTACHMENT A



** carried over or partially carried over from 2018 STIP*

Source: OCTA; Funding Plan for
2020 STIP Recommended Projects

0 2.5 5
Miles

Acronyms
I-605 - Interstate 605
SR-55 - State Route 55
I-405 - Interstate 405
I-5 - Interstate 5
SR-73 - State Route 73
SR-74 - State Route 74
PPM - Planning, Programming and Monitoring

8/12/2019

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ATTACHMENT B

Orange County Transportation Authority
2020 State Transportation Improvement Program
Project Descriptions and Programming Information

Carryover Projects

State Route 55 (SR-55) Improvement Project from Interstate 405 (I-405) to Interstate 5 (I-5)

This project will add new high-occupancy vehicle (HOV), general-purpose and auxiliary lanes on SR-55 between the I-405 and the I-5 connectors to increase freeway capacity and reduce congestion in central Orange County areas. The project is located in the cities of Irvine, Santa Ana, and Tustin.

Future traffic demand is anticipated to increase traffic volumes to levels that will increase traffic congestion, increase travel delays, and reduce travel speeds. It is anticipated that without additional major capital improvements, the level of service (LOS) for the majority of the study area in the northbound and southbound directions would be unacceptable during AM and PM peak periods.

The Orange County Transportation Authority (OCTA) will seek approval to advance the $80 million in State Transportation Improvement Program (STIP) funds from fiscal year (FY) 2021-22 to FY 2020-21. The project is a high priority for OCTA and Project F in the Next 10 Delivery Plan.

Staff will negotiate with the California Transportation Commission (CTC) to advance the project based on OCTA's request to delay $86.589 million in STIP, which is derived from:

- $69.911 million – I-5 improvements from Alicia Parkway to El Toro Road (Segment 3),
- $4.050 million – State Route 57 (SR-57) Truck Climbing Lane Phase II – Lambert Road to the County line,
- $12.628 million – design phase of the I-5 improvements from I-405 to SR-55.

While OCTA is requesting that CTC allow the advancement of STIP funds into FY 2020-21, the funding amounts and sources are not changing. The existing funding is depicted in the table below.

Existing Funding ($000s)	STIP	SHOPP	STBG	OCTA M2	CMAQ	INFRA/ SCCP/ Other	TOTAL
Environmental		$ 200		$ 6,332			$ 6,532
Design		$ 3,500	$ 17,000	$ 1,539			$ 22,039
Right-of-Way		$ 27,200	$ 63,450	$ 50,899	$ 20,000		$ 161,549
Construction	$ 80,000	$ 15,900		$ 51,557	$ 3,355	$ 75,000	$ 225,812
Total	**$ 80,000**	**$ 46,800**	**$ 80,450**	**$ 110,327**	**$ 23,355**	**$ 75,000**	**$ 415,932**

SHOPP – State Highway Operation and Protection Program
STBG – Surface Transportation Block Grant
M2 – Measure M2
CMAQ – Congestion Mitigation Air Quality
INFRA – Infrastructure for Rebuilding America
SCCP – Solutions for Congested Corridors Program

I-5 Improvements from State Route 73 (SR-73) to El Toro Road (Replacement Planting/ Landscaping)

This is an existing 2020 STIP project and based on updated schedules, staff is recommending delaying the $6 million in STIP funding from FY 2022-23 to FY 2024-25. The delay in STIP funding is consistent with the current schedule. This is part of Project C in the Next 10 Delivery Plan and is the replacement planting/landscaping component of the three segments of the I-5 Improvement Project from SR-73 to El Toro Road.

Existing funding level is depicted below.

Existing Funding ($000s)	STIP	OCTA M2	TOTAL
Environmental	$ -	$ -	$ -
Design	$ 650	$ 400	$ 1,050
Right-of-Way	$ 50		$ 50
Construction	$ 5,300	$ 5,845	$ 11,145
Total	**$ 6,000**	**$ 6,245**	**$ 12,245**

Planning, Programming, and Monitoring (PPM)

Orange County is impacted by severe congestion on many regional and interregional facilities. Examination of the problem and potential solutions are necessary for the future construction of improvements. STIP funds will be used to develop project study reports and provide environmental clearance for projects, thus creating a shelf of projects for the future. CTC sets aside five percent of the STIP for regional agencies to carry out planning activities.

OCTA is requesting the set aside of $5.267 million in STIP PPM to support consultants and staff in developing the Long-Range Transportation Plan and multimodal strategies to address the short- and long-term transportation needs for Orange County and regional connections, and to guide the expenditure of federal, state, and local transportation funds. These funds will be spread out over the five-year period and will support multiple planning projects.

New Additions

I-5 Improvements from I-405 to SR-55 (Segments 1 and 2)

This project will add one general-purpose lane in both directions of the I-5 from the I-405 to SR-55. Additional features of the project include improvements to various interchanges. Auxiliary lanes will be added in some segments and re-established in others within the project limits. The overall project length is approximately nine miles.

Currently, this segment of the I-5 corridor is experiencing congestion and long traffic delays due to demand exceeding capacity, primarily resulting from local, regional, and interregional traffic demand. In addition, forecasted local and regional traffic demand is expected to increase by over 10,000 vehicles per day by the year 2040. This is Project B in the Next 10 Plan.

Due to the inability to advance the project's STIP funding for the design phase of the projects from FY 2022-23 to FY 2020-21, staff is recommending redirecting $12.628 million in STIP funds programmed to the design phase in FY 2022-23 to the construction phase in FY 2023-24. Additionally, the project will be segmented into two sections, I-5 from I-405 to Yale Avenue (Segment 1) and I-5 from Yale Avenue to SR-55 (Segment 2). Staff is recommending Board of Directors (Board) approval to fund the design, right-of-way, and construction phases of Segment 1, with an additional $40.512 million in STBG funds, $44.791 million in SB 1 (Chapter 5, Statutes of 2017) Local Partnership Program (LPP) funds, and an additional $22.417 million in M2 (M2) funds. Staff will return to the Board with a funding plan for Segment 2 at a future meeting.

Existing and proposed funding levels are depicted below.

Existing Funding ($000s)	STIP	STBG	LPP	OCTA M2	TOTAL
Environmental		$ 8,000			$ 8,000
Design	$ 12,628	$ 7,372		$ 5,000	$ 25,000
Right-of-Way					
Construction					
Total	**$ 12,628**	**$ 15,372**		**$ 5,000**	**$ 33,000**

Proposed Funding for Segment 1 ($000s)	STIP	STBG	LPP	OCTA M2	TOTAL
Environmental		$ 8,000			$ 8,000
Design	-		$ 14,791	-	$ 14,791
Right-of-Way		$ 27,459		$ 6,729	$ 34,188
Construction	$ 95,338	$ 20,425	$ 30,000	$ 20,688	$ 116,451
Total	**$ 95,338**	**$ 55,884**	**$ 44,791**	**$ 27,417**	**$ 223,430**
Change	**$ 82,710**	**$40,512**	**$ 44,791**	**$ 22,417**	**$ 190,430**

State Route 74 (SR-74) Ortega Highway Improvements – Calle Entradero to the City/ County Line

This project will widen SR-74/Ortega Highway from two to four lanes by adding one lane in each direction in the City of San Juan Capistrano from Calle Entradero to the City/ County line.

This is a new project proposed in the 2020 STIP, and staff is recommending $8.540 million for the design phase in FY 2024-25. This is an important project for the region and one of the most heavily utilized local roads in the area. Currently, the existing traffic demand exceeds traffic capacity and operates at a LOS E, and will operate at LOS F in the year 2025. It has also received funding in the past through M2 Project O – Regional Capacity Program. The M2 Ordinance requires OCTA to seek out state and federal funds that could support projects in place of M2 funds.

Proposed funding levels are depicted below.

Proposed Funding ($000s)	STIP	TOTAL
Design	$ 8,540	$ 8,540
Total	**$ 8,540**	**$ 8,540**

I-5 Improvement from Avenida Pico to the San Diego County Line

STIP funds are proposed for the environmental phase of the I-5 Improvement Project from Avenida Pico to the San Diego County line, which proposes to add a general-purpose or a managed lane in each direction on the I-5, reestablish existing auxiliary lanes, widen existing undercrossings, and replace existing overcrossings.

Staff is recommending $5.5 million for the design phase in FY 2023-24. This is adjacent and complementary to Project C in the Next 10 Delivery Plan.

Existing and proposed funding levels are depicted below.

Existing Funding ($000s)	CMAQ	STBG	STIP	TOTAL
Environmental	$ 450	$ 121		$ 571
Design				
Project Management				
Total	**$ 450**	**$ 121**		**$ 571**

Proposed Funding ($000s)	CMAQ	STBG	STIP	TOTAL
Environmental	$ 450	$ 121		$ 571
Design			$ 5,500	$ 5,500
Project Management				
Total	**$ 450**	**$ 121**	**$ 5,500**	**$ 6,071**
Change	**$ -**	**$ -**	**$ 5,500**	**$ 5,500**

Interstate 605 (I-605) Katella Avenue Interchange

The I-605 and Katella Avenue Interchange Project will improve freeway access, traffic operations, enhance safety, and improve pedestrian and bicycle facilities. Staff is recommending $3 million for the design phase in FY 2024-25. This is Project M in the Next 10 Delivery Plan.

Existing and proposed funding levels are depicted below.

Existing Funding ($000s)	STIP	OCTA M2	TOTAL
Environmental		$ 1,824	$ 1,824
Design			
Total		**$ 1,824**	**$ 1,824**

Proposed Funding ($000s)	STIP	OCTA M2	TOTAL
Environmental		$ 1,824	$ 1,824
Design	$ 3,000		$ 3,000
Total	**$ 3,000**	**$ 1,824**	**$ 4,824**
Change	**$ 3,000**	**$ -**	**$ 3,000**

Locally Funded with M2 and State Funds

I-5 Widening from Alicia Parkway to El Toro Road (Segment 3)

The project will add one general-purpose lane on I-5 in each direction between Alicia Parkway and El Toro Road (approximately 1.7 miles), extend the second HOV lane in both directions, and add auxiliary lanes where needed. The additional lane will increase capacity and improve mainline congestion on I-5 from Alicia Parkway and El Toro Road. This is Project C in the Next 10 Plan. Under current traffic conditions, substantial congestion is experienced, and this project will help alleviate congestion and provide air quality benefits.

This project is expected to be ready to list STIP funding to FY 2019-20 from FY 2022-23. Staff is recommending the $69.911 million in STIP funds be removed from the project and the funds be redirected to projects, which are anticipated to be delivered in the last two years of the 2020 STIP cycle. Staff is recommending Board approval to use $69.911 million in M2 in place of the STIP funds.

Existing and proposed funding levels are depicted below.

Existing Funding ($000s)	STIP	SB 1 Local Partnership	OCTA M2	STBG	TOTAL
Environmental			$ 181	$ 1,666	$ 1,847
Design			$ 1,387	$ 8,044	$ 9,431
Right-of-Way			$ 17,623	$ 9,419	$ 27,042
Construction	$ 69,911	$ 9,388	$ 31,093	$ 30,768	$ 141,160
Total	**$ 69,911**	**$ 9,388**	**$ 50,284**	**$ 49,897**	**$ 179,480**

Proposed Funding ($000s)	STIP	SB 1 Local Partnership	OCTA M2	STBG	TOTAL
Environmental			$ 181	$ 1,666	$ 1,847
Design			$ 1,387	$ 8,044	$ 9,431
Right-of-Way			$ 17,623	$ 9,419	$ 27,042
Construction		$ 9,388	$ 101,004	$ 30,768	$ 141,160
Total	**-**	**$ 9,388**	**$ 120,195**	**$ 49,897**	**$ 179,480**
Change	**$ (69,911)**	**-**	**$ 69,911**	**-**	**-**

Seek Future Funding

SR-57 Truck Climbing Lane Phase II – Lambert Road to County Line

STIP funding was proposed for the project approval and environmental document phase of this project that would have constructed a truck climbing lane on the SR-57 from the Lambert Road undercrossing to just north of the Orange County/Los Angeles County line. A climbing lane would improve truck traffic travel speeds and would increase the throughput of the northbound SR-57. This project is Project G in the Next 10 Plan.

Due to the diminished STIP capacity and the need to focus on high-priority projects staff is recommending the $4.05 million in STIP funds be removed and reprogrammed to higher priority projects. Staff will recommend a funding plan for this project at a later date.

Interregional Transportation Improvement Program Project

Orange Olive Wye Connection Project

This project will convert the existing uncontrolled Orange Wye into a fully controlled track at the junction of the Orange Subdivision and the Olive Subdivision, maintained by Southern California Regional Rail Authority, owned by OCTA, and located in the City of Orange. A private grade crossing would also be improved to have automatic warning devices.

This is an ITIP project and OCTA has requested the California Department of Transportation Division of Mass Transit consider this project for their submittal.

Proposed funding levels are depicted below.

Proposed Funding ($000s)	STIP - ITIP	TOTAL
Environmental		
Design	$ 1,600	$ 1,600
Right-of-Way		
Construction	$ 14,400	$ 14,400
Total	**$ 16,000**	**$ 16,000**

Funding Plan for 2020 STIP-Recommended Projects

2020 STIP (In Thousands)	STIP Funding							Other Funding					
	Prior	2020-21	2021-22	2022-23	2023-24	2024-25	Total STIP	STBG/ CMAQ	STBG/CMAQ Pending Approval	M2	M2 Pending Approval	Other[1]	Total Project Cost
Carry Over Projects													
SR-55 Improvement Project from I-405 to I-5		80,000					80,000	103,805		110,327		121,800	415,932
I-5 Improvements from SR-73 to El Toro Road (replacement planting/landscaping)						6,000	6,000			6,245			12,245
Planning, Programming, and Monitoring			1,848	1,848	515	1,056	5,267						5,267
New Additions													
I-5 Improvements from I-405 to Yale Avenue-Segment 1 (Con)					95,338		95,338	15,372	40,512	5,000	22,417	44,791	223,430
SR-74 Ortega Highway Improvements - Calle Entradero to City/County Line (PS&E)						8,540	8,540						8,540
I-5 Improvements from Avenida Pico to San Diego County Line (ENV)			-		5,500		5,500	571					6,071
I-605 Katella Interchange (PS&E)			-			3,000	3,000			1,824			4,824
2020 STIP subtotal	**-**	**80,000**	**1,848**	**1,848**	**101,353**	**18,596**	**203,645**	**119,748**	**40,512**	**123,396**	**22,417**	**166,591**	**676,309**
Removed from the STIP													
Locally Funded with M2													
I-5 Improvements from Alicia Parkway to El Toro Road (Segment 3)							-	49,897		50,284	69,911	9,388	179,480
Subtotal Removed from STIP	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**49,897**	**-**	**50,284**	**69,911**	**9,388**	**179,480**
Total	**-**	**80,000**	**1,848**	**1,848**	**101,353**	**18,596**	**203,645**	**169,645**	**40,512**	**173,680**	**92,328**	**175,979**	**855,789**

1. Other funds include $44.791 million in pending SB 1 (Chapter 5, Statutes 2017) Local Partnership Program (LPP) formula , $46.8 million in State Highway Operations and Protection Program, $75 million in unfunded need, and $9.388 million in approved LPP funds.

Acronyms

STIP - State Transportation Improvement Program
CTC - California Transportation Commission
STBG - Surface Transportation Block Grant Program
CMAQ - Congestion Mitigation and Air Quality
M2 - Measure M2
SR-55 - State Route 55
I-405 - Interstate 405
I-5 - Interstate 5
SR-73 - State Route 73
SR-74 - State Route 74
CON - Construction
PS&E - Plans, Specifications, and Engineering
ENV - Environmental

ATTACHMENT C

Capital Funding Program Report

Pending Board of Directors (Board) Approval - September 9, 2019

State Highway Project

Project Title	M Code	Total Funding	State Funds		Federal Funds		Local Funds		
			STIP/Other	State Bonds	RSTP/CMAQ	Other Fed.	M1	M2	Local - Other
I-5 from SR-55 to SR-57, add one HOV lane each direction	A	$39,052			$33,743			$5,309	
I-5 Widening from I-405 to SR-55 (Env. Phase) [4]	B	$8,000			$8,000				
I-5 Widening from I-405 to Yale Avenue (Segment 1) [1, 2, 4]	B	$215,430	$140,129		$47,884			$27,417	
I-5 from SR-73 to El Toro Road landscaping/replacement planting [1]	C	$12,245	$6,000					$6,245	
I-5 widening (Alicia to El Toro) Segment 3 [2]	C	$179,480	$9,388		$49,897			$120,195	
I-5 widening (Oso to Alicia) Segment 2	C	$205,695			$47,676	$7,921		$150,098	
I-5 widening (SR-73 to Oso) Segment 1	C	$213,267	$91,977	$29,832	$28,167	$6,433		$56,858	
I-5 at Los Alisos / El Toro: add ramps	D	$4,400			$4,400				
SR-55 (I-5 to SR-91)	F	$5,000			$5,000				
SR-55 Widening from I-405 to I-5 [1, 3]	F	$340,932	$80,000		$103,805	$46,800		$110,327	
SR-57 Orangewood to Katella	G	$2,500			$2,500				
SR-91 (SR-57 to SR-55) operational improvements	I	$9,000			$7,000			$2,000	
I-405 from SR-73 to I-605 improvements	K	$1,900,000	$82,000	$7,771	$35,000	$10,648		$1,135,651	$628,930
I-405 (I-5 to SR-55)	L	$8,000			$8,000				
I-405 s/b aux lane - University to Sand Canyon and Sand Canyon to SR-133	L	$2,328	$2,328						
I-605/ Katella Avenue interchange [1]	M	$4,824	$3,000					$1,824	
241/91 Express Lanes (HOT) connector		$33,728							$33,728
I-5 Improvement from Avenida Pico to San Diego County Line [1, 2]		$6,071	$5,500		$571				
SR-74 Ortega Highway Improvements from Calle Entradero to City/County line [1, 5]		$8,540	$8,540						
SR-74 widening, City/County line to Antonio Parkway		$40,905	$10,000		$5,285				$25,620
State Highway Project Totals		**$3,239,397**	**$438,862**	**$37,603**	**$386,928**	**$71,802**		**$1,615,924**	**$688,278**

State Funding Total	**$476,465**
Federal Funding Total	**$458,730**
Local Funding Total	**$2,304,202**
Total Funding (000's)	**$3,239,397**

State Highway Project Completed

Project Title	M Code	Total Funding	State Funds		Federal Funds		Local Funds		
			STIP/Other	State Bonds	RSTP/CMAQ	Other Fed.	M1	M2	Local - Other
I-5 HOV lane each direction s/o PCH to San Juan Creek Road	C	$70,658		$20,789	$11,796			$38,073	
I-5 HOV lanes from s/o Avenida Vista Hermosa to s/o PCH	C	$71,100	$46,779		$13,472			$10,849	
I-5 HOV lanes: s/o Avenida Pico to s/o Vista Hermosa	C	$90,441	$43,735		$31,741	$1,600		$13,365	
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	$688			$752			
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, Yorba Linda to Lambert Road - landscaping	G	$1,193						$1,193	

ATTACHMENT D

Capital Funding Program Report

State Highway Project Completed

			State Funds		Federal Funds		Local Funds		
Project Title	M Code	Total Funding	STIP/Other	State Bonds	RSTP/CMAQ	Other Fed.	M1	M2	Local - Other
SR-91 w/b connect existing aux lanes, I-5 to SR-57	H	$62,977		$27,227				$35,750	
SR-91 w/b connecting existing aux lanes, I-5 to SR-57 - landscaping	H	$2,290						$2,290	
SR-91 w/b (SR-55 - Tustin interchange) improvements	I	$43,753	$15,753	$14,000				$14,000	
SR-91 e/b widening, SR-241 to SR-71	J	$57,773				$45,911		$6,942	$4,920
SR-91 w/b Routes 91/55 - e/o Weir replacement planting	J	$2,898	$2,898						
SR-91 widening, SR-55 to Gypsum Canyon (Weir/SR-241)	J	$76,993	$22,250	$54,045				$698	
SR-57 n/b widening, Katella Avenue to Lincoln Avenue	M1/G	$35,827		$24,127				$11,700	
SR-57 n/b widening, SR-91 to Yorba Linda Boulevard	M1/G	$51,354		$39,475				$11,879	
SR-57 n/b widening, Yorba Linda to Lambert Road	M1/G	$52,871		$41,250				$11,621	
I-405/SR-22/I-605 HOV connector - landscaping		$4,600			$4,600				
HOV connectors from I-405 and I-605	M1	$173,091		$135,430	$14,787		$16,200		$6,674
HOV connectors from SR-22 to I-405	M1	$115,878			$64,375	$49,625	$1,878		
State Highway Project Totals		**$998,555**	**$180,786**	**$380,452**	**$140,771**	**$97,888**	**$20,578**	**$161,478**	**$16,602**

State Funding Total	**$561,238**
Federal Funding Total	**$238,659**
Local Funding Total	**$198,658**
Total Funding (000's)	**$998,555**

Board Action:
1. Approve the 2020 State Transportation Improvement Program submittal to program $203.645 million to seven projects, from fiscal year 2020-21 through fiscal year 2024-25.

2. Authorize the use of up to $40.512 million in Surface Transportation Block Grant funds, $92.328 million in Measure M2 funds, and $44.791 million in SB 1 (Chapter 5, Statutes of 2017) Local Partnership Program funds for the 2020 State Transportation Improvement Program projects.

Project Notes:
3. Project has unfunded need of $75 million. Staff will return to the Board with a funding plan at a later date.

Project Updates:
4. I-5, I-405 to SR-55 (M2 Project B) split into two segments. Environmental funding for entire project listed separately.

5. Project funding updated to reflect latest funding schedule.

The SR-57 truck climbing lane project - Lambert to LA County line (M2 Project G) has been removed from this report consistent with the removal of funding in the staff report. Staff will recommend a funding plan for this project at a later date.

Acroynms

Aux - Auxilliary
CMAQ - Congestion Mitigation Air Quality Improvement Program
FY - Fiscal Year
HOT - High-Occupancy Toll
HOV - High-Occupancy Vehicle
Hwy - Highway
I-405 - Interstate 405
I-5 - Interstate 5
I-605 - Interstate 605
LA - Los Angeles
M1 - Measure M1
M2 - Measure M2
N/B - Northbound
OC - Orange County
OCTA - Orange County Transportation Authority
PCH - Pacific Coast Highway
RSTP - Regional Surface Transportation Program
S/O - South of
S/B - Southbound
SR-133 - State Route 133
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-90 - State Route 90
SR-91 - State Route 91
SS - Southside
STIP - State Transportation Improvement Program
W/B - Westbound

Capital Funding Program Report

Pending Board of Directors (Board) Approval - September 9, 2019 — Rail Project

			State Funds		Federal Funds		Local Funds		
Project Title	M Code	Total Funding	STIP/Other	State Bonds	RSTP/CMAQ	Other Fed.	M1	M2	Local - Other
Fullerton Transportation Center parking expansion	M1/R	$33,667	$11,250	$11,035			$9,718		$1,664
Orange Transportation Center parking structure	M1/R	$33,175	$13,762		$4,073	$3,298	$1,850	$420	$9,772
Sand Canyon Avenue grade separation	M1/R	$62,050		$28,192	$10,536		$3,116	$5,352	$14,854
OC Streetcar (New Starts)	M1/S	$407,760	$25,518		$54,465	$162,213		$165,564	
OC Streetcar preliminary studies and environmental	M1/S	$7,014				$341	$4,977	$554	$1,142
Anaheim Canyon Station improvements	R	$27,906			$25,413			$2,000	$493
Control Point at 4th Street	R	$2,985				$2,985			
Future VSS	R	$217				$174			$43
Laguna Niguel to San Juan Capistrano Passing Siding	R	$34,060	$3,000	$6,734	$22,756	$1,015			$555
Metrolink preventive maintenance capitalized operation	R	$56,874				$56,874			
Metrolink rehabilitation/renovation - FY 2011-12 to FY 2022-23	R	$160,962				$160,962			
Metrolink station and track improvements, and rehabilitation	R	$2,230				$1,784			$446
Orange Olive Wye Connection [1]	R	$16,000	$16,000						
Placentia Commuter Rail Station	R	$34,825	$2,500	$400	$50			$8,000	$23,875
Positive Train Control (Metrolink)	R	$39,916		$34,190		$5,726			
San Juan Creek Bridge replacement	R	$36,018		$59		$34,784		$1,175	
Slope stabilization Laguna Niguel-Lake Forest	R	$5,168				$4,834		$334	
State College grade separation (LOSSAN)	R	$79,284		$46,000				$33,284	
Ticket vending machines	R	$6,857							$6,857
VSS at Commuter Rail Stations	R	$4,409		$56		$3,594			$759
M2 Project S Transit extensions to Metrolink (Rubber Tire)	S	$733						$733	
Rail Project Totals		**$1,052,110**	**$72,030**	**$126,666**	**$117,293**	**$438,584**	**$19,661**	**$217,416**	**$60,460**

State Funding Total	**$198,696**
Federal Funding Total	**$555,877**
Local Funding Total	**$297,537**
Total Funding (000's)	**$1,052,110**

Rail Project Completed

			State Funds		Federal Funds		Local Funds		
Project Title	M Code	Total Funding	STIP/Other	State Bonds	RSTP/CMAQ	Other Fed.	M1	M2	Local - Other
Laguna Niguel-Mission Viejo Station parking improvements and expansion (ADA ramps)	M1/R	$5,177			$2,800	$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		$36,300	$42,230	$35,390	$44,089		
Metrolink Service Track Expansion	M1/R	$119,957		$51,399			$68,558		
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	$29,219		$33,250	$40,754	$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		

Capital Funding Program Report

Rail Project Completed

			State Funds		Federal Funds		Local Funds		
Project Title	M Code	Total Funding	STIP/Other	State Bonds	RSTP/CMAQ	Other Fed.	M1	M2	Local - Other
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 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	
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
Transit Rail Security (monitors, fencing, video surveillance)	R	$163		$163					
Go Local	S	$7,730					$7,730		
ARTIC environmental, ROW, program management support, site plan	M1	$41,369					$8,869		$32,500
Fiber Optics installation (Metrolink)	M1	$23,183		$10,479		$10,903	$1,801		
Laguna Niguel-Mission Viejo Station parking expansion (south lot)	M1	$4,135		$695			$3,440		
Tustin Rail Station parking expansion	M1	$15,390	$1,100	$7,181			$7,109		
Rail Project Totals		**$673,119**	**$30,319**	**$130,975**	**$80,348**	**$92,540**	**$201,009**	**$77,920**	**$60,008**

State Funding Total	**$161,294**
Federal Funding Total	**$172,888**
Local Funding Total	**$338,937**
Total Funding (000's)	**$673,119**

Project Updates:

1. The Orange Olive Wye was submitted for consideration of ITIP funding.

Acronyms:

M Code - Project Codes in Measure M1 and M2
STIP - State Transportation Improvement Program
RSTP - Regional Surface Transportation Program
CMAQ - Congestion Mitigation and Air Quality Improvement Program
M1 - Measure M1
M2 - Measure M2
PSR - Project Study Report
LOSSAN - Los Angeles-San Diego-San Luis Obispo Rail Corridor
OCX - Rail-Highway Grade Crossing/Safety Enhancement Project
ROW - Right-of-Way
FTA - Federal Transit Administration
OCTA - Orange County Transportation Authority
ADA - Americans with Disabilities Act
TSSSDRA - Transit System Safety, Security and Disaster Response Account

ATTACHMENT E

2020 STIP Development Schedule

- September 5, 2019 - Present to the Orange County Transportation Authority (OCTA) Regional Planning and Highway Committee the State Transportation Improvement Program (STIP)/Regional Transportation Improvement Program (RTIP).
- September 9, 2019 - Present to OCTA Board of Directors the STIP/RTIP item for approval.
- September 24, 2019 - OCTA STIP/RTIP projects submitted to the Southern California Association of Governments for regional modeling analysis.
- By October 1, 2019 - The California Department of Transportation (Caltrans) submits the final draft Interregional Transportation Improvement Program (ITIP).
- October 8, 2019 - California Transportation Commission (CTC) Interregional Transportation Improvement Program (ITIP) hearing - North.
- October 15, 2019 - CTC ITIP hearing – South.
- December 15, 2019 - STIP/RTIP submittal due to CTC.
- December 15, 2019 - Caltrans ITIP submittal due to CTC.
- January 30, 2020 - CTC STIP hearing – North.
- February 6, 2020 - CTC STIP hearing – South.
- February 28, 2020 - CTC publishes staff recommendations.
- March 25-26, 2020 - CTC adopts STIP.

September 5, 2019

To: Regional Planning and Highways Committee

From: Darrell E. Johnson, Chief Executive Officer

Subject: 2019 Project X - Tier 1 Call for Projects Programming Recommendations

Overview

The Orange County Transportation Authority's Environmental Cleanup Program provides Measure M2 funding for water quality improvement projects to address transportation-generated pollution. The fiscal year 2019-20 Tier 1 Grant Program call for projects was issued on March 11, 2019. Evaluations are now complete, and a list of projects and funding allocations are presented for review and approval.

Recommendations

A. Approve the 2019 Tier 1 Environmental Cleanup Program's programming recommendation to fund ten projects, in the amount of $1,962,452.

B. Approve the 2019 Tier 1 Environmental Cleanup Program's programming recommendation to fund one project in the City of Fullerton, in the amount of $82,782, subject to receipt of a revised city council resolution.

Background

In May 2010, the Orange County Transportation Authority (OCTA) Board of Directors (Board) approved a two-tiered approach to fund the Measure M2 Project X Environmental Cleanup Program (ECP). The Tier 1 Grant Program is designed to mitigate the more visible forms of pollutants, such as litter and debris, which collect on roadways and in catch basins (storm drains) prior to being deposited in waterways and the ocean. The Tier 2 Grant Program consists of funding larger (projects treating catchment areas of 50 acres or greater), potentially multi-jurisdictional, capital-intensive structural treatment best management practice (BMP) projects.

Tier 1 funds are available for Orange County local governments to purchase equipment and upgrades for existing catch basins and other related BMPs that supplement current requirements. Examples include screens, filters, and inserts for catch basins, as well as other devices designed to remove the above-mentioned pollutants. Proposed projects must demonstrate a direct nexus to the reduction of transportation-related pollution, as developed and defined by the OCTA Environmental Cleanup Allocation Committee (ECAC).

To date, the Board has approved funding for 166 Tier 1 project phases, totaling approximately $22 million. An estimated one million cubic feet of trash has been captured as a result of the installation of Tier 1 devices since the inception of the Tier 1 Program in 2011.

The Board approved issuance of the 2019 ECP Tier 1 call for projects (call) on March 11, 2019.

Discussion

The 2019 ECP Tier 1 call deadline to submit applications was May 9, 2019. Eleven applications were submitted from ten local agencies (the City of Mission Viejo submitted two project applications) prior to the deadline. Applications were reviewed and evaluated by an evaluation committee consisting of OCTA staff, the ECAC Chairman, and an additional member of the ECAC. Project applications were ranked based on the following Board-approved criteria:

- Proposed project's effectiveness at removing trash and debris;
- Cost/benefit analysis of the proposed project;
- Drainage and flowrate analysis of the proposed project;
- Operations and maintenance plan adequate to maintain the efficiency of the proposed BMP(s) for regularly scheduled inspections, maintenance, and cleaning/disposal of pollutants;
- Clear and detailed work plan with a specific implementation period; and
- Project readiness.

The ECAC, which met on August 8, 2019, is recommending all 11 projects for funding for a total amount of $2,045,234, based on final scores provided in Attachment A. All of the projects scored above 70 points and met overall program objectives and criteria. It should be noted that the City of Fullerton's programming recommendation is contingent upon receipt of a final revised city council resolution, which required a slight revision and is expected to be provided soon.

The Tier 1 projects recommended for funding primarily consist of catch basin debris screen devices. This recommendation would fund the construction of 1,028 connector pipe screens, 667 automatic retractable screens, a bio-clean debris separating baffle box, two bioretention basins, one full capture trash screen vault, which would include a sedimentation chamber, two infiltration wells, and one pre-treatment vault. More detailed project descriptions are outlined in Attachment A, and a brief overview of project types is provided below.

- Catch basin debris screen devices. These screens prevent debris from entering the storm drain system.
- Debris separating baffle box (DSBB). The DSBB is an advanced stormwater treatment system utilizing a non-clogging screen technology and hydrodynamic separation to capture pollutants. The screening system stores trash and debris in a dry state, suspended above the sedimentation chambers, and allows for easier maintenance.
- Bioretention basins. This project consists of two bioretention basins to intercept and infiltrate dry weather flows and stormwater flows. The bioretention basin will intercept flows and remove pollutants, effectively preventing their entry into the storm drain system.
- Drain extension and storm water infiltration system. This project consists of a full capture trash screen vault and related improvements.

As part of this grant program, local agencies agree to contribute a minimum cash match of 20 percent of the project cost. Three of the ten cities are providing overmatch.

Next Steps

If these recommendations are approved by the OCTA Board, each funded agency will be required to execute a letter amendment prior to project implementation. OCTA will continue to monitor project status and project delivery through the Comprehensive Transportation Funding Programs semi-annual review process.

Summary

Staff is seeking Board approval to program $2,045,234 to fund 11 projects. Of this amount, $87,782 for the City of Fullerton’s project is being recommend for programming subject to receipt of corrected city council resolution, which is anticipated soon.

Attachment

A. Project X 2019 Tier 1 Call for Projects, Programming Recommendations

Prepared by:

Alfonso Hernandez
Senior Transportation Funding Specialist
(714) 560-5857

Approved by:

Kia Mortazavi
Executive Director, Planning
(714) 560-5741

Project X 2019 Tier 1 Call for Projects
Programming Recommendations

Projects Recommended for Funding					
Agency	**Project**	**Project Description**	**Final Score**	**Funding**	**Cumulative**
Laguna Hills	Laguna Hills CPS-Mod and ARS-CL Screen Project Phase VIII	Install 117 CPS and 244 ARS Devices	85	$ 200,000	$ 200,000
Mission Viejo	Mission Viejo Trash and Runoff Abatement Project (TRAP): CPS and ARS Installations in the Via Fabricante Industrial Area	Install 49 CPS and 123 ARS Devices	84	$ 97,426	$ 297,426
Seal Beach	2019 Environmental Cleanup Program Project	Install 52 CPS and 55 ARS Devices	83	$ 100,000	$ 397,426
Anaheim	La Palma Avenue and Richfield Road Storm Drain Extension and Storm Water Infiltration Project	Full Capture Trash Screen Vault, Sedimentation Chamber, Two Infiltration Wells and Pre-Treatment Vault, Co-use of Regional Infiltration Basins	78	$ 500,000	$ 897,426
Lake Forest	Catch Basin Retrofit (CPS and ARS), Phase 8	Install 20 CPS and 90 ARS Devices	77	$ 53,240	$ 950,666
Orange	DSBB and CPS BMP Installation	Install a Bio-Clean DSBB and Ten CPS Devices	73	$ 249,360	$ 1,200,026
Costa Mesa	2019 CPS Installation Project	Install 350 CPS Units	73	$ 107,327	$ 1,307,353
Mission Viejo	Mission Viejo Trash and Runoff Abatement Project (TRAP): Olympiad Road Bioretention Basins with Trash Capture	Construct Ttwo Bioretention Basins, Install Five CPS and 17 ARS Devices	73	$ 400,000	$ 1,707,353
Newport Beach	Newport Bay Trash Mitigation Project Phase 2	Install 187 CPS Devices	73	$ 55,099	$ 1,762,452
Laguna Niguel	Purchase and Installation of Trash Control Devices on Storm Water Catch Basins 2019	Install 138 CPS and 138 ARS Devices	72	$ 200,000	$ 1,962,452

Projects Recommended for Funding - Contingent on the Receipt of a Revised City Council Resolution					
Agency	**Project**	**Project Description**	**Final Score**	**Funding**	**Cumulative**
Fullerton	Installation of Full Capture Trash Devices in Catch Basins	Install 100 CPS Devices	85	$ 82,782	$ 2,045,234

CPS - Connector Pipe Screen
Mod - Modular
ARS - Automatic Retractable Screen
CL - CamLock
DSBB - Debris Separating Baffle Box
BMP - Best Management Practice

ATTACHMENT A

September 5, 2019

To: Regional Planning and Highways Committee

From: Darrell E. Johnson, Chief Executive Officer

Subject: Grant Award for the Pedestrian and Bicycle Safety Program

Overview

The California Office of Traffic Safety awarded the Orange County Transportation Authority $100,000 in competitive Pedestrian and Bicycle Safety Grant Program funding. The grant award will support implementation of bicycle and pedestrian education classes, which are intended to raise public awareness of safe pedestrian and bicycling practices.

Recommendation

Adopt Orange County Transportation Authority Resolution No. 2019-071 authorizing the Chief Executive Officer, or designee, to accept the State of California Office of Traffic Safety award, and to negotiate and execute grant-related agreements and documents with the California Office of Traffic Safety.

Background

The California Office of Traffic Safety (OTS) makes grants available to local and state public agencies for programs that help enforce traffic laws, educate the public about traffic safety, and provide varied and effective means of reducing fatalities, injuries, and economic losses stemming from collisions. Best practice strategies are developed to reduce the number of persons affected in crashes involving pedestrians and bicyclists. These strategies typically include classroom education, bicycle rodeos, community events, presentations, and workshops.

Previously, OTS awarded the Orange County Transportation Authority (OCTA) $150,000 for two years of Pedestrian and Bicycle Safety Program funding to lead bicycle and pedestrian safety education classes, distribute safety materials, and conduct community traffic skills classes. The 2017-18 grant funded bicycle skills classes open to the public, and a train-the-trainer course to develop local instructors for future classes. The grant also funded distribution of safety

devices, helmets and bicycle lights. The current 2018-19 OTS grant is being utilized to perform the same activities.

In October 2018, OTS released a statewide competitive call for projects for the Pedestrian and Bicycle Safety Program. In response to this opportunity, OCTA submitted one proposal requesting $100,000 for the Pedestrian and Bicycle Safety Grant Program Project (Project).

Discussion

On June 14, 2019, OTS awarded OCTA $100,000 for the Project. With the current award, OCTA will develop and implement bicycle and pedestrian safety education classes to raise public awareness of safe bicycling and pedestrian practices. The OTS grant award will fully fund the Project and does not require a local match contribution or cost-sharing arrangement. The Project is required to be complete by October 2020.

OCTA Board of Directors Resolution No. 2019-071 is presented for consideration (Attachment A). The resolution is required by the grant program, authorizes OCTA to accept the grant, and commits OCTA to completing the scope of work that was provided to OTS. OCTA has similar authorizing resolutions on file with OTS and other grant agencies, including the Federal Transit Administration, State of California Governor's Office of Emergency Services, and California Department of Transportation.

Summary

OTS awarded OCTA $100,000 to develop and implement bicycle and pedestrian safety education classes to raise public awareness of safe bicycling and pedestrian practices, and reduce injuries involving bicyclists and pedestrians. An authorizing resolution to accept the grant award and enter into grant-related agreements with the OTS is presented for adoption as required by the grant program. The 2019-20 award will fund bicycle skills classes, a train-the-trainer course, and distribute reflective keychains, helmets, and bicycle lights, similar to efforts in 2017-18 and 2018-19.

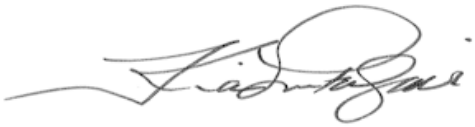
Attachment

A. Resolution No. 2019-071 of the Orange County Transportation Authority, 2019 California Office of Traffic Safety Grant Program Authorization

Prepared by:

Jennifer Haith Farinas
Senior Transportation Funding Analyst
(714) 560-5392

Approved by:



Kia Mortazavi
Executive Director, Planning
(714) 560-5741

ATTACHMENT A

RESOLUTION 2019-071
OF THE
ORANGE COUNTY TRANSPORTATION AUTHORITY

2019 CALIFORNIA OFFICE OF TRAFFIC SAFETY GRANT PROGRAM AUTHORIZATION

WHEREAS, the California Office of Traffic Safety makes available grant funds to local and state public agencies for programs that help enforce traffic laws and educate the public in traffic safety to reduce fatalities, injuries, and economic losses from collisions, and;

WHEREAS, the Orange County Transportation Authority applied for, and was awarded, grant funds to support implementation of bicycle and pedestrian education classes as an eligible grantee of the California Office of Traffic Safety, and;

WHEREAS, the California Office of Traffic Safety requires the grantee to certify, by resolution, the acceptance of awarded grant funds and authority to enter into and execute grant-related agreements;

THEREFORE, BE IT RESOLVED that the Orange County Transportation Authority Board of Directors authorizes the Chief Executive Officer, or designee, to file and execute grant applications and agreements, certifications, assurances, and other documents for and on behalf of the Orange County Transportation Authority with the California Office of Traffic Safety that are necessary to receive and use the funds.

ADOPTED, SIGNED, AND APPROVED this _____ day of _____, 2019.

AYES:

NOES:

ABSENT:

ATTEST:

_____	_____
Laurena Weinert Clerk of the Board	Tim Shaw, Chairman Orange County Transportation Authority

September 5, 2019

To: Regional Planning and Highways Committee

From: Darrell E. Johnson, Chief Executive Officer

Subject: Draft 2019 Orange County Congestion Management Program Report Release for Public Review

Overview

The Orange County Transportation Authority is responsible for monitoring and reporting on the Orange County Congestion Management Program every two years. In accordance with state law, a draft 2019 Orange County Congestion Management Program Report has been prepared for public review and will be circulated to local agencies upon direction by the Board of Directors.

Recommendation

Direct staff to release the draft 2019 Orange County Congestion Management Program Report for public review and set November 25, 2019, as a public hearing date for adoption of the final 2019 Orange County Congestion Management Program.

Background

In June 1990, the passage of Proposition 111 required urbanized areas to designate a Congestion Management Agency (CMA) and adopt a Congestion Management Program (CMP) in order to continue receiving state gasoline tax funds. As Orange County's designated CMA, the Orange County Transportation Authority (OCTA) is responsible for developing, monitoring, and biennially updating Orange County's CMP Report. The purpose of the CMP is to provide a mechanism for coordinating land use and transportation decisions, and to assess how traffic congestion is being managed by monitoring the transportation system.

The draft 2019 Orange County CMP Report (Attachment A) is a composite of data submittals, such as traffic counts and capital improvement programs.

It was developed through cooperative efforts between OCTA, local jurisdictions, and the California Department of Transportation (Caltrans) over the past year in accordance with state legislation.

Discussion

The draft 2019 Orange County CMP Report was developed in compliance with state law. To assist Orange County cities, OCTA funds and administers the collection of traffic count data at over 100 intersections within the Orange County CMP highway system. The count data were used to calculate intersection capacity utilization (ICU) ratings, which represent the percent of capacity used at each intersection when demand is highest, during morning and evening peak hours. Based on ICU ratings, level of service (LOS) grades are assigned to each intersection. Local jurisdictions have reviewed and approved all intersection performance data.

LOS Grade	ICU Rating
A	< .60
B	.60 - .70
C	.70 - .80
D	.80 - .90
E	.90 - 1.00
F	> 1.00

The general performance standard that must be maintained at CMP intersections is an LOS grade of E or better. In most cases, if an intersection receives an LOS grade of F, it is considered deficient and operating over capacity. As such, a deficiency plan must be developed by the responsible jurisdiction controlling the intersection.

A deficiency plan identifies the cause of congestion, the improvements needed to solve the problem, and the cost and timing of the proposed improvements. No deficiency plans are required from any Orange County local agency in response to the 2019 Orange County CMP Report.

In the baseline year data (1991 in most cases), the Orange County CMP Report identified 14 intersections that operated at LOS F in the morning and evening peak hours. Since that time, congestion conditions have improved at those intersections to an LOS grade of C or better. Comparing 2019 ICU ratings to the baseline, the average morning rating shows an 11.14 percent improvement, and there is a 12.47 percent improvement for the average evening rating.

Local jurisdictions also submitted data pertaining to capital improvement programs, coordination of land use and transportation, and other legislatively required CMP elements. Based on the submittals and performance measure data, all jurisdictions comply with the CMP requirements. The Orange County CMP Report must also include data on freeway LOS. This information was prepared by Caltrans and is included as Appendix A of the report.

Next Steps

Upon direction from the OCTA Board of Directors (Board), the draft 2019 Orange County CMP Report will be released for a three-week public review period. The draft 2019 Orange County CMP Report will be circulated to local agencies for review, an electronic version will be available on the OCTA website, and hardcopies will be available in-house for public review. Comments received during the public review period will be reviewed and incorporated as appropriate into the final 2019 Orange County CMP Report.

The final 2019 Orange County CMP Report will be brought to the Board for adoption at a noticed public hearing on November 25 2019, as required by state law. Upon adoption by the Board, the final 2019 Orange County CMP Report will be submitted to the Southern California Association of Governments to ensure consistency with regional transportation plans.

Summary

A draft 2019 CMP Report has been prepared in accordance with state legislation and developed through cooperative efforts involving local jurisdictions and public agencies. With Board direction, staff will circulate the draft 2019 Orange County CMP Report for a three-week public review period and return with a final report for adoption at a public hearing.

Attachment

A. Draft 2019 Orange County Congestion Management Program, Orange County Transportation Authority, September 2019

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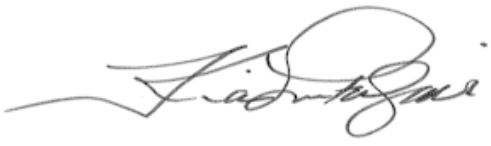

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ATTACHMENT A

DRAFT

2019 Orange County Congestion Management Program

Orange County Transportation Authority

September 2019

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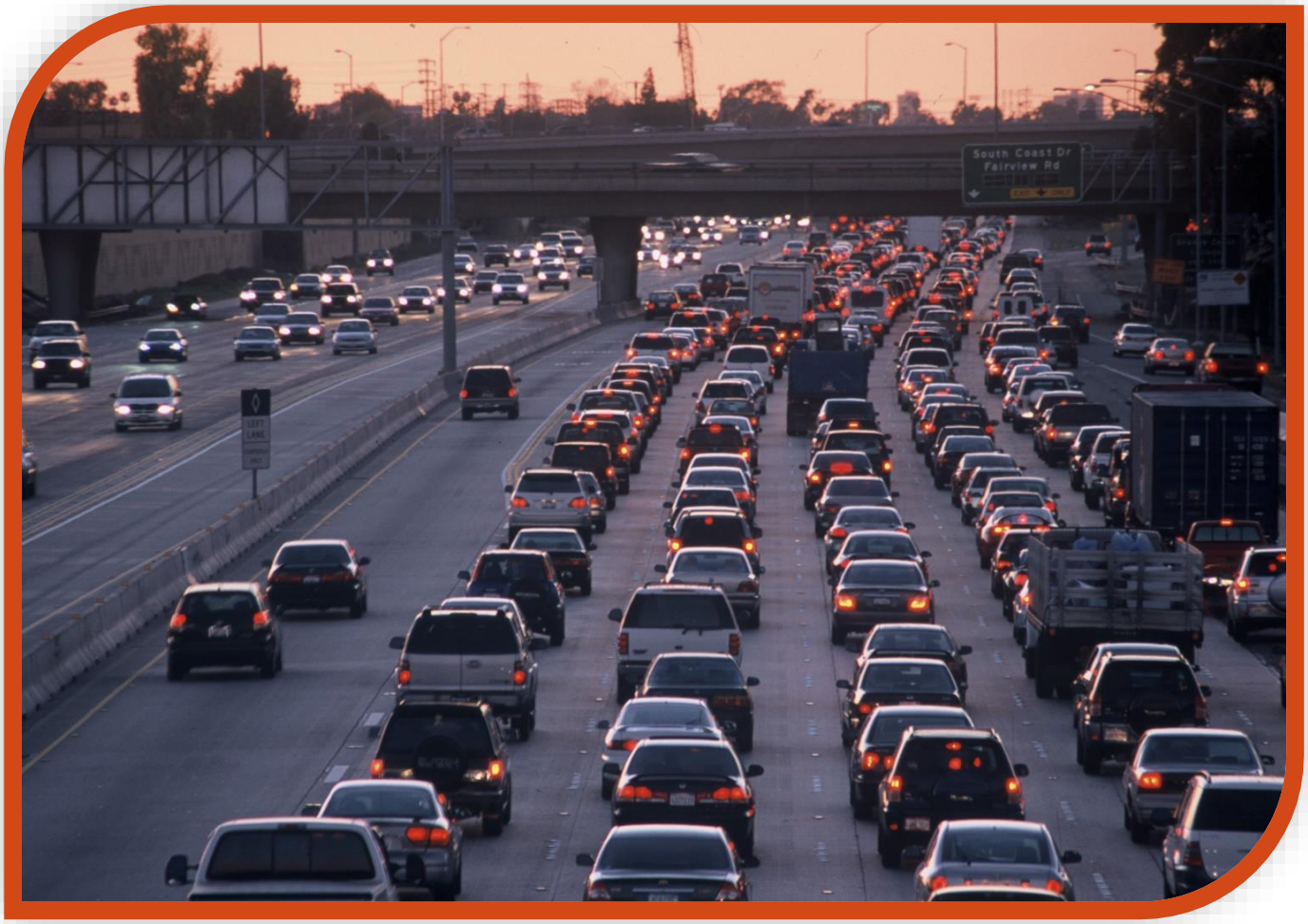

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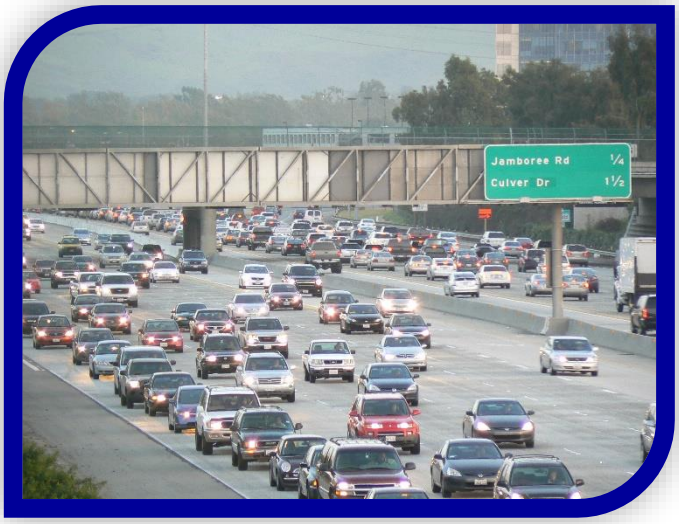
Chapter 1: Introduction

Purpose & Need

In June 1990, the passage of the Proposition 111 gas tax increase required California's urbanized areas – areas with populations of 50,000 or more – to adopt a Congestion Management Program (CMP). The following year, Orange County's local governments designated the Orange County Transportation Authority (OCTA) as the Congestion Management Agency (CMA) for the County. As a result, OCTA is responsible for the development, monitoring, and biennial updating of Orange County's CMP.

The passage of Assembly Bill 2419, in July 1996, provided local agencies the option to elect out of the CMP process without the risk of losing state transportation funding. However, local jurisdictions in Orange County expressed a desire to continue the existing CMP process, because the requirements were similar to those of the Orange County Measure M Growth Management Program (GMP), and because it contributes to fulfilling federal requirements for the Congestion Management Process (23 CFR 450.320), which is prepared by the Southern California Association of Governments (SCAG). The OCTA Board of Directors affirmed the decision to continue with the existing CMP process on January 13, 1997. Although the GMP ended with the sunset of Measure M, the CMP remains necessary as an eligibility requirement under Measure M2.



As mentioned above, the CMP contributes to federal Congestion Management Process requirements, which is a systematic and regionally-accepted approach for managing congestion. The federal Congestion Management Process provides accurate, up-to-date information on transportation system performance and assesses alternative strategies for congestion management that meet state and local needs.

The Congestion Management Process is also intended to serve as a systematic process that provides for consistent and effective integrated monitoring and management of the multimodal transportation system.

The process includes:

- Development of congestion management objectives;
- Establishment of measures of multimodal transportation system performance;
- Collection of data and system performance monitoring to define the extent and duration of congestion and determine the causes of congestion;
- Identification of congestion management strategies;
- Implementation activities, including identification of an implementation schedule and possible funding sources for each strategy; and
- Evaluation of the effectiveness of implemented strategies.

A federal Congestion Management Process is required in metropolitan areas with population exceeding 200,000, known as Transportation Management Areas (TMAs). Federal requirements also state that in all TMAs, the CMP shall be developed and implemented as an integrated part of the metropolitan transportation planning process.

CMP Goals

The goals of Orange County's CMP are to support regional mobility objectives by reducing traffic congestion, to provide a mechanism for coordinating land use and development decisions that support the regional economy, and to support gas tax funding eligibility.

To meet these goals, the CMP contains a number of policies designed to monitor and address system performance issues. OCTA developed the policies that makeup Orange County's CMP in coordination with local jurisdictions, the California Department of Transportation (Caltrans), and the South Coast Air Quality Management District (SCAQMD).

State Legislation

Required Elements

California Government Code Section 65089(b) requires the CMP to include specific elements, as summarized below. The full text of the Government Code can be viewed at https://leginfo.legislature.ca.gov/faces/codes.xhtml, sections 65088-65089.10.

Traffic Level of Service Standards – §65089(b)(1)(A) & (B)

Traffic level of service (LOS) standards shall be established for a system of highways and roadways. The highways and roadway system shall be designated by OCTA and shall include, at minimum, all state highways and principal arterials. None of the designated facilities may be removed, and new state highways and principal arterials must be added, except if they are within an infill opportunity zone. The LOS must be measured using a method that is consistent with the Highway Capacity Manual. The LOS standards must

not be below level of service "E", unless the levels of service from the baseline CMP dataset were lower. If a CMPHS segment or intersection does not meet the minimum LOS standard outside an infill opportunity zone, a deficiency plan must be adopted (subject to exclusions).

Chapter 2 specifically addresses this element.

Performance Measures – §65089(b)(2)

Performance measures shall be established to evaluate the current and future performance of the transportation system. At a minimum, measures must be established for the highway and roadway system, frequency and routing of public transit, and for the coordination of transit service by separate operators. These measures will be used to support improvements to mobility, air quality, land use, and economic objectives and shall be incorporated into the Capital Improvement Program, the Land Use Analysis Program, and any required deficiency plans.

Chapter 3 specifically addresses this element.

Travel Demand – §65089(b)(3)

A travel demand element shall be established to promote alternative transportation methods, improve the balance between jobs and housing, and other trip reduction strategies. These methods and strategies may include, but are not limited to, carpools, vanpools, transit, bicycles, park-and-ride lots, flexible work hours, telecommuting, parking management programs, and parking cash-out programs.

Chapter 4 specifically addresses this element.

Land Use Analysis Program – §65089(b)(4)

A program shall be established to analyze the impacts of land use decisions on the transportation system, using the previously described performance measures. The analysis must also include cost estimates associated with mitigating those impacts. To avoid duplication, this program may require implementation through the requirements and analysis of the California Environmental Quality Act.

Chapter 5 specifically addresses this element.

Capital Improvement Program – §65089(b)(5)

The CMP shall use the performance measures described above to determine effective projects that mitigate impacts identified in the land use analysis program, through an adopted seven-year capital improvement program. This seven-year program will conform to transportation-related air quality mitigation measures and will include any projects that increase the capacity of the transportation system. Furthermore, consideration will be given to maintaining or improving bicycle access and safety within the project areas. Projects necessary for preserving investments in existing facilities may also be included.

Chapter 6 specifically addresses this element.

CMA Requirements

As Orange County's CMA, OCTA is responsible for the administration of the CMP, as well as providing data and models that are consistent with those used by the Southern California Association of Governments (SCAG). OCTA is also responsible for developing the deficiency plan processes. These requirements are described in the legislation, and are summarized below.

Modeling and Data Consistency – §65089(c)

In consultation with SCAG and local jurisdictions, OCTA shall develop a uniform database on traffic impacts for use in a countywide transportation computer model. Moreover, OCTA shall approve transportation models that will be used by local jurisdictions to determine the quantitative impacts of development on the circulation system. Every local jurisdiction's traffic model must be based on the countywide model and standardized modeling assumptions and conventions. All models and databases shall be consistent with the modeling methodology and databases used by SCAG.

Appendix G addresses this requirement.

Deficiency Plan Procedures – §65089.4

OCTA is responsible for preparing and adopting procedures for local deficiency plan development and implementation. OCTA's deficiency plan procedures incorporate a methodology for determining if deficiency impacts are caused by more than one local jurisdiction within Orange County. If required, a multi-jurisdictional deficiency plan must be adopted by all participating local jurisdictions. The procedures also provide for a conflict resolution process for addressing conflicts or disputes between local jurisdictions in meeting the multi-jurisdictional deficiency plan responsibilities.

Chapter 3 and Appendix C discuss this requirement in more detail.

Other Relevant Legislation

Senate Bill No. 743

Approved in 2013, Senate Bill (SB) 743 amended the California Environmental Quality Act (CEQA) Guidelines to provide an alternative to LOS for evaluating transportation impacts. Since its passing, the Governor's Office of Planning and Research (OPR) has proposed changes to the CEQA Guidelines that identify vehicle miles traveled (VMT) as the most appropriate metric to evaluate a project's transportation impacts. Since adoption by the California Natural Resources Agency in 2018, automobile delay, as measured by LOS and other similar metrics, generally no longer constitutes a significant environmental effect under CEQA.

The intent of this legislation is to balance the need for traffic LOS standards with the need to build infill housing and mixed-use commercial developments within walking distance of mass transit facilities, downtowns, and town centers. In doing so, this legislation aims to provide greater flexibility to local governments to balance these sometimes competing needs. However, a jurisdiction may still adopt LOS as a performance standard for analyzing traffic conditions and maintaining throughput on its highway system, and the Orange County CMP still uses LOS to monitor CMPHS performance.

Chapter 2: Traffic Level of Service Standards

In 1991, the OCTA implemented an Intersection Capacity Utilization (ICU) monitoring method, developed with technical staff members from local and State agencies, for measuring the Level of Service (LOS) at CMP Highway System (CMPHS) intersections. The CMP LOS grade chart is illustrated in Figure 1.

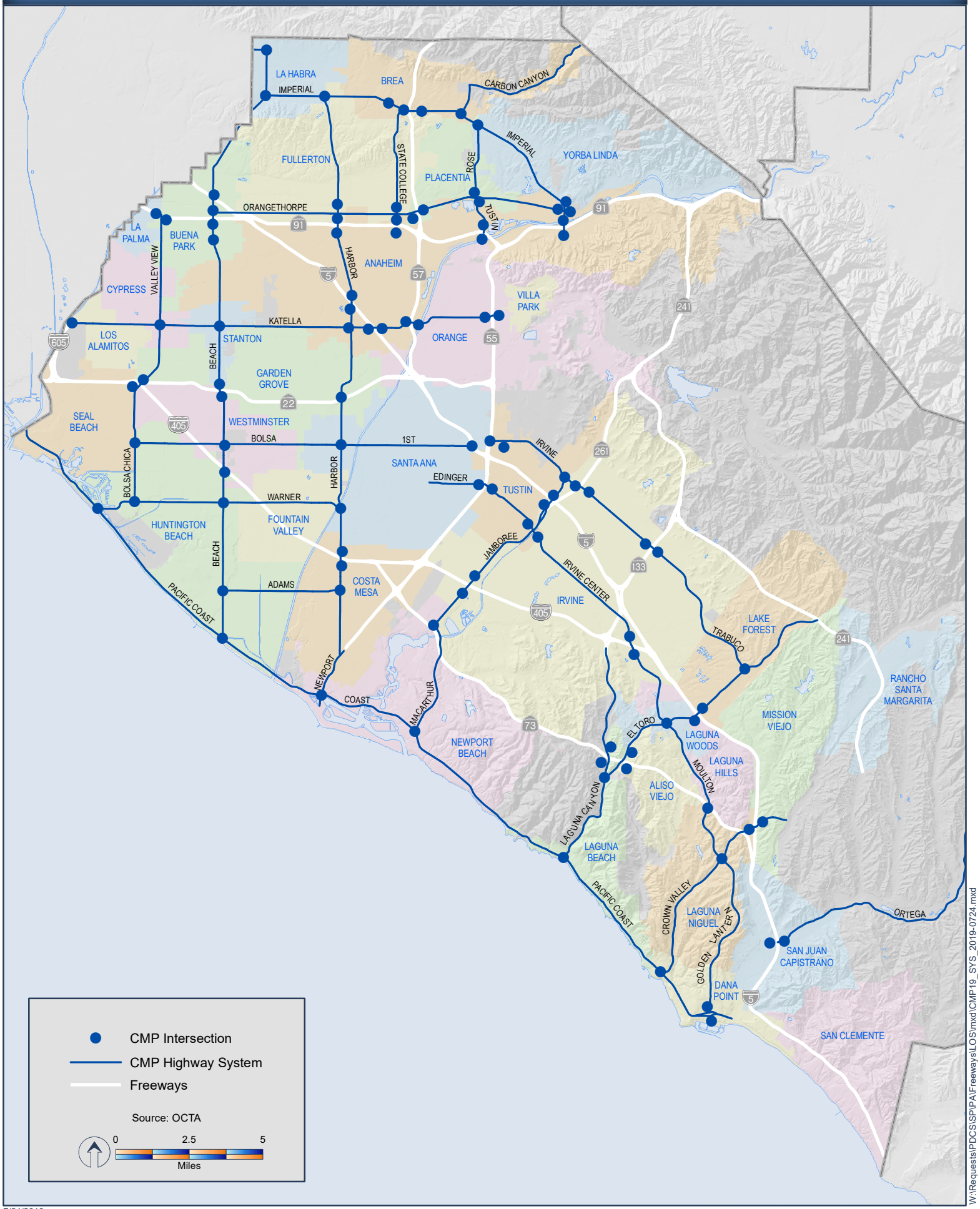
FIGURE 1: LOS Grade Chart

Level of Service	ICU Rating
A	0.00 – 0.60
B	0.60 – 0.70
C	0.70 – 0.80
D	0.80 – 0.90
E	0.90 – 1.00
F	> 1.00

The first CMP LOS measurement recorded, which was in 1992 for most CMP intersections, established the baseline for comparing future measurements. During subsequent LOS monitoring, CMP statute requires that CMPHS intersections maintain a LOS grade of 'E' or better, unless the baseline is lower than 'E'; in which case, the ICU rating cannot increase by more than 0.10. Chapter 3 discusses the ICU method in more detail.

OCTA has an established CMPHS, consisting of Orange County's State highways and the arterials included in OCTA's Smart Street network (Figure 2). If, during any monitoring period, a CMPHS intersection is determined to be performing below the LOS standards the responsible agency must identify improvements necessary to meet the LOS standards. This is accomplished either through existing plans or capital improvement programs, or through the development of a deficiency plan. This is described in more detail in Chapter 3.

Figure 2: 2019 Congestion Management Program Highway System



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The 2019 freeway monitoring results, provided by Caltrans District 12, are located in Appendix A. Caltrans is responsible for monitoring freeway performance and addressing any deficiencies on State-operated facilities. Caltrans' responsibilities include, but are not limited to:

A. Evaluating current conditions and identifying deficiencies.

B. Developing plans and strategies to address deficiencies.

C. Evaluating development projects of local and regional significance to determine whether they will impact the State transportation system and, if so, working with lead agencies to develop potential mitigation measures.

For the State transportation system, Caltrans does not use CMP thresholds and analysis methodologies to determine if significant impacts occur under CEQA. Their specific focus is on maintaining the safety of State highways. As such, their performance measures tend to focus upon freeway segment/ramps, ramp metering operations, queue lengths, and signal operations (timing, phasing, and system/series progression) metrics.

Local agencies are encouraged to coordinate with the Caltrans Local Development/ Intergovernmental Review Branch early in the development process to determine what methodologies and thresholds of significance should be used to identify impacts to the State transportation system. During the development of the Orange County CMP, OCTA works with Caltrans to obtain necessary freeway and State controlled intersection data, as well as notifying Caltrans of any deficiencies on State facilities.

Chapter 3: System Performance

Highway & Roadway System Performance Measures

This section discusses the process for determining ICU ratings, as well as how ICU ratings determine the LOS at CMPHS intersections. This method is generally consistent with the Highway Capacity Manual.

Overview of Intersection Capacity Utilization (ICU) Methodology

Traffic counts are manually collected at CMPHS intersections to initiate the ICU calculation process. The counts monitor the traffic flow, including the approach (northbound, eastbound, southbound, or westbound) and movement (left turn, through, or right turn) for each vehicle.

Each intersection has counts conducted in 15-minute increments, during peak periods in the AM (6:00-9:00) and PM (3:00-7:00) on three separate mid-week days (Tuesday, Wednesday, and Thursday). Counts are not taken during periods when irregular conditions exist (inclement weather, holidays, construction, etc.).

The highest count total during any four consecutive 15-minute count intervals within a peak period represents the peak-hour count set. For each intersection, a peak-hour count set is determined for each day's AM and PM peak period, resulting in a group of three AM peak-hour count sets and a group of three PM peak-hour count sets (one for each midweek count day).

The group of AM peak-hour count sets is averaged, as is the group of PM peak-hour count sets. The results are the volumes used to determine AM and PM volume-to-capacity (V/C) ratios for each movement through the intersection. A number of assumptions determine the capacities for each movement.

An example of an assumption used to determine capacity is the saturation flow-rate, which represents the theoretical maximum number of vehicles that are able to move through an intersection in a single lane during a green light phase. In 1991, OCTA and the technical staff members from local and State agencies agreed upon a saturation flow-rate of 1,700 vehicles per lane per hour. However, other factors can adjust this assumption.

Such factors include right turn lanes, which can increase the saturation flow-rate by 15% in specific circumstances. Right turn overlaps (signalized right turn lanes that are green

during the cross traffic's left turn movements) and free right turns (lanes in which vehicles are allowed to turn right without stopping, even when the through signal is red) are some of the circumstances that will increase the saturation flow-rate. If right turns on red are permitted, a *de facto* right turn lane (approaches that do not have designated right turn lanes, but which are at least 19 feet wide and prohibit on-street parking during peak hours) may also increase the saturation flow rate.

Roadway capacity can also be reduced under certain conditions. For example, if a lane is shared for through and turn movements, the saturation flow-rate of 1,700 could be reduced. This occurs only when the turn movement volumes reach a certain threshold that is calculated for each intersection with shared lanes. The reduction represents the slower turning movements interfering with through movements.

Finally, bicycle and pedestrian counts are conducted simultaneously with vehicle counts. Saturation flow-rate calculations may be requested to factor in bicycle and pedestrian activity for effected lanes. These calculations shall use standard reductions in accordance with the most recent Highway Capacity Manual. Reductions are only considered when field observations indicate the presence of more than 100 pedestrians per hour on one leg of an intersection.

Once the V/C ratios are determined for each movement, critical V/C ratios are calculated. Conflicting movements determine which V/C ratios are included in the calculation of the critical V/C ratios. Conflicting movements represent a situation where a movement from one approach prevents a movement from the opposite approach. For example, if through movements are being made from the southbound approach, left turn movements cannot simultaneously be made from the northbound approach. For each set of opposing approaches (north/south and east/west), the two conflicting movements with the greatest summed V/C ratios are identified. These summed V/C ratios then become known as the critical V/C ratios.

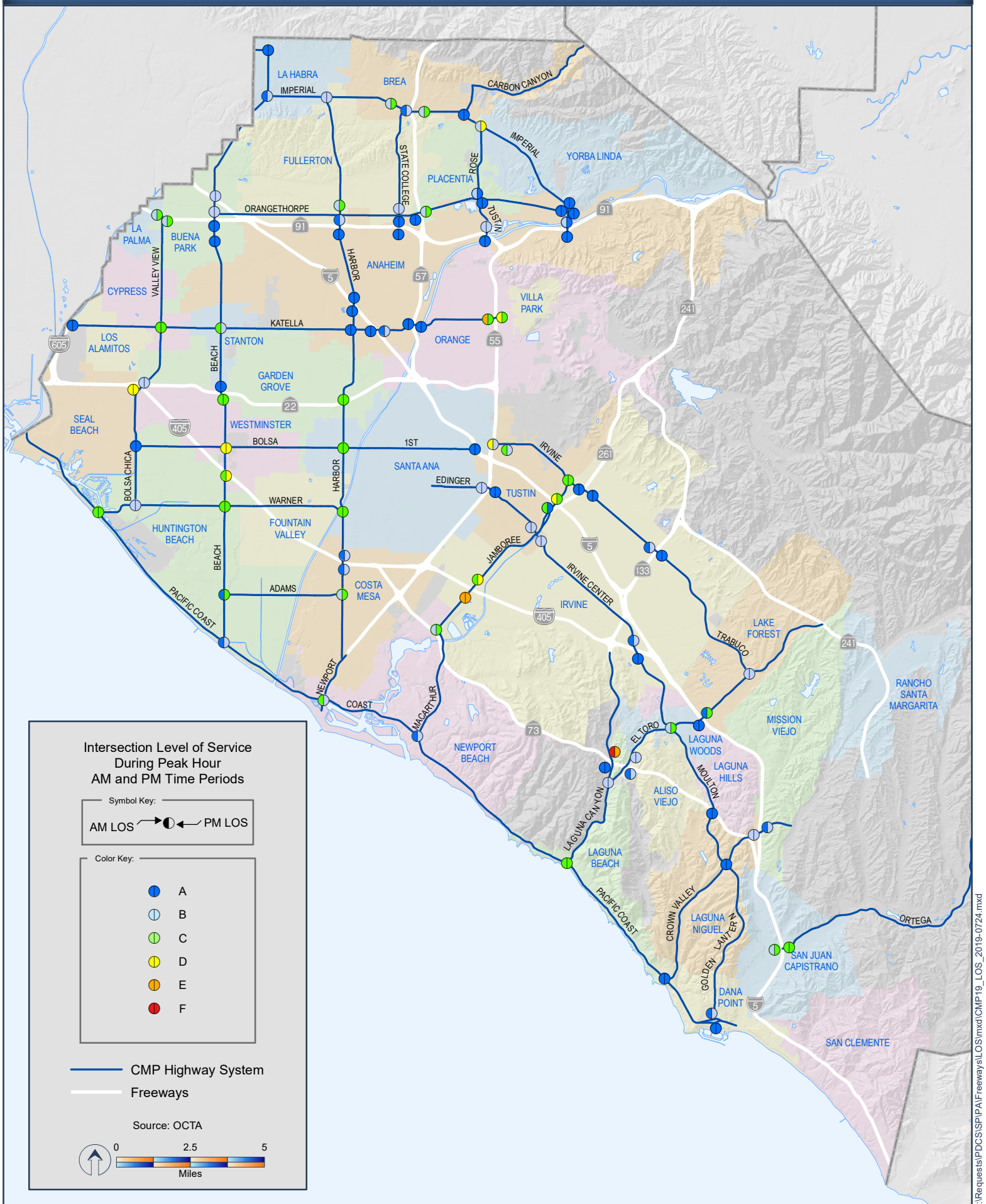
OCTA and technical staff members from local and State agencies also agreed upon a lost time factor of 0.05 in 1991. The lost time factor represents the assumed amount of time it takes for a vehicle to travel through an intersection. For each intersection, the critical V/C ratios are summed (north/south + east/west), and the lost time factor is added to the sum, producing the ICU rating for the intersection.

Based on a set of ICU rating ranges, which were agreed upon by OCTA and technical staff members from local and State agencies, grades are assigned to each intersection. The grades indicate the LOS for intersections, and are used to determine whether the intersections meet the performance standards described at the beginning of the chapter.

The 2019 LOS ratings for the CMP intersections have been mapped in Figure 3. A spreadsheet of the baseline and 2019 LOS ratings for the CMP intersections, and corresponding ICU measurements, is located in Figure 4.

Note that in Figure 4, Orange County's average ICU rating has improved over the baseline. Between 1991 and 2019, the average AM ICU improved from 0.67 to 0.60 (an improvement of 11.14 percent), and the PM ICU improved from 0.72 to 0.63 (an improvement of 12.47 percent). The ICU improvements indicate that Orange County agencies are effectively operating, maintaining, and improving the CMP Highway System.

Figure 3: 2019 CMP Intersection Level of Service



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*Per §65089.4, adjustment factors have been applied to City of La Habra intersections to accommodate interregional travel.

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FIGURE 4: 2019 CMP Level of Service Chart

Jurisdiction	Intersection/Interchange	Baseline AM LOS	Baseline AM ICU	2019 AM LOS	2019 AM ICU	Baseline PM LOS	Baseline PM ICU	2019 PM LOS	2019 PM ICU
Anaheim	Anaheim Blvd-I-5 NB Ramp/Katella Avenue	A	0.49	A	0.39	D	0.82	B	0.6
Anaheim	Harbor Blvd./Katella Avenue	A	0.53	A	0.44	B	0.67	A	0.51
Anaheim	Harbor Boulevard/I-5 SB Ramps	A	0.29	A	0.31	A	0.31	A	0.33
Anaheim	Harbor Boulevard/SR-91 EB Ramps	A	0.46	A	0.42	A	0.52	A	0.53
Anaheim	I-5 NB Ramp/Harbor Boulevard	A	0.52	A	0.52	A	0.54	A	0.48
Anaheim	I-5 SB Ramps/Katella Avenue	A	0.48	A	0.49	A	0.41	A	0.55
Anaheim	SR-57 NB Ramps/Katella Avenue	A	0.51	A	0.38	A	0.41	A	0.45
Anaheim	SR-57 SB Ramps/Katella Avenue	A	0.52	A	0.36	A	0.51	A	0.44
Anaheim	SR-91 EB Ramp/Imperial Highway	C	0.73	A	0.53	C	0.79	A	0.52
Anaheim	SR-91 EB Ramps/State College Boulevard	B	0.69	A	0.47	D	0.82	A	0.5
Anaheim	SR-91 EB Ramps/Tustin Avenue	B	0.66	A	0.54	D	0.84	A	0.45
Anaheim	SR-91 WB Ramp/Harbor Boulevard	B	0.61	A	0.56	C	0.77	B	0.61
Anaheim	SR-91 WB Ramp/Imperial Highway	C	0.71	B	0.65	B	0.63	A	0.53
Anaheim	SR-91 WB Ramp/State College Boulevard	A	0.55	A	0.51	B	0.63	A	0.57
Anaheim	SR-91 WB Ramps/Tustin Avenue	B	0.64	B	0.68	A	0.6	B	0.69
Anaheim	Imperial Hwy Off/SB On/Orangethorpe Ave	A	0.32	A	0.44	A	0.39	A	0.47
Anaheim	Imperial Hwy NB On/Orangethorpe Ave	A	0.26	A	0.28	A	0.3	A	0.32
Anaheim	Imperial Hwy/Orangethorpe Ave Ramps	A	0.41	A	0.47	A	0.42	A	0.42
Brea	SR-57 SB Ramps/Imperial Highway	B	0.68	A	0.56	B	0.7	B	0.65
Brea	State College Boulevard/Imperial Highway	C	0.73	B	0.66	E	0.93	C	0.71
Brea	Valencia Avenue/Imperial Highway	A	0.56	A	0.47	A	0.59	A	0.51
Brea	SR-57 NB Ramp/Imperial Highway	C	0.78	B	0.66	E	0.91	C	0.75
Buena Park	Beach Boulevard/Orangethorpe Avenue	C	0.76	B	0.61	D	0.87	B	0.61
Buena Park	I-5 SB Ramps/Beach Boulevard	C	0.72	B	0.65	C	0.78	B	0.67
Buena Park	SR-91 EB Ramp/Beach Boulevard	C	0.74	A	0.56	D	0.84	A	0.57
Buena Park	SR-91 EB Ramp/Valley View Street	A	0.58	B	0.6	D	0.86	C	0.72
Buena Park	SR-91 WB Ramp/Beach Boulevard	A	0.58	A	0.44	A	0.59	A	0.48
Buena Park	SR-91 WB Ramp/Valley View Street	C	0.8	B	0.69	E	0.94	C	0.78
Costa Mesa	Harbor Boulevard/Adams Avenue	E	0.99	B	0.67	F	1.09	C	0.7
Costa Mesa	I-405 SB Ramps/Harbor Boulevard	A	0.53	A	0.54	B	0.63	B	0.62
Costa Mesa	I-405 NB Ramps/Harbor Boulevard	E	0.95	A	0.54	F	1.07	B	0.63
Cypress	Valley View Street/Katella Avenue	B	0.63	C	0.7	D	0.87	C	0.76
Dana Point	Crown Valley Parkway/Bay Drive/PCH	F	1.41	A	0.56	F	1.62	A	0.59
Dana Point	Street of the Golden Lantern/Del Prado Avenue	A	0.32	A	0.22	A	0.53	A	0.38
Dana Point	Street of the Golden Lantern/PCH	A	0.42	A	0.54	A	0.55	B	0.65
Fullerton	Harbor Boulevard/Orangethorpe Avenue	A	0.6	B	0.67	E	0.94	C	0.75
Fullerton	State College Boulevard/Orangethorpe Avenue	C	0.8	B	0.62	D	0.86	B	0.66
Garden Grove	SR-22 WB/Beach Boulevard	C	0.73	C	0.73	C	0.73	C	0.73
Garden Grove	SR-22 WB Ramp/Valley View Street	C	0.76	B	0.69	D	0.87	B	0.69
Garden Grove	SR-22 WB Ramps/Harbor Boulevard	F	1.1	C	0.7	F	1.16	C	0.7
Huntington Beach	Beach Boulevard/405 SB Ramp/Edinger Avenue	B	0.63	C	0.73	E	1.03	D	0.86
Huntington Beach	Beach Boulevard/Adams Avenue	A	0.55	A	0.58	C	0.67	C	0.7
Huntington Beach	Beach Boulevard/Pacific Coast Highway	A	0.45	A	0.59	A	0.47	B	0.65
Huntington Beach	Beach Boulevard/Warner Avenue	C	0.78	C	0.72	E	0.93	C	0.78
Huntington Beach	Bolsa Chica Street/Bolsa Avenue	B	0.66	A	0.52	A	0.53	A	0.55
Huntington Beach	Bolsa Chica Street/Warner Avenue	A	0.57	B	0.69	D	0.81	B	0.67

FIGURE 4: 2019 CMP Level of Service Chart

Jurisdiction	Intersection/Interchange	Baseline AM LOS	Baseline AM ICU	2019 AM LOS	2019 AM ICU	Baseline PM LOS	Baseline PM ICU	2019 PM LOS	2019 PM ICU
Huntington Beach	Pacific Coast Highway/Warner Avenue	D	0.81	C	0.77	B	0.72	C	0.77
Irvine	SR-133 NB Ramps/Irvine Boulevard	A	0.37	A	0.59	A	0.33	B	0.63
Irvine	SR-133 SB Ramps/Irvine Boulevard	A	0.37	A	0.47	A	0.29	A	0.53
Irvine	SR-261 NB Ramps/Irvine Boulevard	A	0.38	A	0.48	A	0.53	A	0.57
Irvine	SR-261 SB Ramps/Irvine Boulevard	A	0.42	A	0.47	A	0.4	A	0.45
Irvine	I-405 NB Ramps/Enterprise/Irvine Center Drive	E	0.95	A	0.58	A	0.39	B	0.6
Irvine	I-405 NB Ramps/Jamboree Road	F	1.03	C	0.72	C	0.78	D	0.83
Irvine	I-405 SB Ramps/Irvine Center Drive	E	1	A	0.53	A	0.57	A	0.54
Irvine	I-405 SB Ramps/Jamboree Road	E	0.92	E	0.9	B	0.66	E	0.92
Irvine	I-5 NB Ramps/Jamboree Road	A	0.54	D	0.81	C	0.75	C	0.74
Irvine	I-5 SB Ramps/Jamboree Road	A	0.4	C	0.71	A	0.35	A	0.58
Irvine	MacArthur Boulevard/Jamboree Road	B	0.61	B	0.61	B	0.69	C	0.72
La Habra*	Harbor Boulevard/Imperial Highway	D	0.81	B	0.65	D	0.86	B	0.64
La Habra*	Beach Boulevard/Imperial Highway	D	0.85	A	0.58	D	0.87	B	0.65
La Habra*	Beach Boulevard/Whittier Boulevard	A	0.33	A	0.5	A	0.29	A	0.54
Laguna Beach	El Toro Road/SR-73 NB Ramps	E	0.91	B	0.66	A	0.59	B	0.65
Laguna Beach	El Toro Road/SR-73 SB Ramps	A	0.41	A	0.44	B	0.67	B	0.6
Laguna Beach	Laguna Canyon Rd/SR-73 NB Ramps	C	0.73	F	1.01	C	0.72	E	0.94
Laguna Beach	Laguna Canyon Rd/SR-73 SB Ramps	A	0.32	A	0.42	A	0.33	A	0.57
Laguna Beach	Laguna Canyon Road/El Toro Road	F	1.54	B	0.69	F	1.16	B	0.64
Laguna Beach	Laguna Canyon Road/Pacific Coast Highway	D	0.84	C	0.74	C	0.74	C	0.72
Laguna Hills	I-5 SB Ramp/Avenida de la Carlotta/El Toro Road	F	1.18	A	0.47	F	1.13	A	0.47
Laguna Niguel	Moulton Parkway/SR-73 SB Ramps	A	0.45	A	0.43	A	0.38	A	0.48
Laguna Niguel	Moulton Parkway/Crown Valley Parkway	A	0.56	A	0.57	B	0.65	A	0.59
Laguna Woods	Moulton Parkway/El Toro Road	E	0.94	B	0.63	F	1.26	C	0.71
Lake Forest	I-5 NB/Bridger/El Toro Road	A	0.56	A	0.58	D	0.81	C	0.71
Lake Forest	Trabuco Road/El Toro Road	F	1.03	B	0.66	C	0.8	B	0.65
Los Alamitos	I-605 NB Ramps/Katella Avenue	B	0.69	A	0.41	B	0.65	A	0.5
Mission Viejo	I-5 NB Ramps/Crown Valley Parkway	B	0.68	A	0.59	B	0.69	B	0.6
Mission Viejo	I-5 SB Ramps/Crown Valley Parkway	D	0.86	B	0.61	F	1.01	B	0.69
Newport Beach	MacArthur Boulevard/Pacific Coast Highway	A	0.51	A	0.53	B	0.7	B	0.61
Newport Beach	Newport Boulevard/Pacific Coast Highway	A	0.56	C	0.76	A	0.49	B	0.66
Orange	SR-55 NB Ramps/Sacramento/Katella Avenue	C	0.75	D	0.82	D	0.85	C	0.79
Orange	SR-55 SB Ramps/Katella Avenue	C	0.73	E	0.92	E	0.95	C	0.79
Placentia	Rose Drive/Imperial Highway	E	0.95	B	0.66	E	0.99	D	0.82
Placentia	SR-57 NB Ramps/Orangethorpe Avenue	B	0.67	B	0.61	C	0.8	C	0.72
Placentia	SR-57 SB Ramps/Iowa Place/Orangethorpe Avenue	C	0.74	A	0.45	B	0.69	A	0.41
Placentia	Del Cerro Dr/Orangethorpe Ave	A	0.29	A	0.31	A	0.27	A	0.29
Placentia	Rose Dr/Del Cerro Dr	A	0.59	B	0.61	A	0.51	A	0.55
San Juan Capistrano	I-5 NB Ramps/Ortega Highway	A	0.52	C	0.71	A	0.58	C	0.73
San Juan Capistrano	I-5 SB Ramps/Ortega Highway	B	0.61	B	0.61	C	0.77	C	0.72
Santa Ana	Harbor Boulevard/1st Street	A	0.48	C	0.78	D	0.81	C	0.79
Santa Ana	Harbor Boulevard/Warner Avenue	E	0.93	C	0.78	E	0.98	C	0.79
Santa Ana	I-5 SB Ramps/1st Street	A	0.29	A	0.46	A	0.46	A	0.56
Santa Ana	SR-55 SB Ramp/Auto Mall/Edinger Avenue	D	0.9	B	0.6	F	1.06	B	0.63
Santa Ana	SR-55 SB Ramps/Irvine Boulevard	B	0.68	D	0.85	D	0.83	B	0.69

***Per §65089.4, adjustment factors have been applied to City of La Habra intersections to accommodate interregional travel.**

FIGURE 4: 2019 CMP Level of Service Chart

Jurisdiction	Intersection/Interchange	Baseline AM LOS	Baseline AM ICU	2019 AM LOS	2019 AM ICU	Baseline PM LOS	Baseline PM ICU	2019 PM LOS	2019 PM ICU
Stanton	Beach Boulevard/Katella Avenue	D	0.89	C	0.75	F	1.02	B	0.69
Tustin	Jamboree Road/Edinger Avenue-NB Ramp	A	0.28	B	0.61	A	0.32	B	0.6
Tustin	Jamboree Road/Edinger Avenue-SB Ramp	D	0.81	B	0.61	A	0.41	B	0.6
Tustin	Jamboree Road/Irvine Boulevard	B	0.65	C	0.75	A	0.59	C	0.76
Tustin	SR-55 NB Ramps/Edinger Avenue	C	0.72	A	0.44	B	0.65	A	0.56
Tustin	SR-55 NB Ramps/Irvine Boulevard	A	0.59	C	0.7	A	0.45	B	0.66
Westminster	SR-22 EB/Beach Boulevard	A	0.53	A	0.58	A	0.54	A	0.56
Westminster	Beach Boulevard/Bolsa Avenue	F	1.09	D	0.87	F	1.11	D	0.83
Westminster	Bolsa Chica Road/Garden Grove Boulevard	E	0.91	D	0.81	E	0.97	D	0.81
	COUNTY AVERAGE		**0.67**		**0.60**		**0.71**		**0.63**

Deficiency Plans

If an intersection does not meet LOS standards, then a deficiency plan is required, as described under California Government Code Section 65089.4. The deficiency plan identifies the cause of congestion, the improvements needed to solve the problem, and the cost and timing for implementing proposed improvements.

A deficiency plan process was developed by the CMP Technical Advisory Committee to provide local jurisdictions with a framework for maintaining compliance with the CMP when a portion of the CMPHS fails to meet its established LOS standard (Appendix C-1). The Deficiency Plan Decision Flow Chart (Appendix C-2) illustrates the individual steps that must be taken in order for a local jurisdiction to meet CMP deficiency plan requirements.

Deficiency plans are not required if a deficient intersection is brought into compliance within 18 months of its initial detection, using improvements that have been previously planned and programmed in the CMP Capital Improvement Program. In addition, CMP legislation specifies that the following shall be excluded from deficiency determinations:

- Interregional travel (trips with origins outside the Orange County CMPHS)
- Construction, rehabilitation, or maintenance of facilities that impact the system
- Freeway ramp metering
- Traffic signal coordination by the State or multi-jurisdictional agencies
- Traffic generated by the provision of low-income and very low-income housing
- Traffic generated by high-density residential development located within one-quarter mile of a fixed rail passenger station
- Traffic generated by any mixed-use development located within one-quarter mile of a fixed rail passenger station, but only if more than half of the land area, or floor area, of the mixed-use development is used for high-density residential housing.

Per §65089.4, the following three CMP intersections have adjustment factors applied to their traffic counts as a result of interregional travel:

- *Beach Boulevard/Whittier Boulevard (City of La Habra)*
- *Beach Boulevard/Imperial Highway (City of La Habra)*
- *Harbor Boulevard/Imperial Highway (City of La Habra)*

In 2019, one intersection exceeded the CMP level of service standard. However, it is operated and controlled by Caltrans, who is not subject to CMP conformance determinations (§65089(3)).

- *Laguna Canyon Road/State Route 73 northbound ramps (City of Laguna Beach)* – ICU 1.01 (LOS F) in the AM peak hour and ICU 0.94 (LOS E) in the PM peak hour

Caltrans continues to address congestion at CMP intersections and since 2017 has completed a project that added an additional lane to the SR-73 northbound ramps to Laguna Canyon Road. This project has improved the facility's performance since the 2017 CMP update when it had ICU 1.05 in the AM peak hour, and ICU 0.99 in the PM peak hour.

Transit System Performance Measures

As Orange County's transit provider, OCTA continually monitors the frequency and routing of its transit services. Bus and rail transit are essential components of Orange County's transportation system, and are important tools for achieving a balanced multi-modal transportation system capable of maintaining level of service standards.

The CMP performance measures provide an index of the effectiveness and efficiency of Orange County's fixed-route bus and commuter rail services. ACCESS, OCTA's complementary paratransit service, is not included separately in the CMP analysis because it is an extension of the fixed-route service.

In 2012, the OCTA Board adopted "Systemwide Bus Service Standards & Policies" that are the basis for the performance analysis included in the CMP. These standards and policies allow for identification of areas in need of additional resources in transit service. Furthermore, once adequate transit operating funds are available, the transit performance measures work to ensure that bus and rail services meet demand and are coordinated between counties.

Fixed-Route Bus Service

OCTA's fixed route bus service includes local routes, express routes, community routes, limited-stop/BRT routes, rail feeder and shuttle routes.

- Local routes (numbered 1 to 99) operate primarily along arterial corridors serving multiple bus stops spaced about 1/4 –mile apart, serving multiple destinations such as residential areas, employment centers, educational institutions and health care facilities. They are the most heavily used bus routes and, in many cases, require additional trips during peak commute periods. OCTA also provides Xpress service which are local routes with limited-stop trips.
- Express routes (numbered 200 to 299 and 700 to 799) provide higher speed point-to-point service along freeways and HOV facilities providing peak period commuter transportation to employment centers. Relatively few stops are made

and service is generally designed to match typical work-time spreads. OCTA's 200-series intracounty express routes operate within Orange County while the 700-series intercounty services connect Orange County with neighboring counties such as Los Angeles and Riverside County.

- Community routes (numbered 100 to 199) are typically shorter distance services that may act as community circulators and are less direct compared to the local routes. They often provide connections to the local and express bus network. Community routes typically operate throughout the service day.
- Limited-stop/BRT routes (numbered 500 to 599) provide trips with higher average speeds and connect with other OCTA bus networks and modes. The speed advantage is realized by making fewer stops which are spaced about ¾-mile to 1 mile apart. Local bus riders making longer distance trips are among the transit users that are attracted to limited-stop/BRT service. Like local and community routes, these services operate throughout the service day.
- Rail feeder/Stationlink routes (numbered 400 to 499) provide first and last mile trips during peak hours to and from employment centers for commuters using Metrolink commuter rail service. Feeder trips are scheduled to match specific train trips and, like express routes, operate only during commute hours.
- Shuttle routes (numbered 600 to 699) serve special event venues or provide additional connections to community points of interest as a traffic mitigation tool. Shuttle routes may be point-to-point and seasonal in nature such as OCTA's Orange County Fair Express network or confined to a single community perhaps using a short distance circular route structure.

As of June 2019, OCTA's fixed route bus service has a total of 60 routes. The network is comprised of 38 local routes, six express routes (three intra- and three inter-county routes), seven community routes, three limited-stop routes, and six rail feeder routes. Services changes planned for October 2019 would reduce the number of rail feeder routes to five with one additional shuttle service provided during the OC Streetcar construction.

OC Bus 360

In late 2015, the OCTA Board of Directors endorsed a comprehensive action plan, known as OC Bus 360 in order to address declining ridership. This effort included a comprehensive review of current and former rider perceptions, a peer review panel that reviewed OCTA's performance and plans, new branding and marketing tactics tied to rider needs, upgraded bus routes and services to better match demand and capacity, technology changes to improve the passenger experience, and pricing and other revenue changes to stimulate ridership and provide new funding. This action plan included the following elements:

- Implementation of new faster bus routes
- Extensive redeployment of services in June and October 2016 to improve efficiencies and build ridership
- Grants to local agencies for transit services tailored to community needs
- A promotional fare
- Rollout of new technologies, including mobile ticketing and real-time bus arrival information
- Extensive marketing, public outreach, and promotional campaigns
- Continued implementation of cost reduction strategies, such as increased contract fixed-route operations.

Recent ridership appears to be declining at a much slower rate after the implementation of OC Bus 360. Upcoming efforts will focus on additional bus service reallocations to improve ridership and productivity.

Performance Standards and Policies

The section that follows describes OCTA's Performance Standards & Policies for vehicle load, vehicle headway, on-time performance, and service accessibility. These standards were adopted by the OCTA Board of Directors and are summarized in Figure 6. While service standards guide the delivery of service, performance measures evaluate the effectiveness of the service.

Performance Measure 1: Vehicle Headway

Vehicle Headway is the time interval between vehicles on a route that allows passengers to gauge how long they will have to wait for the next vehicle. Vehicle headway varies by mode and time of day, and is primarily determined by bus ridership. However, it is also limited by the availability of resources to operate the system.

Peak Weekday Vehicle Headway Standard Compliance

Service	Yes	No	Partial
Local Routes	27	10	1
Bus Rapid Transit / Limited	3	0	0
Community Routes	4	3	0
Express Routes	6	0	0
Rail Feeder Routes	6	0	0

Off Peak Weekday Vehicle Headway Standard Compliance

Service	Yes	No	Partial
Local Routes	14	13	11
Bus Rapid Transit / Limited	0	0	3
Community Routes	2	3	2
Express Routes	N/A		
Rail Feeder Routes	N/A		

Overall, 76.6 percent and 33.3 percent of routes system-wide were compliant in the peak and off-peak periods, respectively. Some routes could benefit from a decrease in headways (increases in bus frequency), however, there are some routes which have optimal headways that are below the standard due to existing ridership. With changing conditions, OCTA monitors the ridership and its associated optimal headway laying out a priority for improvement pending funding availability.

Performance Measure 2: Vehicle Load

OCTA's Vehicle Load applies to the maximum number of passengers allowed on a service vehicle in order to ensure the safety and comfort of customers. The load standard is expressed as the ratio of passengers to the number of seats on the vehicle and it varies by mode and by time of day. OCTA passenger loads should not exceed 130 percent of seating capacity during any one-hour peak period on individual local fixed-routes or 100 percent on any express trip. Currently, all routes have less than 100 percent average peak loads based on an analysis of 2018 Automatic Passenger Counter data.

Performance Measure 3: On-time Performance (OTP)

OCTA defines On-Time Performance as not more than five minutes late. On-Time Performance is measured at the time-point. A trip is on-time as long as it does not leave the time-point ahead of the scheduled departure time and no more than five minutes later than the scheduled departure time.

The On-Time Performance Service Standard is measured at the system line level, of which 85% of the actual departure times will meet the definition for being on-time. Exclusions from On-Time Performance are early departure times at time-points located within Free Running time route segments and Stationlink routes are measured for trips scheduled to arrive at Metrolink stations in the evening. System-wide On-Time Performance for FY17-18 was 84.6%.

Performance Measure 4: Service Accessibility

Service Accessibility is the percentage of population in proximity to bus service. OCTA's standard is that 90% of Orange County jobs and population are within ½ mile of OCTA bus services. A review of service accessibility conducted in 2018 shows that 87 % of jobs and

residents are within ½ mile of OCTA bus services. In 2016, OCTA began reallocating bus service from areas experiencing low demand to areas of highest demand as part of the OC Bus 360° program. While this has slightly lowered accessibility in areas of low transit propensity, the OC Bus 360° program has slowed ridership decline and attracted riders by optimizing efficiency and effectiveness of the bus system.

Another part of the OC Bus 360° initiative is the new OC Flex microtransit pilot program. OC Flex is an on-demand, general population, curb-to-curb shared shuttle service serving two zones in Orange County. Microtransit mitigates the loss of bus service in areas experiencing low demand while providing key connections to other transit services. Should the pilot prove successful, OCTA will consider further expansion of the program in other zones.

Meeting Transit Service Standards and Policies

The lack of ongoing operating revenues, competing resources (e.g., increasing resources dedicated to paratransit costs), and decreases in ridership contribute to OCTA's inability to meet all standards and policies. The OCTA Short-Range Transit Plan outlines priorities for meeting transit policies and standards as new resources become available. The priorities for improvements are (in order):

1. **Addressing on-time performance issues**, particularly for low-income and/or minority routes. The poorest performing routes should be addressed first, along with routes with long headways (30 minutes or more) where customers are more likely to time their arrival at stops based on the scheduled times.

2. **Addressing loads**, focusing on routes with the greatest number of trips where loads exceed 130 percent of capacity.

3. **Addressing headway issues**. Applying the headway standards will be an iterative process, because many of the routes with headways exceeding the maximum standard have low demand and/or cycle times that do not fit a 30-minute or 60-minute schedule. Routing adjustments may be needed to maximize the efficiency of the schedules, or exceptions may be allowed in specific cases.

4. **Addressing coverage and service span issues**, adding service in areas where gaps in coverage have been identified and land use pattern and/or demographics suggest that there is demand for transit service.

FIGURE 6: Performance Standards and Policies

PERFORMANCE STANDARDS AND POLICIES

TIME PERIOD DEFINITIONS:

WEEKDAY PEAK PERIODS: 6 A.M. - 9 A.M. AND 3 P.M. - 6 P.M.
OFF-PEAK: WEEKDAYS OFF-PEAK ARE THE PERIODS PRECEDING OR FOLLOWING THE DEFINED A.M. AND P.M. PEAK PERIODS, AND ALL-DAY ON WEEKENDS. AND ALL-DAY ON WEEKENDS AND HOLIDAYS

HEADWAYS:

Policy: Service operates on Local Routes (1-99 series) and Bus Rapid Transit/Limited Stop Routes (500-series) every 30-minutes or better during weekdays and weekends.
Service operates on Community Routes (100-199 series) every 60-minutes or better during weekdays and weekends.
Service operates on Express Routes (200-series and 700-series), and Rail Feeder Routes (400-series) weekdays only with a minimum of two trips scheduled in the morning and afternoon commute periods.
Service operates on Special Event Routes (600-series) for a limited period of time with service scheduled to meet the needs of the event.

TARGET HEADWAY STANDARDS:	LOCAL ROUTES (1-99 series)	BUS RAPID TRANSIT LIMITED (500-series)	COMMUNITY ROUTES (100-199 series)	EXPRESS ROUTES (200, 700-series)	RAIL FEEDER ROUTES (400-series)	SPECIAL EVENTS (600-series)
PEAK WEEKDAY PERIOD (6-9 A.M., 3-6 P.M.):	30 MIN	30 MIN	60 MIN	(2)	(2)	N/A
OFF-PEAK/WEEKENDS:	30 MIN	30 MIN	60 MIN	N/A	N/A	N/A

(2) Minimum two one-way trips per peak weekday period.

LOADING STANDARDS:

Policy: The average of all loads during the weekday peak periods should not exceed achievable vehicle capacity which is 20 to 26 passengers for intermediate size buses; 44 to 49 passengers for low floor 40-foot buses; and 83 passengers for 60-foot buses.

Vehicle Type	Average Passenger Capacities				
	Seated	Standing	Total	Maximum Load Factor	Maximum Load Factor %
26' Cut-Away Bus	20	N/A	20	1.0	100%
31' Cut-Away Bus	26	N/A	26	1.0	100%
*40' Standard Bus**	34	10	44	1.3	130%
*40' Standard Bus**	36	10	46	1.3	130%
*40' Standard Bus**	37	11	48	1.3	130%
*40' Standard Bus**	38	11	49	1.3	130%
60' Articulated Bus	64	19	83	1.3	130%

**OCTA standard 40-foot buses vary in seats provided, from 34-seats on buses used for freeway express service to 38-seats on LNG buses.*

TARGET LOAD STANDARDS BY SERVICE TYPE:	LOCAL ROUTES (1-99 series)	BUS RAPID TRANSIT LIMITED (500-series)	COMMUNITY ROUTES (100-199 series)	EXPRESS ROUTES (200, 700-series)	RAIL FEEDER ROUTES (400-series)	SPECIAL EVENTS (600-series)
WEEKDAY PEAK PERIOD(% SEATS):	130% (3)	130% (3)	130% (3)	100%	130%	N/A
OFF-PEAK/WEEKEND (% SEATS):	100%	100%	100%	N/A	N/A	N/A

(3) 130% average during peak one hour in each peak period; maintain 125% average in remaining two hours in each peak

ON-TIME PERFORMANCE STANDARD:

Defined: Measured at the timepoint, a trip is on-time as long as it does not leave the timepoint ahead of the scheduled departure time, and no more than 5-minutes later than the scheduled departure time.

Standard: At the system level, 85% of the actual departure times will meet the definition for being On-Time. Change to 85% at the line level as reliable On-Time Performance measuring system becomes available.

Exclusions: Early departure times at timepoints located within Free Running time route segments will be considered to be On-Time. Stationlink routes OTP is measured for trips scheduled to arrive at Metrolink Stations in the P.M.

TARGET ACCESSIBILITY STANDARD:

% OF SERVICE AREA POPULATION & JOBS WITHIN 1/2 MILE OF A BUS ROUTE: 90% OR HIGHER

Coordination of Transit Service with Other Carriers

OCTA coordinates the delivery of transit services with several transit agencies. They include the City of Laguna Beach, the City of Irvine, Riverside Transit Agency, Norwalk Transit System, Los Angeles County Metropolitan Transportation Authority, Long Beach Transit, Foothill Transit, North County Transit District, Omnitrans, Anaheim Transportation Network, various specialized charter bus services, and commuter rail services. OCTA also coordinates with cities during the planning and implementation of Project V community circulators.

Additionally, OCTA coordinates schedules and bus stops with neighboring agencies and commuter rail services. Internet-based services such as Google transit include respective service schedules and facilitate transfers between the various systems where feasible.

Commuter Rail Service

Metrolink is Southern California's commuter rail system that links residential communities to employment and activity centers. Metrolink is operated by the Southern California Regional Rail Authority (SCRRA), a joint powers authority of five member agencies representing the counties of Los Angeles, Orange, Riverside, San Bernardino, and Ventura.

Currently, Metrolink provides service on seven routes, covering 535 miles through six counties in Southern California. On an average weekday, there are 171 trains serving nearly 43,000 passenger trips at 61 stations. Orange County plays an important and growing role within this system.

As one of the five SCRRA member agencies, OCTA administers and funds Orange County's portion of the Metrolink commuter rail system. Orange County's share of Metrolink service covers 68 route miles and sees approximately 16,000 average weekday boardings, comprising more than 40 percent of Metrolink's total system-wide boardings. There are 11 stations in Orange County that serve a total of 54 one-way trips each weekday on three lines:

- **Orange County (OC) Line**: Daily service from Los Angeles Union Station to Oceanside;
- **Inland Empire-Orange County (IEOC) Line**: Daily service from San Bernardino and Riverside through Orange to Oceanside; and
- **91 / Perris Valley (91/PV) Line**: Daily service from South Perris through Riverside and Fullerton to Los Angeles Union Station.

In 2006, Metrolink Weekend service was introduced on the OC and IEOC Lines, with increased service during the summer travel season. In July 2014, weekend service was added on the 91/PV Line, providing four trains between Riverside and Los Angeles Union Station. Weekend ridership varies considerably dependent upon the season and local events, but generally the OC, IEOC and 91/PV Lines combined carry a total of approximately 4,000 riders per weekend day.

OCTA and other local agencies provide free transfers to local bus service to deliver Metrolink passengers to their final destinations. OCTA has six dedicated StationLink bus routes that connect with Orange County Metrolink stations in Orange, Santa Ana, Tustin, and Irvine. The iShuttle in Irvine has six routes that provide peak hour connections to and from the Tustin and Irvine stations. Anaheim Resort Transportation provides transfers at the Anaheim Regional Transportation Intermodal Center (ARTIC) to various destinations. These local transit connections offer Metrolink ticket holders free, easy connections between stations and major employment and activity centers, with schedules designed to meet Metrolink weekday train arrivals and departures.

In addition to Metrolink, Amtrak's Pacific Surfliner provides daily service with 24 trains between Los Angeles Union Station and downtown San Diego as an alternative for commuters. Within Orange County, Amtrak station stops include Fullerton, Anaheim, Santa Ana, Irvine, San Juan Capistrano, and San Clemente Pier.

Future Transit Improvements

Completed in 2018, the OC Transit Vision is a 20-year plan for enhancing and expanding public transit service in Orange County. The Vision identifies near-term and long-term projects and programs that can make transit a more compelling travel option for Orange County residents and visitors. The Vision recognizes that transit is important for Orange County, both today and in the future. Transit can provide a sustainable, accessible, and affordable mobility option that serves different markets and travel needs in a variety of ways.

The projects outlined in the OC Transit Vision are grouped into three timeframes: short-term (2018-2022), mid-term (2023-2032), and long-term (2033+). This phasing approach recognizes the project development process for major capital investments, such as Bus Rapid Transit or extensions to OC Streetcar, as well as existing and projected OCTA revenues. The recommendations from the OC Transit Vision were included in OCTA's 2018 Long-Range Transportation Plan.

The OC Transit Vision continues the process of modernizing transit by moving away from a "onesize-fits-all" approach. As described in the OC Transit Vision, some corridors with high demand may benefit from a high-capacity transit service such as streetcar or rapid bus. For example, serving the high concentration of employment in the Irvine Business Complex might be better accomplished using Freeway Bus Rapid Transit rather than standard buses on arterial roadways. Areas with a low density of transit demand might be addressed through flexible "microtransit" such as the pilot OC Flex service. These modernized transit services benefit from technological advances as they strive to serve existing and potential Orange County transit customers while controlling costs.

Commuter Rail Service Improvements

Following the completion of the Metrolink Service Expansion Program (MSEP) improvements in 2012, OCTA deployed a total of ten new Metrolink intra-county trains operating between Fullerton and Laguna Niguel/Mission Viejo, primarily during midday and evening hours. Efforts to increase ridership through a redeployment of the trains without significantly impacting operating costs have been underway since 2014. In April 2015, a schedule change added a connection between the 91/PV Line and the intra-county service at Fullerton to allow a later southbound peak evening departure from Los Angeles to Orange County. Staff will continue to monitor ridership on these trains; data through May 2019 shows a 49 percent increase in ridership since the improvement was implemented, from 130 boardings in FY 2015-16 to 194 boardings averaged for the first 11 months of FY 2018-19.

Part of OCTA's re-deployment plan involves providing new trips from Orange County to Los Angeles in accordance with the current shared use agreement between BNSF, Metrolink and its member agencies. Metrolink plans to implement the following service improvements in FY 2019-20:

- OC Line (weekday service): Replace three midday intracounty round trips from Laguna Niguel/Mission Viejo to Fullerton, with two midday round trips from Laguna Niguel/Mission Viejo to Los Angeles, and one evening round trip from Oceanside to Los Angeles.
- 91/PV Line (weekday service): Extended two existing round trips from Perris – South to Riverside – Downtown, to Los Angeles Union Station, via Orange County.
- 91/PV Line (weekend service): Extend two existing round trips from Los Angeles to Riverside – Downtown, further east to Perris – South.

OCTA is also working to design and construct a new Metrolink station in the City of Placentia that will help accommodate ridership growth from service expansion. Funding for the MSEP is being provided though Measure M2, Orange County's half-cent sales tax for transportation improvements.

Chapter 4: Transportation Demand Management

Transportation Demand Management (TDM) strategies are geared toward increasing vehicle occupancy, promoting the use of alternative modes, reducing the number of automobile trips, decreasing overall trip lengths, and improving air quality. The adoption of a TDM ordinance was required of every local jurisdiction for Orange County's 1991 Congestion Management Program (CMP). The adoption of these ordinances is no longer a statutory requirement, however OCTA continues to encourage local jurisdictions to maintain these ordinances as a means of reducing greenhouse gas emissions.

TDM Ordinances

The model TDM ordinance, prepared by OCTA, promotes carpools, vanpools, alternate work hours, park and ride facilities, telecommuting, and other traffic reduction strategies. OCTA updated the model ordinance in 2001 to reflect the adoption of Rule 2202 by the South Coast Air Quality Management District (SCAQMD), which requires employers with 250 or more employees at a worksite to develop an emission reduction program to help meet an emission reduction target set by the SCAQMD.

Principal provisions of the TDM model ordinance are as follows:

- Applies to non-residential public and private development proposals expected to generate more than 250 employees;
- Contains a methodology for determining projected employment for specified land use proposals;
- Includes mandatory facility-based development standards (conditions of approval) that apply to proposals that exceed the established employment threshold;
- Presents optional provisions for implementing operational TDM programs and strategies that target the property owner or employer, and requires annual reporting on the effectiveness of programs and strategies proposed for facilities;

- Contains implementation and monitoring provisions; and
- Includes enforcement and penalty provisions.

Several jurisdictions have adopted ordinances that go beyond those contained in the model TDM ordinance. Such strategies include:

- Encouraging employers to establish and help subsidize telecommuting, provide monetary incentives for ridesharing, and implementing alternative work hour programs;
- Proposing that new development projects establish and/or participate in Transportation Management Associations (TMAs);
- Implementing bus loading facilities at worksites;
- Implementing pedestrian facilities such as sidewalks, paved pathways, and pedestrian grade separations over arterial streets to connect worksites to shopping, eating, recreation, parking, or transit facilities; and
- Participating in the development of remote parking facilities and the high-occupancy vehicles (i.e., shuttles, etc.) to serve them.

Countywide TDM Strategies

TDM efforts in Orange County are not just limited to the implementation of the local TDM ordinance provisions. Countywide services and programs, as described below, also help to manage demand on the multimodal system.

Transit/Shuttle Services

Local fixed-route bus service comprises the largest portion of OCTA's transit services. In addition, OCTA provides feeder bus service to commuter rail (Metrolink) stations. Express bus service provides patrons with longer routes that utilize freeways to connect residential areas to Orange County's main employment centers. OCTA also provides community routes for connecting to the local and express bus networks, as well as limited-stop routes for higher speed connections to other OCTA modes and networks. ACCESS is OCTA's shared-ride service for people who are unable to use the regular, fixed-route bus service because of functional limitations caused by a disability. These passengers must be certified by OCTA to use the ACCESS system by meeting the Americans with Disabilities Act (ADA) eligibility criteria.

OCTA Vanpool Program

The OCTA Vanpool Program assists commuters working in Orange County. OCTA coordinates with commuters, employers, and private vanpool operators to organize and sustain vanpools, and provides a monthly subsidy for each vanpool to offset vehicle lease and maintenance costs. In addition to Caltrans-maintained park-and-ride lots, OCTA maintains park-and-ride lots throughout the County and supports the Guaranteed Ride Home Program. OCTA provides trip planning tools on their website and on the phone through the 5-1-1 service. OCTA has also provided the necessary data to Google Transit® to integrate trip planning with other Southern California transit operators. These efforts are designed to reduce single-occupancy commuting.

Transportation Management Associations

Transportation Management Associations (TMAs) are comprised of groups of employers who work together to solve mutual transportation problems by implementing programs to increase average vehicle ridership. Presently, Orange County has TMAs located in the following areas:

- Irvine (Spectrumotion)
- Anaheim (Anaheim Transportation Network)

Park-and-Ride Lots

Currently there are 29 park-and-ride lots in Orange County providing 10,383 parking spaces. Of the 29 lots, 11 are located at Metrolink stations, accounting for 7,604 of the parking spaces. Also, six of the lots are located at OCTA transit centers, which account for 1,492 parking spaces. The remaining 1,287 spaces are at Caltrans-managed lots.

Park-and-ride lots serve as transfer points for commuters to change from one mode of travel (usually single-occupancy automobile) to another, higher capacity mode (bus, train, carpool, or vanpool). Providing a convenient system of park-and-ride transfer points throughout Orange County encourages ridesharing and the use of higher capacity transit systems, which improves the efficiency of the transportation system. Park-and-ride lots

are also a natural companion to Orange County's network of High Occupancy Vehicle (HOV) lanes and transitways on the freeways.

Parking Cash-Out Programs

Parking cash-out programs are employer-funded programs that provide cash incentives to employees who do not drive to work. The most effective programs provide an incentive equal to the full cost of employee parking. State law requires certain employers who provide subsidized parking for their employees to offer a cash allowance in lieu of a parking space. This law is called the parking cash-out program. The intent of the law is to reduce vehicle commute trips and emissions by offering employees the option of "cashing out" their subsidized parking space and taking transit, biking, walking or carpooling to work.

Guaranteed Ride Home Program

Employers throughout Orange County have the option to participate in OCTA's Guaranteed Ride Home Program. This program provides reliability for those who rideshare but are faced with an unexpected illness, at-home emergency, or unexpected overtime.

Complete Streets

On September 30, 2008 Governor Arnold Schwarzenegger signed Assembly Bill 1358, the California Complete Streets Act. The Act states: "In order to fulfill the commitment to reduce greenhouse gas emissions, make the most efficient use of urban land and transportation infrastructure, and improve public health by encouraging physical activity, transportation planners must find innovative ways to reduce vehicle miles traveled (VMT) and to shift from short trips in the automobile to biking, walking and use of public transit."

The legislation impacts local general plans by adding the following language to Government Code Section 65302(b)(2)(A) and (B):

> (A) Commencing January 1, 2011, upon any substantial revision of the circulation element, the legislative body shall modify the circulation element to plan for a balanced, multimodal transportation network that meets the needs of all users of the streets, roads, and highways for safe and convenient travel in a manner that is suitable to the rural, suburban, or urban context of the general plan.
>
> (B) For the purposes of this paragraph, "users of streets, roads, and highways" means bicyclists, children, persons with disabilities, motorists, movers of commercial goods, pedestrians, users of public transportation, and seniors.

As identified in OCTA's Pedestrian Action Plan, OCTA staff has developed a Complete Streets Checklist to consider bicycle and pedestrian accommodation in projects planned and designed by OCTA. This provides a method to illustrate decision-making and

transparency in ultimate design outcomes and avoid conflict when a project is ready for construction.

Active Transportation

In 2016, the League of American Bicyclists renewed their designation of Orange County as a Bronze-level bike friendly community. This was in recognition of the collective county-level and local efforts to improve conditions for bicycling in Orange County. This includes countywide regional bikeway planning, recent bicycle and pedestrian safety marketing campaigns, and encouraging first/last mile linkages to transit for both bicyclists and pedestrians. In support of these efforts, OCTA allocates funding to local agencies through the Bicycle Corridor Improvement Program (BCIP) call for projects.

The broad serving active transportation program addresses topics serving people bicycling and walking. Nearing completion is OC Active, the countywide active transportation plan. OC Active includes the first effort to analyze pedestrian needs throughout Orange County. OC Active provides maps of high need pedestrian areas and maps future bikeways for each jurisdiction. The plan guides active transportation investments and enables local agencies to secure funding for infrastructure and non-infrastructure improvements countywide. Further efforts by OCTA include collaboration with law enforcement, education and public health representatives to improve conditions for walking and biking. Work has included educational campaigns, hosting educational webinars for community members and local agency staff, hosting a quarterly meeting of a Bicycle and Pedestrian Subcommittee with public membership, collaboration with the Southern California Association of Governments on the *Go Human* region-wide active transportation safety campaign, and briefings directly to local police about new and relevant laws. OCTA provides support to cities pursuing active transportation funding through workshops and lessons learned to address local needs.

Forthcoming work includes collaboration during education and encouragement activities at local schools, and master planning methods to increase rates of walking and biking to schools by Orange county youth.

Motorist Aid and Traffic Information System (511)

Orange County's 511 service is a one-stop source for up-to-the-minute travel information, advisories and trip planning information. Traffic and transit updates are provided via the free Go511 application, calling 511, or visiting Go511.com.

The 511 Motorist Aid and Travelers' Information System (MATIS) helps commuters outsmart traffic with the following services:

- Real-time traffic speed, congestion & incident information
- Live freeway cameras & roadwork advisories
- Bus & rail trip planner
- Scheduled departures for 70+ transit agencies in SoCal
- Carpool & ride matching information
- Park & Ride lot locations (website/phone)
- Airport information (website only)
- Bike maps, tips & resources (website only)
- Local weather conditions (website only)

The 511 system can be accessed around the clock throughout Orange County by calling 511. Accessing the Go511 system from other surrounding counties is also available by calling 877.22.go511.

Freeway Construction Mitigation

OCTA and Caltrans developed a comprehensive public outreach program for commuters impacted by construction projects and improvements on Orange County freeways. The outreach program alleviates traffic congestion during freeway construction by providing up-to-date ramp, lane, and bridge closure information; as well as suggestions for alternate routes and travel modes.

Outreach efforts include public workshops, open houses, fast fax construction alerts, flyers and newsletters, as well as other materials and presentation events. Also, OCTA's website (www.octa.net), and the Orange County Freeway Construction Helpline (1-800 724-0353), make detour and closure information available. In addition, most jurisdictions implement traffic management plans to alleviate roadway congestion during construction.

Chapter 5: Land Use Impact Analysis

The Congestion Management Program (CMP) Traffic Impact Analysis (TIA) measures impacts of proposed development projects on the CMP Highway System (CMPHS). Each jurisdiction in Orange County was allowed to select either the process outlined in the CMP TIA guidelines (Appendix B-1), or their existing traffic-environmental analysis process, as long as consistency is maintained with the CMP TIA guidelines.

Since 1994, the selected TIA process has been consistently applied to all development projects meeting the adopted trip generation thresholds (i.e., 2,400 or more daily trips, and 1,600 or more daily trips for projects that directly access the CMPHS). These traffic impact analyses focus on:

- Identifying locations where, and the extent to which, trips generated by the proposed project caused CMPHS intersections to exceed their Level of Service (LOS) standards;
- Assessing feasible mitigation strategies capable of reducing the identified impact, thereby maintaining the LOS standard; and,
- Utilizing existing environmental processes and inter jurisdictional forums to conduct cooperative, inter jurisdictional discussion when proposed CMP mitigation strategies included modifications to roadway networks beyond the jurisdiction's boundaries; and/or, when a proposed development was identified that will increase traffic at CMPHS locations outside the jurisdiction's boundaries.

However, OCTA does allow exemptions from this requirement for selected categories of development projects, consistent with State legislation (Appendix B-2 for a listing of exempt projects). Additionally, the biennial reporting process enables jurisdictions to report any locations where projected measurements would not meet the CMPHS LOS standards as well as to discuss the projected impacts from development projects undergoing CMP traffic impact analyses. All jurisdictions in Orange County comply with the CMP land use coordination requirement.

Chapter 6: Capital Improvement Program

The Capital Improvement Program (CIP) is a seven-year program of projects and programs that is adopted by each Orange County jurisdiction and integrated into a countywide CIP by the OCTA. It includes projects that will help to maintain or improve traffic conditions on the Congestion Management Program Highway System (CMPHS) and adjacent facilities. In addition to traditional capital projects, which preserve investments in existing facilities, the CIP can include projects that increase the capacity of the multi-modal system and provide air quality benefits, such as transit projects. Consistency with statewide standards is emphasized in order for projects in the CIP to compete for State funding.

The CIP projects, prepared by local jurisdictions for inclusion in the Orange County CMP, mitigate transportation impacts identified in the Land Use Impact Analysis component of the CMP, and preserve and maintain CMPHS infrastructure. Many types of CIP projects have been submitted by local jurisdictions in the past, including freeway ramp widenings, transportation systems management projects such as bus turnouts, intersection improvements, roadway widenings, signal coordination projects, and roadway resurfacing projects.

Each Orange County jurisdiction's CIP is included in Appendix E, which is published separately and provided on OCTA's website at www.octa.net/Plans-and-Programs/Congestion-Management-Program/Overview/. All projects in the CIP that are State or federally funded, or locally funded but of regional significance, are included in the Orange County portion of the Federal Transportation Improvement Program (FTIP), and are consistent with the Regional Transportation Plan (RTP), both of which are approved by SCAG.

Projects that significantly increase Single Occupant Vehicle (SOV) capacity in the region are monitored and regulated by the federal government, and should be developed consistent with the federal Congestion Management Process. In carrying out this process, SCAG identifies SOV capacity increasing projects in the FTIP that are at least one-mile in length. These projects, if at least partially funded by federal sources, require the lead agency to document and demonstrate the consideration of alternative Transportation

Systems Management/Transportation Demand Management (TSM/TDM) strategies during the alternatives analysis. Those that are considered safety, operational, or bottleneck improvements are exempt from this process.

Lastly, based upon a resolution by the California Transportation Commission (G-17-22), the Measure M program of projects is being included in the 2019 CMP (by reference) in order to satisfy the CMP requirement of this resolution. For a listing of the Measure M program of projects please see Appendix F.

Chapter 7: CMP Conformance

As Orange County's Congestion Management Agency, the Orange County Transportation Authority (OCTA) is legislatively required to monitor the implementation of all elements of the Congestion Management Program (CMP), and biennially determine conformance. In so doing, OCTA consults with local jurisdictions.

OCTA determines if the local jurisdictions are in conformance with the CMP by monitoring the following:

- Consistency with level of service standards;
- Adoption of Capital Improvement Programs;
- Adoption and implementation of a program to analyze the impacts of land use decisions, including an estimate of the costs associated with mitigating those impacts; and
- Adoption and implementation of deficiency plans when highway and roadway level of service standards are not maintained.

OCTA gathers local traffic data to determine the levels of service (LOS) at intersections throughout the CMP Highway System (CMPHS), as discussed in Chapter 2. In addition, the local jurisdictions complete a set of checklists, developed by OCTA, that guide them through the CMP conformity process (Appendix D). The checklists address the legislative requirements of the CMP, including land use coordination, the Capital Improvement Program, and transportation demand management strategies.

Based on the LOS data and CMP checklists completed by the local jurisdictions, as summarized in Figure 7, the following was determined for the 2019 CMP Update:

Level of Service

The LOS data, collected by OCTA, was provided to local jurisdictions for verification. A few discrepancies in LOS reporting occurred as a result of slight variations in the data collection methodology used by the cities and OCTA, or due to erroneously reported

intersection geometry. Any discrepancies in the LOS reporting were resolved through an interactive, cooperative process between the cities and OCTA. The data shows that all local jurisdictions are in compliance with the established LOS standards.

Capital Improvement Program

All local jurisdictions submitted adopted seven-year capital improvement programs. The CIPs included projects to maintain or improve the traffic LOS on the CMPHS, or adjacent facilities which benefit the CMPHS.

Land Use Coordination

All local jurisdictions have adopted CMP Traffic Impact Analysis (TIA) processes for analyzing the impacts of land use decisions on the CMP Highway System. All local jurisdictions have applied their TIA processes to development projects that met the CMP minimum threshold of 2,400 or more daily trips (1,600 or more trips per day for development projects that will directly access the CMPHS).

Deficiency Plans

Based on the data exhibited in Figure 7, all non-exempt intersections on the CMP highway system were found in compliance with LOS requirements. Therefore, no deficiency plans were required for the 2019 CMP.

Regional Consistency

To ensure consistency between CMPs within the SCAG region, OCTA submits each biennial update of the Orange County CMP to SCAG. As the regional agency, SCAG evaluates consistency with the Regional Transportation Plan and with the CMPs of adjoining counties, and incorporates the program into the Federal Transportation Improvement Program (FTIP), once consistency is determined.

FIGURE 7: Summary of Conformance

Jurisdiction	Capital Improvement Program	Deficiency Plan	Land Use	Level of Service	2019 Compliance
Aliso Viejo *	Yes	N/A	Yes	N/A	Yes
Anaheim	Yes	N/A	Yes	Yes	Yes
Brea	Yes	N/A	Yes	Yes	Yes
Buena Park	Yes	N/A	Yes	Yes	Yes
Costa Mesa	Yes	N/A	Yes	Yes	Yes
Cypress	Yes	N/A	Yes	Yes	Yes
Dana Point	Yes	N/A	Yes	Yes	Yes
Fountain Valley *	Yes	N/A	Yes	N/A	Yes
Fullerton	Yes	N/A	Yes	Yes	Yes
Garden Grove	Yes	N/A	Yes	Yes	Yes
Huntington Beach	Yes	N/A	Yes	Yes	Yes
Irvine	Yes	N/A	Yes	Yes	Yes
La Habra	Yes	N/A	Yes	Yes	Yes
La Palma*	Yes	N/A	Yes	N/A	Yes
Laguna Beach	Yes	N/A	Yes	Yes	Yes
Laguna Hills	Yes	N/A	Yes	Yes	Yes
Laguna Niguel	Yes	N/A	Yes	Yes	Yes
Laguna Woods	Yes	N/A	Yes	Yes	Yes
Lake Forest	Yes	N/A	Yes	Yes	Yes
Los Alamitos	Yes	N/A	Yes	Yes	Yes
Mission Viejo	Yes	N/A	Yes	Yes	Yes
Newport Beach	Yes	N/A	Yes	Yes	Yes
Orange	Yes	N/A	Yes	Yes	Yes
Placentia	Yes	N/A	Yes	Yes	Yes
Rancho Santa Margarita *	Yes	N/A	Yes	N/A	Yes
San Clemente *	Yes	N/A	Yes	N/A	Yes
San Juan Capistrano	Yes	N/A	Yes	Yes	Yes
Santa Ana	Yes	N/A	Yes	Yes	Yes
Seal Beach *	Yes	N/A	Yes	N/A	Yes
Stanton	Yes	N/A	Yes	Yes	Yes
Tustin	Yes	N/A	Yes	Yes	Yes
Villa Park *	Yes	N/A	Yes	N/A	Yes
Westminster	Yes	N/A	Yes	Yes	Yes
Yorba Linda *	Yes	N/A	Yes	N/A	Yes
County *	Yes	N/A	Yes	N/A	Yes

*No CMP intersections within jurisdiction

Appendix A: Freeway Level of Service

Postmile	SEGMENT	# of LANES	AM PEAK PERIOD							PM PEAK PERIOD							2016 ADT
			AM Speed	AM (PHV)	PHV (15 min)	PHF	% Truck	AM Density	AM LOS	PM Speed	PM (PHV)	PHV (15 min)	PHF	% Truck	PM Density	PM LOS	
0.000	SAN DIEGO COUNTY LINE	4	68	4084	1060	0.96	7.22	16	B	63	4247	1126	0.94	7.22	19	C	
																	138,500
1.000	AVENIDA CALIFIA	4	67	4084	1060	0.96	7.22	16	B	63	4247	1126	0.94	7.22	19	C	
																	147,100
1.627	EL CAMINO REAL	4	69	4181	1151	0.91	7.22	17	B	66	3898	988	0.99	7.22	16	B	
																	160,100
2.306	AVENIDA PRESIDIO	4	68	4844	1222	0.99	7.22	19	C	65	5330	1353	0.98	7.22	22	C	
																	162,100
2.663	AVENIDA PALIZADA	4	67	5445	1424	0.96	7.22	22	C	64	5197	1364	0.95	7.22	22	C	
																	187,500
3.393	AVENIDA PICO	4	61	4008	1026	0.98	7.22	17	B	63	3897	990	0.98	7.22	16	B	
																	200,100
5.801	CAMINO ESTRELLA	5	65	7404	1923	0.96	7.22	25	C	66	6412	1628	0.98	7.22	20	C	
																	242,200
6.780	JCT RTE 1	4	67	6031	1597	0.94	4.25	24	C	64	4786	1245	0.96	4.25	20	C	
																	234,300
7.344	CAMINO CAPISTRANO	4	67	6450	1755	0.92	4.25	27	D	50	5917	1546	0.96	4.25	32	D	
																	252,100
8.795	SAN JUAN CREEK	4	66	7532	2057	0.92	4.25	32	D	62	6584	1688	0.98	4.25	28	D	
																	259,200
9.604	JCT. RTE. 74	4	67	6916	1850	0.93	4.27	28	D	63	6030	1542	0.98	4.27	25	C	
																	278,600
10.910	JUNIPERO SERRA	5	66	8995	2414	0.93	3.98	30	D	63	8534	2186	0.98	3.98	28	D	
																	286,800
12.490	JCT RTE 73	4	67	5694	1515	0.94	3.98	23	C	64	6040	1585	0.95	3.98	25	C	
																	248,400
12.943	AVERY PARKWAY	4	66	5486	1403	0.98	3.98	22	C	64	5547	1484	0.93	3.98	24	C	
																	255,700
13.776	CROWN VALLEY	4	65	7092	1931	0.92	3.50	30	D	65	7306	1890	0.97	3.50	30	D	
																	302,200
15.217	OSO PARKWAY	4	47	6734	1871	0.90	3.50	41	E	64	6733	1707	0.99	3.50	27	D	
																	315,500
16.528	LA PAZ ROAD	4	56	7917	2139	0.93	3.50	39	E	63	7308	1870	0.98	3.50	30	D	
																	312,200
17.472	ALICIA PARKWAY	6	46	9840	2538	0.97	3.50	37	E	68	8164	2107	0.97	3.50	21	C	
																	333,100
18.685	NIGUEL/EL TORO	5	58	11346	2891	0.98	3.50	41	E	66	8775	2324	0.94	3.50	29	D	
																	354,700
19.890	LAKE FOREST	6	64	12290	3161	0.97	3.50	34	D	63	9077	2328	0.97	3.50	25	C	
																	280,000
21.304	JCT. RTE. 405	3	65	6065	1628	0.93	3.37	34	D	61	4402	1171	0.94	3.37	26	C	
																	153,300
22.213	ALTON PARKWAY	5	67	7162	1829	0.98	3.37	22	C	63	7903	2069	0.95	3.37	27	D	
																	201,100

Postmile	SEGMENT	# of LANES	AM PEAK PERIOD							PM PEAK PERIOD							2016 ADT
			AM Speed	AM (PHV)	PHV (15 min)	PHF	% Truck	AM Density	AM LOS	PM Speed	PM (PHV)	PHV (15 min)	PHF	% Truck	PM Density	PM LOS	
23.120	JCT. RTE. 133	4	61	7020	1803	0.97	5.50	30	D	61	7083	1866	0.95	5.50	31	D	
																	243,700
23.942	SAND CANYON	5	69	7660	2008	0.95	4.97	24	C	62	8331	2193	0.95	4.97	29	D	
																	255,800
24.991	JEFFREY ROAD	5	51	8494	2198	0.97	4.97	35	E	53	7765	2071	0.94	4.97	32	D	
																	271,300
26.583	CULVER DRIVE	6	45	9096	2401	0.95	4.97	36	E	49	8028	2103	0.95	4.97	29	D	
																	294,400
27.589	JAMBOREE ROAD	5	51	8294	2182	0.95	4.97	35	E	43	6833	1752	0.98	4.97	33	D	
																	316,400
28.250	TUSTIN RANCH	5	65	8967	2355	0.95	4.97	30	D	64	7633	1928	0.99	4.97	25	C	
																	324,600
29.091	RED HILL AVENUE	5	52	9247	2435	0.95	4.97	38	E	50	7845	2107	0.93	4.97	35	D	
																	324,300
29.616	NEWPORT AVENUE	5	57	9588	2468	0.97	4.97	35	E	51	8326	2097	0.99	4.97	34	D	
																	279,500
30.263	JCT. RTE. 55	4	53	7409	1916	0.97	5.50	37	E	48	5674	1478	0.96	5.50	32	D	
																	329,500
30.8	1ST STREET	5	62	10453	2706	0.97	5.50	36	E	41	7771	2060	0.94	5.50	41	E	
																	352,600
31.23	4TH STREET	5	66	10424	2659	0.98	5.50	33	D	59	8113	2040	0.99	5.50	29	D	
																	359,400
32.3	17TH STREET	5	64	10883	2775	0.98	5.50	36	E	26	9269	2370	0.98	5.50	75	F	
																	362,500
33.2	MAIN STREET	5	57	9947	2600	0.96	5.50	37	E	49	8751	2226	0.98	5.50	37	E	
																	366,000
35	CHAPMAN	5	69	6998	1819	0.96	7.00	22	C	55	7606	2026	0.94	7.00	31	D	
																	253,100
35.1	STATE COLLEGE	5	71	5808	1495	0.97	7.00	17	B	59	6768	1796	0.94	7.00	25	C	
																	240,900
35.6	GENE AUTRY	5	70	6775	1742	0.97	7.00	21	C	59	7758	2009	0.97	7.00	28	D	
																	240,900
36.48	KATELLA	4	67	5864	1502	0.98	9.60	23	C	49	6652	1716	0.97	9.60	37	E	
																	264,800
37.38	HARBOR	4	68	4427	1150	0.96	9.60	18	B	40	6372	1615	0.99	9.60	42	E	
																	263,900
37.7	BALL	4	67	6575	1690	0.97	9.60	26.4	D	53	7910	2012	0.98	9.60	40	E	
																	276,300
38.9	LINCOLN	5	68	6141	1582	0.97	9.50	19	C	63	8238	2086	0.99	9.50	28	D	
																	265,400
39.3	EUCLID	4	69	6051	1561	0.97	9.60	24	C	62	7594	1918	0.99	9.60	32	D	
																	259,800
40.5	BROOKHURST	4	69	5929	1530	0.97	9.60	23	C	64	7054	1807	0.98	9.60	30	D	
																	241,000

Postmile	SEGMENT	# of LANES	AM PEAK PERIOD							PM PEAK PERIOD							2016 ADT
			AM Speed	AM (PHV)	PHV (15 min)	PHF	% Truck	AM Density	AM LOS	PM Speed	PM (PHV)	PHV (15 min)	PHF	% Truck	PM Density	PM LOS	
40.98	LA PALMA	5	71	6217	1635	0.95	9.60	19	**C**	67	7454	1910	0.98	9.60	24	**C**	
																	241,000
41.8	MAGNOLIA	4	69	3829	1006	0.95	9.60	15	**B**	67	4433	1127	0.98	9.60	18	**B**	
																	121,100
42.5	ORANGETHORPE	6	70	5529	1470	0.94	9.35	15	**B**	68	6014	1538	0.98	9.35	16	**B**	

** % Truck and ADT Values are the most recent values published at
www.dot.ca.gov/hq/traffops/saferesr/trafdata/ which is currently 2016 data **

Postmile	SEGMENT	# of LANES	AM PEAK PERIOD							PM PEAK PERIOD							2016 ADT
			AM Speed	AM (PHV)	PHV (15 min)	PHF	% Truck	AM Density	AM LOS	PM Speed	PM (PHV)	PHV (15 min)	PHF	% Truck	PM Density	PM LOS	
0.000	SAN DIEGO COUNTY LINE	4	62	3595	955	0.94	7.22	16	B	68	4532	1160	0.98	7.22	18	B	
																	138,500
1.000	AVENIDA CALIFIA	4	61	3504	914	0.96	7.22	16	B	67	4462	1158	0.96	7.22	18	B	
																	147,100
1.627	EL CAMINO REAL	4	65	3394	862	0.98	7.22	14	B	67	4858	1252	0.97	7.22	19	C	
																	160,100
2.306	AVENIDA PRESIDIO	4	55	3588	920	0.98	7.22	17	B	66	5390	1436	0.94	7.22	23	C	
																	162,100
2.663	AVENIDA PALIZADA	5	57	3576	926	0.97	7.22	13	B	69	5337	1399	0.95	7.22	17	B	
																	187,500
3.393	AVENIDA PICO	4	70	3301	895	0.92	7.22	13	B	69	4578	1251	0.91	7.22	19	C	
																	200,100
5.801	CAMINO ESTRELLA	4	70	4512	1243	0.91	7.22	18	C	69	5567	1426	0.98	7.22	21	C	
																	242,200
6.780	JCT RTE 1	5	70	3553	945	0.94	4.25	11	B	72	5106	1301	0.98	4.25	15	B	
																	234,300
7.344	CAMINO CAPISTRANO	5	70	4921	1357	0.91	4.25	16	B	69	7249	1873	0.97	4.25	22	C	
																	252,100
8.795	SAN JUAN CREEK	4	62	6625	1741	0.95	4.25	29	D	67	8329	2110	0.99	4.25	32	D	
																	259,200
9.604	JCT. RTE. 74	4	65	5246	1437	0.91	4.27	23	C	64	6854	1755	0.98	4.27	28	D	
																	278,600
10.910	JUNIPERO SERRA	5	64	6500	1785	0.91	3.98	23	C	66	8232	2143	0.96	3.98	26	D	
																	286,800
12.490	JCT RTE 73	4	69	5787	1543	0.94	3.98	23	C	68	6419	1620	0.99	3.98	24	C	
																	248,400
12.943	AVERY PARKWAY	4	65	5278	1410	0.94	3.98	22	C	66	5787	1492	0.97	3.98	23	C	
																	255,700
13.776	CROWN VALLEY	4	66	5671	1504	0.94	3.50	23	C	65	5813	1504	0.97	3.50	24	C	
																	302,200
15.217	OSO PARKWAY	4	69	7289	1917	0.95	3.50	28	D	69	7617	1955	0.97	3.50	29	D	
																	315,500
16.528	LA PAZ ROAD	4	67	6695	1746	0.96	3.50	27	D	67	7842	2039	0.96	3.50	31	D	
																	312,200
17.472	ALICIA PARKWAY	4	64	6651	1722	0.97	3.50	27	D	62	8338	2122	0.98	3.50	35	D	
																	333,100
18.685	NIGUEL/EL TORO	5	66	7504	1982	0.95	3.50	24	C	41	8829	2270	0.97	3.50	45	F	
																	354,700
19.890	LAKE FOREST	6	66	8456	2215	0.95	3.50	23	C	63	10034	2565	0.98	3.50	28	D	
																	280,000
21.304	JCT. RTE. 405	3	64	4559	1215	0.94	3.37	26	C	66	4567	1183	0.97	3.37	24	C	
																	153,300
22.213	ALTON PARKWAY	4	57	6771	1773	0.95	3.37	32	D	65	6477	1690	0.96	3.37	26	D	

Postmile	SEGMENT	# of LANES	AM PEAK PERIOD							PM PEAK PERIOD							2016 ADT
			AM Speed	AM (PHV)	PHV (15 min)	PHF	% Truck	AM Density	AM LOS	PM Speed	PM (PHV)	PHV (15 min)	PHF	% Truck	PM Density	PM LOS	
23.120	JCT. RTE. 133	5	47	7153	1907	0.94	5.50	33	D	54	7061	1838	0.96	5.50	28	D	
																	243,700
23.942	SAND CANYON	5	59	8581	2215	0.97	4.97	31	D	68	7905	2094	0.94	4.97	25	C	
																	255,800
24.991	JEFFREY ROAD	5	43	8826	2304	0.96	4.97	44	E	61	10045	2551	0.98	4.97	34	D	
																	271,300
26.583	CULVER DRIVE	5	44	8418	2143	0.98	4.97	40	E	52	9082	2327	0.98	4.97	37	E	
																	294,400
27.589	JAMBOREE ROAD	6	45	8246	2146	0.96	4.97	33	D	48	8810	2307	0.95	4.97	33	D	
																	316,400
28.250	TUSTIN RANCH	5	52	9256	2378	0.97	4.97	37	E	62	9328	2370	0.98	4.97	31	D	
																	324,600
29.091	RED HILL AVENUE	5	51	9557	2442	0.98	4.97	39	E	64	9757	2534	0.96	4.97	32	D	
																	324,300
29.616	NEWPORT AVENUE	6	46	9799	2550	0.96	4.97	38	E	63	10303	2683	0.96	4.97	29	D	
																	279,500
30.263	JCT. RTE. 55	4	40	6419	1632	0.98	5.50	42	E	61	6646	1759	0.94	5.50	30	D	
																	329,500
30.8	1ST STREET	5	48	8585	2287	0.94	5.50	39	E	51	8972	2280	0.98	5.50	37	E	
																	352,600
31.23	4TH STREET	5	41	8653	2273	0.95	5.50	46	F	61	8980	2306	0.97	5.50	31	D	
																	359,400
32.3	17TH STREET	5	51	8956	2372	0.94	5.50	38	E	59	8999	2310	0.97	5.50	32	D	
																	362,500
33.2	MAIN STREET	4	26	6346	1681	0.94	5.50	66	F	37	6276	1622	0.97	5.50	45	F	
																	366,000
35	CHAPMAN	6	58	7940	2045	0.97	7.00	24	C	65	7898	2072	0.95	7.00	22	C	
																	253,100
35.1	STATE COLLEGE	5	37	8309	2136	0.97	7.00	48	F	62	8019	2078	0.96	7.00	28	D	
																	240,900
35.6	GENE AUTRY	5	55	10332	2640	0.98	7.00	40	E	60	10444	2643	0.99	7.00	36	E	
																	240,900
36.48	KATELLA	4	56	6836	1777	0.96	9.60	33	D	60	6201	1566	0.99	9.60	27	D	
																	264,800
37.38	HARBOR	5	62	8252	2141	0.96	9.60	29	D	67	7690	1948	0.99	9.60	24	C	
																	263,900
37.7	BALL	4	53	7834	1991	0.98	9.60	39	E	66	7109	1856	0.96	9.60	29	D	
																	276,300
38.9	LINCOLN	4	51	7311	1921	0.95	9.50	39	E	61	7129	1801	0.99	9.50	31	D	
																	265,400
39.3	EUCLID	4	41	6796	1758	0.97	9.60	45	E	61	6349	1636	0.97	9.60	28	D	
																	259,800
40.5	BROOKHURST	4	44	6816	1761	0.97	9.60	42	E	65	7027	1810	0.97	9.60	29	D	
																	241,000

Postmile	SEGMENT	# of LANES	AM PEAK PERIOD							PM PEAK PERIOD							2016 ADT
			AM Speed	AM (PHV)	PHV (15 min)	PHF	% Truck	AM Density	AM LOS	PM Speed	PM (PHV)	PHV (15 min)	PHF	% Truck	PM Density	PM LOS	
40.98	LA PALMA	6	41	7196	1920	0.94	9.60	33	**D**	69	7390	1898	0.97	9.60	19	**C**	
																	241,000
41.8	MAGNOLIA	6	50	6846	1760	0.97	9.60	25	**C**	68	6789	1757	0.97	9.60	18	**C**	
																	121,100
42.5	ORANGETHROPE	4	64	4263	1117	0.95	9.35	18	**C**	68	4434	1143	0.97	9.35	18	**B**	

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Postmile	SEGMENT	# of LANES	AM PEAK PERIOD							PM PEAK PERIOD							2016 ADT
			AM Speed	AM (PHV)	PHV (15 min)	PHF	% Truck	AM Density	AM LOS	PM Speed	PM (PHV)	PHV (15 min)	PHF	% Truck	PM Density	PM LOS	
R0.000	LOS ANGELES/ORANGE COUNTY LINE	3	57	4734	1289	0.92	8.70	31	D	64	4330	1101	0.98	8.70	24	C	
																	100,000
R0.650	JCT. RTE. 405	3	57	4734	1289	0.92	8.70	31	D	64	4330	1101	0.98	8.70	24	C	
																	142,500
R2.653	WESTMINSTER, KNOTT AVENUE/GOLDEN WEST STREET INTERCHANGE	3	52	5024	1312	0.96	8.70	35	E	64	4733	1200	0.99	8.70	26	D	
																	150,500
R3.587	GARDEN GROVE, JCT. RTE. 39	3	46	6237	1587	0.98	4.90	47	F	55	5802	1488	0.97	4.90	37	E	
																	183,400
R4.812	GARDEN GROVE, MAGNOLIA STREET INTERCHANGE	4	62	6924	1754	0.99	4.90	29	D	65	6646	1700	0.98	4.90	27	D	
																	196,400
R5.817	GARDEN GROVE, BROOKHURST STREET INTERCHANGE	4	41	7014	1862	0.94	4.90	47	F	59	6827	1737	0.98	4.90	30	D	
																	202,100
R6.811	GARDEN GROVE, EUCLID STREET INTERCHANGE	4	45	6039	1592	0.95	4.90	36	E	56	5749	1453	0.99	4.90	27	D	
																	216,500
R7.829	GARDEN GROVE, HARBOR BOULEVARD	4	23	6216	1586	0.98	4.70	71	F	29	5938	1556	0.95	4.70	55	F	
																	223,500
R8.822	GARDEN GROVE, GARDEN GROVE BOULEVARD INTERCHANGE	4	24	5546	1474	0.94	4.70	63	F	25	5386	1400	0.96	4.70	57	F	
																	229,600
R9.729	ORANGE, MANCHESTER AVENUE/ CITY DRIVE INTERCHANGE	2	34	3203	834	0.96	4.70	50	F	35	3174	835	0.95	4.70	49	F	
																	235,500
R10.478	SANTA ANA, JCT. RTES. 5 AND 57; SANTA ANA/ ORANGE FREEWAYS	2	26	3188	817	0.98	4.50	64	F	51	3170	833	0.95	4.50	33	D	
																	146,700
R10.992	SANTA ANA, MAIN STREET	2	58	3542	896	0.99	4.50	32	D	57	3699	949	0.97	4.50	34	D	
																	146,700
R11.825	ORANGE, GLASSELL STREET INTERCHANGE	3	58	5032	1275	0.99	4.50	30	D	51	5682	1434	0.99	4.50	38	E	
																	141,800
R12.866	TUSTIN AVENUE INTERCHANGE	5	54	7242	1878	0.96	4.50	28	D	61	8029	2022	0.99	4.50	27	D	
																	118,400
R13.164	JCT. RTE. 55, COSTA MESA FREEWAY																

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			AM Speed	AM (PHV)	PHV (15 min)	PHF	% Truck	AM Density	AM LOS	PM Speed	PM (PHV)	PHV (15 min)	PHF	% Truck	PM Density	PM LOS	
R0.000	LOS ANGELES/ORANGE COUNTY LINE	2	66	2342	612	0.956699	8.70	19	C	54	2251	584	0.96	8.70	23	C	
																	100,000
R0.650	JCT. RTE. 405	3	67	4039	1061	0.95	8.70	22	C	66	3912	1003	0.98	8.70	21	C	
																	142,500
R2.653	WESTMINSTER, KNOTT AVENUE/GOLDEN WEST STREET INTERCHANGE	3	65	4223	1120	0.94	8.70	24	C	58	4178	1086	0.96	8.70	26	D	
																	150,500
R3.587	GARDEN GROVE, JCT. RTE. 39	3	60	5266	1352	0.97	4.90	31	D	57	5140	1325	0.97	4.90	32	D	
																	183,400
R4.812	GARDEN GROVE, MAGNOLIA STREET INTERCHANGE	4	64	6114	1624	0.94	4.90	26	C	62	6317	1596	0.99	4.90	26	D	
																	196,400
R5.817	GARDEN GROVE, BROOKHURST STREET INTERCHANGE	4	63	6133	1608	0.95	4.90	26	D	61	6634	1679	0.99	4.90	28	D	
																	202,100
R6.811	GARDEN GROVE, EUCLID STREET INTERCHANGE	4	62	6809	1800	0.95	4.90	30	D	56	7411	1908	0.97	4.90	35	D	
																	216,500
R7.829	GARDEN GROVE, HARBOR BOULEVARD	5	65	6885	1804	0.95	4.70	23	C	59	7353	1890	0.97	4.70	26	D	
																	223,500
R8.822	GARDEN GROVE, GARDEN GROVE BOULEVARD INTERCHANGE	4	64	6571	1716	0.96	4.70	27	D	36	7105	1875	0.95	4.70	53	F	
																	229,600
R9.729	ORANGE, MANCHESTER AVENUE/ CITY DRIVE INTERCHANGE	4	66	5751	1532	0.94	4.70	24	C	53	5522	1483	0.93	4.70	29	D	
																	235,500
R10.478	SANTA ANA, JCT. RTES. 5 AND 57; SANTA ANA/ ORANGE FREEWAYS	3	63	5366	1412	0.95	4.50	31	D	46	5060	1304	0.97	4.50	39	E	
																	146,700
R10.992	SANTA ANA, MAIN STREET	3	67	3734	963	0.97	4.50	20	C	59	3846	1008	0.95	4.50	23	C	
																	146,700
R11.825	ORANGE, GLASSELL STREET INTERCHANGE	3	58	6037	1622	0.93	4.50	38	E	50	5693	1445	0.98	4.50	39	E	
																	141,800
R12.866	TUSTIN AVENUE INTERCHANGE	4	63	7076	1892	0.93	4.50	31	D	56	6630	1699	0.98	4.50	31	D	
																	118,400
R13.164	JCT. RTE. 55, COSTA MESA FREEWAY																

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Postmile	SEGMENT	# of LANES	AM PEAK PERIOD							PM PEAK PERIOD							2016 ADT
			AM Speed	AM (PHV)	PHV (15 min)	PHF	% Truck	AM Density	AM LOS	PM Speed	PM (PHV)	PHV (15 min)	PHF	% Truck	PM Density	PM LOS	
0	TUSTIN, FINLEY AVENUE																
																	55,700
0.267	JCT. RTE. 1																
																	55,700
1.513	COSTA MESA, EAST 17TH STREET																
																	87,800
1.82	COSTA MESA, HARBOR BOULEVARD																
																	71,700
2.021	COSTA MESA, 19TH STREET																
																	94,700
R2.772	COSTA MESA, VICTORIA/22ND STREETS	4	65	4228	1138	0.93	3.60	18	**B**	65	3462	923	0.94	3.60	14	**B**	
																	133,400
R4.022	COSTA MESA, MESA DRIVE	4	60	6063	1569	0.97	3.60	27	**D**	59	4501	1152	0.98	3.60	20	**C**	
																	153,600
R4.77	JCT. RTE. 73, CORONA DEL MAR FREEWAY	3	36	4647	1212	0.96	3.60	46	**F**	63	3037	799	0.95	3.60	17	**B**	
																	153,600
R5.99	JCT. RTE. 405, SAN DIEGO FREEWAY	3	49	4375	1156	0.95	2.10	32	**D**	56	2995	779	0.96	2.10	19	**C**	
																	162,300
R6.99	SANTA ANA, MAC ARTHUR BOULEVARD	4	53	6856	1858	0.92	5.80	36	**E**	39	4704	1271	0.93	5.80	34	**D**	
																	282,000
R7.85	SANTA ANA, DYER ROAD	4	59	6946	1808	0.96	5.80	32	**D**	38	5769	1474	0.98	5.80	40	**E**	
																	288,600
R9.437	SANTA ANA, EDINGER AVENUE	4	55	7388	1909	0.97	5.80	36	**E**	48	7069	1834	0.96	5.80	39	**E**	
																	303,900
R9.96	TUSTIN, MC FADDEN STREET INTERCHANGE	5	64	8657	2231	0.97	5.80	29	**D**	61	8102	2068	0.98	5.80	28	**D**	
																	287,500
10.45	TUSTIN, JCT. RTE. 5, SANTA ANA FREEWAY	3	63	4662	1231	0.95	7.70	27	**D**	50	5218	1341	0.97	7.70	37	**E**	
																	238,600
10.979	SANTA ANA, FOURTH STREET INTERCHANGE	4	65	6410	1712	0.94	7.70	27	**D**	56	7245	1906	0.95	7.70	35	**E**	
																	259,400
11.785	TUSTIN, SEVENTEENTH STREET INTERCHANGE	4	66	6274	1596	0.98	7.70	25	**C**	50	7001	1803	0.97	7.70	37	**E**	
																	251,500
12.967	JCT. RTE. 22 WEST, GARDEN GROVE FREEWAY	4	68	8197	2102	0.97	5.90	32	**D**	68	7895	2013	0.98	5.90	30	**D**	
																	263,700
13.7	CHAPMAN AVENUE	4	64	6139	1698	0.90	5.90	27	**D**	56	7175	1812	0.99	5.90	33	**D**	
																	231,100
15.242	ORANGE, KATELLA AVENUE INTERCHANGE	4	61	5630	1471	0.96	5.90	25	**C**	59	6262	1601	0.98	5.90	28	**D**	
																	215,100
16.981	ORANGE, LINCOLN AVENUE INTERCHANGE	4	64	6770	1721	0.98	5.90	28	**D**	56	6834	1738	0.98	5.90	32	**D**	
																	216,000
17.876	JCT RTE 91						5.90							5.90			

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			AM Speed	AM (PHV)	PHV (15 min)	PHF	% Truck	AM Density	AM LOS	PM Speed	PM (PHV)	PHV (15 min)	PHF	% Truck	PM Density	PM LOS	
0	TUSTIN, FINLEY AVENUE																
																	55,700
0.267	JCT. RTE. 1						3.60							3.60			
																	55,700
1.513	COSTA MESA, EAST 17TH STREET						3.60							3.60			
																	87,800
1.82	COSTA MESA, HARBOR BOULEVARD						3.60							3.60			
																	71,700
2.021	COSTA MESA, 19TH STREET						3.60							3.60			
																	98,500
R2.772	COSTA MESA, VICTORIA/22ND STRETS	3	66.35	4014	1050	0.96	3.60	21	**C**	55	4256	1203	0.88	3.60	29	**D**	
																	133,400
R4.022	COSTA MESA, MESA DRIVE	4	65	4099	1054	0.97	3.60	17	**B**	62	5522	1393	0.99	3.60	23	**C**	
																	153,600
R4.77	JCT. RTE. 73, CORONA DEL MAR FREEWAY	3	64	3469	910	0.95	3.60	19	**C**	59	5200	1350	0.96	3.60	31	**D**	
																	153,600
R5.99	JCT. RTE. 405, SAN DIEGO FREEWAY	3	51	4092	1035	0.99	2.10	27	**D**	28	4456	1133	0.98	2.10	55	**F**	
																	162,300
R6.99	SANTA ANA, MAC ARTHUR BOULEVARD	4	58	7465	1880	0.99	5.80	33	**D**	50	6793	1726	0.98	5.80	36	**E**	
																	282,000
R7.85	SANTA ANA, DYER ROAD	4	62	8315	2214	0.94	5.80	37	**E**	48	6967	1778	0.98	5.80	38	**E**	
																	288,600
R9.437	SANTA ANA, EDINGER AVENUE	4	58	8488	2244	0.95	5.80	40	**E**	64	7347	1856	0.99	5.80	30	**D**	
																	303,900
R9.96	TUSTIN, MC FADDEN STREET INTERCHANGE	4	57	8442	2153	0.98	5.80	39	**E**	63	7690	1938	0.99	5.80	32	**D**	
																	287,500
10.45	TUSTIN, JCT. RTE. 5, SANTA ANA FREEWAY	4	37	4984	1374	0.91	6.60	38	**E**	65	4749	1295	0.92	6.60	21	**C**	
																	238,600
10.979	SANTA ANA, FOURTH STREET INTERCHANGE	3	35	5424	1412	0.96	6.60	56	**F**	65	4886	1269	0.96	6.60	27	**D**	
																	259,400
11.785	TUSTIN, SEVENTEENTH STREET INTERCHANGE	4	43	7158	1937	0.92	6.60	47	**F**	44	6941	1773	0.98	6.60	42	**E**	
																	251,500
12.967	JCT. RTE. 22 WEST, GARDEN GROVE FREEWAY	5	60	7162	1828	0.98	7.50	25	**C**	55	7437	1930	0.96	7.50	29	**D**	
																	263,700
13.7	CHAPMAN AVENUE	4	49	6452	1667	0.97	5.90	35	**E**	44	6716	1760	0.95	5.90	41	**E**	
																	231,100
15.242	ORANGE, KATELLA AVENUE INTERCHANGE	4	54	7401	1942	0.95	5.90	37	**E**	65	7933	2000	0.99	5.90	32	**D**	
																	215,100
16.981	ORANGE, LINCOLN AVENUE INTERCHANGE	4	62	7327	1924	0.95	5.90	32	**D**	66	6967	1781	0.98	5.90	28	**D**	
																	216,000
17.876	JCT RTE 91						5.90							5.90			

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11.1	AT CHAPMAN OFF	5	70	7120	1843	0.97	6.14	22	C	69	6425	1660	0.97	6.14	20	C	
																	119,100
11.22	CHAPMAN	5	70	6803	1753	0.97	6.14	21	C	69	6187	1582	0.98	6.14	19	C	
																	244,300
11.68	ORANGEWOOD	5	70	7670	1952	0.98	6.14	23	C	52	7204	1856	0.97	6.14	29	D	
																	250,100
12.2	STADIUM	5	68	7535	1914	0.98	6.14	23	C	62	7329	1906	0.96	6.14	25	C	
																	250,100
12.5	KATELLA	5	68	7535	1914	0.98	6.14	23	C	62	7329	1906	0.96	6.14	25	C	
																	249,900
12.9	DOUGLASS	5	67	7749	1968	0.98	6.14	24	C	60	7398	1895	0.98	6.14	26	D	
																	249,900
13.38	BALL	5	70	7000	1771	0.99	6.14	21	C	57	6615	1716	0.96	6.14	25	C	
																	251,700
13.9	WAGNER	5	62	8711	2259	0.96	6.14	30	D	41	8508	2229	0.95	6.14	45	E	
																	251,700
14.73	LINCOLN	5	66	6856	1762	0.97	6.14	22	C	47	6722	1783	0.94	6.14	32	D	
																	251,500
15.4	LA PALMA	3	61	6209	1620	0.96	6.14	37	E	53	5332	1405	0.95	6.14	37	E	
																	251,500
15.7	N OF 91	3	66	5927	1540	0.96	6.14	32	D	61	5442	1403	0.97	6.14	31	D	
																	279,300
16.5	ORANGETHROPE	6	67	9549	2484	0.96	6.14	25	C	67	9357	2425	0.96	6.14	25	C	
																	278,400
17.18	PLACENTIA	5	56	9138	2320	0.98	6.14	34	D	53	9379	2392	0.98	6.14	37	E	
																	278,400
18.3	YORBA LINDA	5	69	6792	1785	0.95	6.14	21	C	50	7534	2002	0.94	6.14	33	D	
																	245,000
19.1	ROLLING HILLS	4	68	7617	1944	0.98	6.14	29	D	60	8177	2156	0.95	6.14	37	E	
																	245,000
19.8	IMPERIAL	5	68	5827	1556	0.94	6.14	19	C	30	6569	1705	0.96	6.14	48	F	
																	238,600
21.16	LAMBERT ROAD	4	64	5735	1565	0.92	6.14	25	C	53	5607	1452	0.97	6.14	28	D	
																	227,500
22	TONNER CANYON	4	60	6070	1563	0.97	6.14	27	D	57	5677	1495	0.95	6.14	27	D	
																	221,000

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Postmile	SEGMENT	# of LANES	AM PEAK PERIOD							PM PEAK PERIOD							2016 ADT
			AM Speed	AM (PHV)	PHV (15 min)	PHF	% Truck	AM Density	AM LOS	PM Speed	PM (PHV)	PHV (15 min)	PHF	% Truck	PM Density	PM LOS	
11.08	CHAPMAN	4	41	5811	1492	0.97	6.14	38	**E**	55	5647	1465	0.96	6.14	27	**D**	
																	244,300
11.55	ORANGEWOOD	4	52	6514	1684	0.97	6.14	33	**D**	51	6765	1779	0.95	6.14	36	**E**	
																	250,100
12.2	STADIUM	4	52	6514	1684	0.97	6.14	33	**D**	51	6765	1779	0.95	6.14	36	**E**	
																	250,100
12.4	KATELLA	4	54	7003	1784	0.98	6.14	34	**D**	59	7449	1931	0.96	6.14	34	**D**	
																	249,900
12.9	DOUGLAS	4	49	6917	1784	0.97	6.14	38	**E**	52	7138	1816	0.98	6.14	36	**E**	
																	249,900
13.27	BALL	4	44	6411	1687	0.95	6.14	40	**E**	47	6871	1758	0.98	6.14	39	**E**	
																	251,700
13.9	WAGNER	5	41	7629	2068	0.92	6.14	42	**E**	59	7687	2007	0.96	6.14	28	**D**	
																	251,700
14.65	LINCOLN	5	58	7446	1918	0.97	6.14	27	**D**	67	6980	1795	0.97	6.14	22	**C**	
																	251,500
15.4	LA PALMA	4	41	5293	1363	0.97	6.14	34	**D**	54	5512	1434	0.96	6.14	27	**D**	
																	251,500
15.7	N OF 91	4	61	5640	1522	0.93	6.14	26	**C**	61	5330	1350	0.99	6.14	23	**C**	
																	279,300
16.46	ORANGETHROPE	5	59	7123	1820	0.98	6.14	25	**C**	61	7189	1851	0.97	6.14	25	**C**	
																	278,400
17.18	CHAPMAN	4	37	7107	1834	0.97	6.14	51	**F**	36	6525	1655	0.99	6.14	47	**F**	
																	278,400
18.18	YORBA LINDA	5	38	6543	1711	0.96	6.14	37	**E**	54	6124	1561	0.98	6.14	24	**C**	
																	245,000
19.1	ROLLING HILLS	4	41	7004	1876	0.93	6.14	47	**F**	59	6955	1788	0.97	6.14	31	**D**	
																	245,000
19.73	IMPERIAL	4	37	6247	1666	0.94	6.14	46	**F**	60	5785	1471	0.98	6.14	25	**C**	
																	238,600
20.7	LAMBERT	4	31	5653	1534	0.92	6.14	51	**F**	58	5310	1336	0.99	6.14	24	**C**	
																	227,500
22.06	TONNER CANYON	4	39	6266	1694	0.92	6.14	45	**E**	64	6392	1618	0.99	6.14	26	**D**	
																	221,000

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Postmile	SEGMENT	# of LANES	AM PEAK PERIOD							PM PEAK PERIOD							2016 ADT
			AM Speed	AM (PHV)	PHV (15 min)	PHF	% Truck	AM Density	AM LOS	PM Speed	PM (PHV)	PHV (15 min)	PHF	% Truck	PM Density	PM LOS	
10.000	JCT RTE 5	3	66	3485	944	0.92	0.95	19	C	68	1949	514	0.95	0.95	10	A	
																	35,900
11.760	GREENFIELD DR	3	55	2927	794	0.92	0.95	19	C	70	1509	407	0.93	0.95	8	A	
																	34,900
13.404	LA PAZ ROAD	3	67	3738	1003	0.93	0.95	20	C	69	1763	474	0.93	0.95	9	A	
																	48,800
14.393	ALISO CREEK ROAD	4	69	5110	1352	0.94	0.95	20	C	70	2095	561	0.93	0.95	8	A	
																	58,000
16.250	EL TORO ROAD	3	57	5058	1298	0.97	1.04	31	D	67	1997	544	0.92	1.04	11	A	
																	67,400
18.696	TOLL PLAZA	3	64	6217	1613	0.96	1.04	34	D	64	2931	756	0.97	1.04	16	B	
																	67,900
21.428	NEWPORT COAST DRIVE	4	68	6686	1714	0.98	1.04	25	C	69	2994	773	0.97	1.04	11	B	
																	68,700
22.448	BONITA CANYON DRIVE/FORD ROAD	5	68	7408	1879	0.99	1.04	22	C	69	3449	915	0.94	1.04	11	A	
																	65,300
24.78	JAMBOREE ROAD	3	59	6023	1527	0.99	1.04	35	D	47	5013	1308	0.96	1.04	37	E	
																	175,200
26.58	COSTA MESA, JCT RTE 55	3	65	3856	1006	0.96	1.04	21	C	50	5216	1330	0.98	1.04	36	E	
																	117,500
27.28	COSTA MESA, BEAR STREET	3	66	4242	1076	0.99	1.04	22	C	58	4926	1257	0.98	1.04	29	D	
																	107,500
27.81	JCT RTE 405, SAN DIEGO FREEWAY	3	20	4004	1055	0.95	2.35	71	F	64	4126	1071	0.96	2.35	23	C	

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Postmile	SEGMENT	# of LANES	AM PEAK PERIOD							PM PEAK PERIOD							2016 ADT
			AM Speed	AM (PHV)	PHV (15 min)	PHF	% Truck	AM Density	AM LOS	PM Speed	PM (PHV)	PHV (15 min)	PHF	% Truck	PM Density	PM LOS	
10.000	JCT RTE 5	3	67.892	1408	380	0.93	0.95	7	A	65.758	2807	743	0.94	0.95	15	B	
																	35,900
11.760	GREENFIELD DR	3	69	1053	283	0.93	0.95	5	A	69	2444	633	0.97	0.95	12	B	
																	39,800
13.404	LA PAZ ROAD	3	68	1252	340	0.92	0.95	7	A	65	3009	791	0.95	0.95	16	B	
																	48,800
14.393	ALISO CREEK ROAD	3	67	1404	373	0.94	0.95	7	A	59	4185	1104	0.95	0.95	25	C	
																	58,000
16.250	EL TORO ROAD	3	66	1757	450	0.98	1.04	9	A	64	5076	1346	0.94	1.04	28	D	
																	67,400
18.696	TOLL PLAZA	5	74	2162	593	0.91	1.04	6	A	68	6088	1600	0.95	1.04	19	C	
																	67,900
21.428	NEWPORT COAST DRIVE	4	66	2166	594	0.91	1.04	9	A	58	6016	1655	0.91	1.04	29	D	
																	68,700
22.448	BONITA CANYON DRIVE/FORD ROAD	4	67	2314	625	0.93	1.04	9	A	41	6267	1712	0.92	1.04	42	E	
																	114,200
24.78	JAMBOREE ROAD	3	47	4564	1203	0.95	1.04	34	D	60	5113	1315	0.97	1.04	29	D	
																	175,200
26.58	COSTA MESA, JCT RTE 55	3	23	4723	1223	0.97	1.04	71	F	35	3998	1036	0.96	1.04	40	E	
																	117,500
27.28	COSTA MESA, BEAR STREET	3	23	4723	1223	0.97	1.04	71	F	35	3998	1036	0.96	1.04	40	E	
																	107,500
27.81	JCT RTE 405	3	33	4659	1276	0.91	2.35	52	F	49	4429	1127	0.98	2.35	31	D	

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Postmile	SEGMENT	# of Lanes	AM PEAK PERIOD							PM PEAK PERIOD							2016 ADT
			AM Speed	AM (PHV)	PHV (15 min)	PHF	% Truck	AM Density	AM LOS	PM Speed	PM (PHV)	PHV (15 min)	PHF	% Truck	PM Density	PM LOS	
0	LOS ANGELES-ORANGE COUNTY LINE	4	49	5519	1499	0.92	6.29	31	D	60	5420	1433	0.95	6.29	25	C	
																	248,000
R0.489	LA PALMA, ORANGETHORPE AVENUE	4	61	5627	1467	0.96	6.29	25	C	59	5687	1473	0.97	6.29	26	C	
																	254,700
R0.848	BUENA PARK, VALLEY VIEW STREET	4	57	5826	1558	0.93	6.29	28	D	57	6240	1653	0.94	6.29	30	D	
																	259,200
R1.842	BUENA PARK, KNOTT AVENUE	4	57	5826	1558	0.93	6.29	28	D	57	6240	1653	0.94	6.29	30	D	
																	264,300
R2.615	BUENA PARK, JCT. RTE. 39/BEACH	4	62	6869	1803	0.95	8.08	30	D	55	6806	1735	0.98	8.08	33	D	
																	263,800
R3.638	FULLERTON, JCT. RTE. 5, SANTA ANA FREEWAY	3	29	3635	970	0.94	6.80	46	F	62	4012	1016	0.99	6.80	23	C	
																	99,800
1.232	ANAHEIM, BROOKHURST AVENUE	4	54	6051	1636	0.92	6.80	31	D	50	6060	1586	0.96	6.80	33	D	
																	262,500
2.234	EUCLID AVENUE INTERCHANGE	4	38	5845	1525	0.96	6.80	41	E	45	6058	1554	0.97	6.80	36	E	
																	274,500
3.258	FULLERTON, HARBOR BOULEVARD	4	55	6308	1720	0.92	7.10	32	D	63	6019	1547	0.97	7.10	25	C	
																	266,500
3.512	ANAHEIM, LEMON STREET/ HARVARD AVENUE	4	55	6308	1720	0.92	7.10	32	D	63	6019	1547	0.97	7.10	25	C	
																	266,500
4.256	ANAHEIM, EAST STREET	4	34	6517	1652	0.99	7.10	50	F	59	6414	1631	0.98	7.10	29	D	
																	259,100
5.258	ANAHEIM, STATE COLLEGE BOULEVARD	4	55	6916	1792	0.96	9.20	34	D	53	6734	1737	0.97	9.20	34	D	
																	254,600
6.119	ANAHEIM, JCT. RTE. 57, ORANGE FREEWAY	3	59	4362	1113	0.98	8.70	26	D	58	3955	1047	0.94	8.70	25	C	
																	223,700
7.353	KRAEMER BOULEVARD/ GLASSELL STREET	3	49	4634	1176	0.99	8.70	33	D	63	4194	1082	0.97	8.70	24	C	
																	216,500
8.399	TUSTIN AVENUE INTERCHANGE	4	57	6439	1709	0.94	8.70	31	D	43	6605	1712	0.96	8.70	42	E	
																	231,600

Postmile	SEGMENT	# of Lanes	AM PEAK PERIOD							PM PEAK PERIOD							2016 ADT
			AM Speed	AM (PHV)	PHV (15 min)	PHF	% Truck	AM Density	AM LOS	PM Speed	PM (PHV)	PHV (15 min)	PHF	% Truck	PM Density	PM LOS	
9.187	JCT. RTE. 55 SOUTH	4	N/A	N/A	N/A	N/A	4.50	N/A	**N/A**	N/A	N/A	N/A	N/A	4.50	N/A	**N/A**	
																	322,700
10.091	LAKEVIEW AVENUE	6	67	7343	1856	0.989089	4.50	19	**C**	63	7596	1970	0.963959	4.50	21	**C**	
																	303,200
11.540	PERALTA, JCT. RTE. 90 WEST	5	68	6254	1600	0.977188	4.75	19	**C**	65	6360	1690	0.940828	4.75	21	**C**	
																	256,400
14.431	WEIR CANYON ROAD	5	69	6588	1736	0.948733	4.75	21	**C**	46	5790	1669	0.867286	4.75	30	**D**	
																	117,000
15.925	JCT RTE 241	4	69	5584	1472	0.95	4.75	22	**C**	42	5643	1633	0.86	4.75	40	**E**	
																	260,000
16.404	GYPSUM CANYON ROAD INTERCHANGE	4	66	5137	1444	0.89	4.75	22	**C**	54	5494	1537	0.89	4.75	29	**D**	
																	130,000
17.950	COAL CANYON ROAD	5	70	7315	1886	0.97	4.75	22	**C**	40	8239	2141	0.96	4.75	44	**E**	
																	130,200
18.905	ORANGE/RIVERSIDE COUNTY LINE	5	67	7206	1846	0.98	4.75	22	**C**	30	8948	2309	0.97	4.75	63	**F**	

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			AM Speed	AM (PHV)	PHV (15 min)	PHF	% Truck	AM Density	AM LOS	PM Speed	PM (PHV)	PHV (15 min)	PHF	% Truck	PM Density	PM LOS	
0	LOS ANGELES-ORANGE COUNTY LINE	4	42	6087	1626	0.94	6.29	40	**E**	49	5906	1499	0.98	6.29	32	**D**	
																	248,000
R0.6	LA PALMA, ORANGETHORPE AVENUE	4	58	5741	1479	0.97	6.29	26	**D**	59	5667	1558	0.91	6.29	27	**D**	
																	254,700
R1	BUENA PARK, VALLEY VIEW STREET	4	53	5814	1513	0.96	6.29	29	**D**	58	5684	1494	0.95	6.29	27	**D**	
																	259,200
R1.99	BUENA PARK, KNOTT AVENUE	4	45	6804	1760	0.97	6.29	40	**E**	44	6469	1702	0.95	6.29	40	**E**	
																	264,300
R2.6	BUENA PARK, JCT. RTE. 39/BEACH	4	53	6714	1736	0.97	8.08	34	**D**	53	6632	1712	0.97	8.08	34	**D**	
																	263,800
R3.4	FULLERTON, JCT. RTE. 5, SANTA ANA FREEWAY	3	49	4586	1153	0.99	6.80	32	**D**	58	4860	1251	0.97	6.80	30	**D**	
																	99,800
1.12	ANAHEIM, BROOKHURST AVENUE	4	60	6192	1589	0.97	6.80	27	**D**	59	6069	1536	0.99	6.80	27	**D**	
																	262,500
2.11	EUCLID AVENUE INTERCHANGE	4	63	6848	1807	0.95	6.80	30	**D**	61	6804	1711	0.99	6.80	29	**D**	
																	274,500
3.13	FULLERTON, HARBOR BOULEVARD	4	58	7749	1993	0.97	7.10	36	**E**	56	7645	1941	0.985	7.10	36	**E**	
																	266,500
3.91	ANAHEIM, LEMON STREET/ HARVARD AVENUE	4	61	6723	1713	0.981	7.10	29	**D**	45	6700	1761	0.951	7.10	41	**E**	
																	266,500
4.18	ANAHEIM, EAST STREET	4	60	6830	1739	0.98	7.10	30	**D**	46	6986	1786	0.98	7.10	40	**E**	
																	259,100
5.14	ANAHEIM, STATE COLLEGE BOULEVARD	4	62	6369	1627	0.98	9.20	27	**D**	49	6598	1674	0.99	9.20	36	**E**	
																	254,600
6.15	ANAHEIM, JCT. RTE. 57, ORANGE FREEWAY	3	54	5654	1437	0.98	8.70	37	**E**	49	5358	1362	0.98	8.70	39	**E**	
																	223,700
7.4	KRAEMER BOULEVARD/ GLASSELL STREET	5	67	7093	1811	0.98	8.70	23	**C**	59	6474	1659	0.98	8.70	23	**C**	
																	216,500
8.36	TUSTIN AVENUE INTERCHANGE	6	7993	2157	2087	0.26	8.70	0	**A**	66	7129	1823	0.98	8.70	19	**C**	
																	231,600
9.187	JCT. RTE. 55 SOUTH	4	N/A	N/A	N/A	N/A	4.50	N/A	**N/A**	N/A	N/A	N/A	N/A	4.50	N/A	**N/A**	
																	322,700

Postmile	SEGMENT	# of LANES	AM PEAK PERIOD							PM PEAK PERIOD							2016 ADT
			AM Speed	AM (PHV)	PHV (15 min)	PHF	% Truck	AM Density	AM LOS	PM Speed	PM (PHV)	PHV (15 min)	PHF	% Truck	PM Density	PM LOS	
10.091	LAKEVIEW AVENUE	5	70	7465	1899	0.983	4.50	22	C	34	7179	1812	0.945	4.50	46	F	
																	303,200
11.540	PERALTA, JCT. RTE. 90 WEST	5	63	6902	1746	0.988	4.75	23	C	33	6116	1582	0.966	4.75	39	E	
																	256,400
14.431	WEIR CANYON ROAD	5	70	7017	1787	0.982	4.75	21	C	67	5647	1451	0.973	4.75	18	B	
																	117,000
15.925	JCT RTE 241	4	68	7431	1881	0.99	4.75	28	D	63	6039	1550	0.97	4.75	25	C	
																	260,000
16.404	GYPSUM CANYON ROAD INTERCHANGE	4	66	6170	1573	0.98	4.75	24	C	62	5733	1461	0.98	4.75	24	C	
																	130,000
17.950	COAL CANYON ROAD	5	59	9547	2490	0.96	4.75	35	D	68	7535	1942	0.97	4.75	23	C	
																	130,200
18.905	ORANGE/RIVERSIDE COUNTY LINE	4	50	6350	1657	0.96	4.75	34	D	62	5533	1446	0.96	4.75	24	C	

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Postmile	SEGMENT	# of LANES	AM PEAK PERIOD							PM PEAK PERIOD							2016 ADT
			AM Speed	AM (PHV)	PHV (15 min)	PHF	% Truck	AM Density	AM LOS	PM Speed	PM (PHV)	PHV (15 min)	PHF	% Truck	PM Density	PM LOS	
0.000	LAGUNA BEACH, JCT. RTE. 1, PACIFIC COAST HIGHWAY																
																	22,200
0.230	LAGUNA BEACH, N OR CLIFF DRIVE																
																	28,500
0.962	LAGUNA BEACH, CANYON ACRES DRIVE																
																	37,500
3.416	LAGUNA BEACH, EL TORO ROAD																
																	20,100
7.710	LAGUNA CANYON ROAD																
																	N/A
8.376	JCT. RTE. 405, SAN DIEGO FREEWAY																
																	35,000
8.990	BARRANCA1	2	63	1616	453	0.89	4.53	15	**B**	59	2723	713	0.95	4.53	25	**C**	
																	30,100
9.100	BARRANCA2	3	66	1822	486	0.94	4.53	10	**A**	55	3730	979	0.95	4.53	24	**C**	
																	30,100
9.37	S OF 5	2	68	749	226	0.83	4.53	7	**A**	64	2010	673	0.75	4.53	22	**C**	
																	30,100
9.77	N OF 5	2	67	1457	426	0.86	4.53	13	**B**	65	3819	996	0.96	4.53	31	**D**	
																	30,100
10.05	MARINE WAY	2	64	1155	325	0.89	4.53	10	**A**	65	3199	835	0.96	4.53	26	**D**	
																	42,600
10.50	N OF MARINE	3	69	1152	324	0.89	4.53	6	**A**	67	3171	832	0.95	4.53	17	**B**	
																	42,600
10.73	S OF PM 11	4	66	1710	446	0.96	4.53	7	**A**	65	4860	1268	0.96	4.53	20	**C**	
																	42,600
11.08	AT PM 11	3	68	1462	393	0.93	4.53	8	**A**	66	4288	1121	0.96	4.53	23	**C**	
																	42,600
11.35	N OF PM 11	3	53	1478	404	0.91	4.53	10	**A**	51	4307	1120	0.96	4.53	30	**D**	
																	42,600
11.70	IRVINE BLVD 1	3	69	2029	520	0.98	4.53	10	**A**	64	5859	1543	0.95	4.53	33	**D**	
																	42,600
12.05	IRVINE BLVD 3	3	66	1439	372	0.97	3.19	8	**A**	63	4024	1079	0.93	3.19	23	**C**	
																	46,900
12.42	S OF PORTOLA	4	68	1529	396	0.97	3.19	6	**A**	64	4185	1132	0.92	3.19	18	**B**	
																	46,900
12.77	NB 133 TO 241	2	63	889	232	0.96	3.19	7	**A**	55	2787	761	0.92	3.19	28	**D**	
																	46,900
13.04	ORANGE 1	2	69	834	217	0.96	3.19	6	**A**	59	2214	605	0.91	3.19	21	**C**	
																	46,900
13.42	ORANGE 2	2	69	834	217	0.96	3.19	6	**A**	59	2214	605	0.91	3.19	21	**C**	
																	46,900

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Postmile	SEGMENT	# of LANES	AM PEAK PERIOD							PM PEAK PERIOD							2016 ADT
			AM Speed	AM (PHV)	PHV (15 min)	PHF	% Truck	AM Density	AM LOS	PM Speed	PM (PHV)	PHV (15 min)	PHF	% Truck	PM Density	PM LOS	
0.000	LAGUNA BEACH, JCT. RTE. 1, PACIFIC COAST HIGHWAY						3.41							3.41			
																	22,000
0.230	LAGUNA BEACH, N OR CLIFF DRIVE						3.41							3.41			
																	36,300
0.962	LAGUNA BEACH, CANYON ACRES DRIVE						3.41							3.41			
																	37,500
3.416	LAGUNA BEACH, EL TORO ROAD						1.14							1.14			
																	35,000
7.710	LAGUNA CANYON ROAD						1.14							1.14			
																	35,000
8.376	JCT. RTE. 405, SAN DIEGO FREEWAY						3.76							3.76			
																	35,000
8.990	BARRANCA1	3	52	3487	949	0.92	4.53	25	**C**	65	1936	504	0.96	4.53	11	**A**	
																	30,100
9.37	S OF 5	2	58	1780	484	0.92	4.53	17	**B**	65	674	191	0.88	4.53	6	**A**	
																	46,900
9.77	N OF 5	2	47	2762	707	0.98	4.53	31	**D**	39	841	221	0.95	4.53	12	**B**	
																	46,900
10.05	MARINE WAY	3	55	4461	1149	0.97	4.53	28	**D**	67	1332	355	0.94	4.53	7	**A**	
																	46,900
10.50	N OF MARINE	3	61	4319	1122	0.96	4.53	25	**C**	68	1282	337	0.95	4.53	7	**A**	
																	46,900
10.73	S OF PM 11	4	62	9393	2405	0.98	4.53	40	**E**	70	2897	774	0.94	4.53	11	**B**	
																	46,900
11.08	AT PM 11	3	53	5542	1411	0.98	4.53	36	**E**	69	1517	396	0.96	4.53	8	**A**	
																	46,900
11.35	N OF PM 11	3	59	5984	1522	0.98	4.53	35	**E**	63	1643	426	0.96	4.53	9	**A**	
																	46,900
11.70	IRVINE BLVD 1	3	63	5077	1289	0.98	3.19	28	**D**	67	1295	339	0.96	3.19	7	**A**	
																	47,200
12.05	IRVINE BLVD 3	3	55	5370	1380	0.97	3.19	34	**D**	69	2463	726	0.85	3.19	14	**B**	
																	47,200
12.42	S OF PORTOLA	4	56	5215	1377	0.95	3.19	25	**C**	67	1516	402	0.94	3.19	6	**A**	
																	47,200
13.04	ORANGE 1	2	54	2362	613	0.96	3.19	23	**C**	67	761	200	0.95	3.19	6	**A**	
																	47,200
13.42	ORANGE 2	2	69	2402	610	0.98	3.19	18	**B**	67	731	203	0.90	3.19	6	**A**	
																	47,200

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			AM Speed	AM (PHV)	PHV (15 min)	PHF	% Truck	AM Density	AM LOS	PM Speed	PM (PHV)	PHV (15 min)	PHF	% Truck	PM Density	PM LOS	
14.550	OSO	2	67	684	200	0.86	6.36	6	A	67	333	87	0.96	6.36	3	A	
																	6,900
17.768	ANTONIO	2	67	684	200	0.86	6.36	6	A	67	333	87	0.96	6.36	3	A	
																	16,100
18.488	SANTA MARGARITA	2	66	1351	368	0.92	6.36	12	B	66	505	141	0.90	6.36	4	A	
																	36,500
20.077	LOS ALISOS	3	66	3031	795	0.95	1.70	16	B	67	1059	288	0.92	1.70	6	A	
																	37,100
21.802	PORTOLA UC	3	68	3161	822	0.96	1.70	16	B	68	959	261	0.92	1.70	5	A	
																	32,400
23.418	ALTON	3	66	3678	1009	0.91	3.08	21	C	68	1437	379	0.95	3.08	8	A	
																	40,100
24.968	PORTOLA	3	61	3853	1004	0.96	3.08	22	C	68	1694	469	0.90	3.08	9	A	
																	39,200
27.378	JCT RTE 133	2	67	964	260	0.93	3.08	8	A	66	1036	279	0.93	3.08	9	A	
																	32,700
32.541	CHAPMAN-SANTIAGO RD UC	2	65	1451	380	0.95	3.08	12	B	62	2351	626	0.94	3.08	21	C	
																	47,800
36.099	WINDY RIDGE TOLL	3	69	1830	474	0.97	3.08	9	A	42	3908	1070	0.91	3.08	34	D	
																	47,800
39.079	JCT RTE 91	4	67	1957	510	0.96	1.66	8	A	36	3928	1022	0.96	1.66	29	D	

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Postmile	SEGMENT	# of LANES	AM PEAK PERIOD							PM PEAK PERIOD							2016 ADT
			AM Speed	AM (PHV)	PHV (15 min)	PHF	% Truck	AM Density	AM LOS	PM Speed	PM (PHV)	PHV (15 min)	PHF	% Truck	PM Density	PM LOS	
14.550	OSO	2	N/A	N/A	N/A	N/A	6.36	N/A	**N/A**	N/A	N/A	N/A	N/A	6.36	N/A	**N/A**	
																	6,900
17.768	ANTONIO	2	N/A	N/A	N/A	N/A	6.36	N/A	**N/A**	N/A	N/A	N/A	N/A	6.36	N/A	**N/A**	
																	16,100
18.488	SANTA MARGARITA	2	65	444	125	0.89	6.36	4	**A**	67	1066	290	0.92	6.36	9	**A**	
																	36,500
20.077	LOS ALISOS	2	68	945	274	0.86	1.70	8	**A**	67	2333	610	0.96	1.70	18	**C**	
																	37,100
21.802	PORTOLA UC	2	67	949	267	0.89	1.70	8	**A**	66	2236	581	0.96	1.70	18	**B**	
																	32,400
23.418	ALTON	3	66	1369	375	0.91	3.08	8	**A**	68	2753	697	0.99	3.08	14	**B**	
																	40,100
24.968	PORTOLA	2	67	1848	499	0.93	3.08	15	**B**	67	2938	761	0.97	3.08	23	**C**	
																	39,200
27.378	JCT RTE 133	2	70	1231	316	0.97	3.08	9	**A**	68	767	197	0.97	3.08	6	**A**	
																	32,700
32.541	CHAPMAN-SANTIAGO RD UC	2	48	2733	710	0.96	3.08	30	**D**	38	1116	292	0.96	3.08	16	**B**	
																	47,800
36.099	WINDY RIDGE TOLL	3	62	5585	1418	0.98	3.08	31	**D**	69	1781	465	0.96	3.08	9	**A**	
																	47,800
39.079	JCT RTE 91	5	20	5923	1537	0.96	1.66	62	**F**	74	1819	470	0.97	1.66	5	**A**	

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Postmile	SEGMENT	# of LANES	AM PEAK PERIOD							PM PEAK PERIOD							2016 ADT
			AM Speed	AM (PHV)	PHV (15 min)	PHF	% Truck	AM Density	AM LOS	PM Speed	PM (PHV)	PHV (15 min)	PHF	% Truck	PM Density	PM LOS	
0.000	WALNUT AVENUE	3	69	259	72	0.90		1	A	66	2194	561	0.98		11	B	
																	82,300
0.239	JAMBOREE	2	66	258	69	0.93		2	A	68	2242	616	0.91		18	C	
																	37,500
1.638	IRVINE	2	67	313	82	0.95		2	A	68	2179	550	0.99		16	B	
																	35,800
2.848	PORTOLA	3	69	337	92	0.92		2	A	69	1994	509	0.98		10	A	
																	32,200
6.035	CHAPMAN	3	69	337	92	0.92		2	A	69	1994	509	0.98		10	A	
																	28,000
6.205	JCT RTE 241																

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Postmile	SEGMENT	# of LANES	AM PEAK PERIOD							PM PEAK PERIOD							2016 ADT
			AM Speed	AM (PHV)	PHV (15 min)	PHF	% Truck	AM Density	AM LOS	PM Speed	PM (PHV)	PHV (15 min)	PHF	% Truck	PM Density	PM LOS	
0.000	WALNUT AVENUE	2	65	3202	858	0.93		27	D	65	859	226	0.95		7	A	
																	82,300
0.239	JAMBOREE	2	68	3477	891	0.98		26	D	67	659	178	0.93		5	A	
																	37,500
1.638	IRVINE	3	64	3166	815	0.97		17	B	69	542	149	0.91		3	A	
																	35,800
2.848	PORTOLA	2	61	3032	772	0.98		25	C	68	514	134	0.96		4	A	
																	32,200
6.035	CHAPMAN	2	60	2688	692	0.97		23	C	68	534	145	0.92		4	A	
																	28,000
6.205	JCT RTE 241																

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Postmile	SEGMENT	# of LANES	AM PEAK PERIOD							PM PEAK PERIOD							2016 ADT
			AM Speed	AM (PHV)	PHV (15 min)	PHF	% Truck	AM Density	AM LOS	PM Speed	PM (PHV)	PHV (15 min)	PHF	% Truck	PM Density	PM LOS	
0.230	JCT. RTE. 5	3	56	4272	1157	0.92	5.00	28	D	43	3465	880	0.98	5.00	28	D	
																	190,500
0.949	IRVINE CENTER	6	45	6650	1762	0.94	5.00	27	D	26	6108	1612	0.95	5.00	42	E	
																	212,900
1.804	JCT. RTE. 133	5	47	8680	2411	0.90	4.90	42	E	34	7428	1934	0.96	4.90	47	F	
																	250,400
2.876	SAND CANYON	4	43	7806	2106	0.93	5.20	51	F	41	6572	1713	0.96	5.20	43	E	
																	255,900
3.947	UNIVERSITY	4	54	8199	2119	0.97	5.60	40	E	43	7096	1794	0.99	5.60	42	E	
																	244,300
5.618	CULVER DRIVE	5	49	9375	2389	0.98	5.60	40	E	53	7692	1926	1.00	5.60	30	D	
																	268,400
6.917	JAMBOREE	5	59	9344	2390	0.98	5.60	33	D	53	8464	2149	0.98	5.60	33	D	
																	277,000
7.803	MAC ARTHUR	5	63	9130	2387	0.96	5.00	31	D	52	8761	2240	0.98	5.00	35	E	
																	279,200
8.740	JCT. RTE. 55	4	67	4600	1183	0.97	3.49	18	C	57	5260	1351	0.97	3.49	24	C	
																	239,200
9.46	BRISTOL	4	63	5725	1532	0.93	3.49	25	C	46	6233	1598	0.98	3.49	36	E	
																	229,200
9.9	BEAR	5	64	7428	1987	0.93	3.49	25	C	50	8155	2117	0.96	3.49	35	D	
																	229,200
10.9	FAIRVIEW	6	68	8076	2067	0.98	3.49	20	C	33	7750	2084	0.93	3.49	43	E	
																	292,400
11.4	HARBOR	6	65	8814	2296	0.96	3.49	24	C	44	9101	2335	0.97	3.49	36	E	
																	312,400
12.85	EUCLID	5	69	10015	2542	0.98	3.49	30	D	34	9388	2505	0.94	3.49	59	F	
																	291,300
13.74	BROOKHURST	4	66	6643	1684	0.99	3.49	26	D	35	6746	1759	0.96	3.49	51	F	
																	269,200
14.82	WARNER	4	68	6023	1576	0.96	3.49	23	C	49	6700	1703	0.98	3.49	35	E	
																	252,400
15.17	MAGNOLIA	4	71	6095	1630	0.93	3.49	23	C	58	5996	1526	0.98	3.49	27	D	
																	266,000
16.52	BEACH	4	59	8564	2241	0.96	3.49	38	E	61	7906	2078	0.95	3.49	35	D	
																	266,000
17.45	MCFADDEN	4	65	7751	1998	0.97	3.49	31	D	57	7655	1989	0.96	3.49	36	E	
																	266,000
17.92	GOLDENWEST	4	68	6945	1787	0.97	3.49	27	D	57	7205	1877	0.96	3.49	34	D	
																	262,700
19.24	WESTMINISTER	4	56	5829	1558	0.94	3.49	29	D	57	6548	1719	0.95	3.49	31	D	
																	245,400
20.33	BRYANT	4	65	6740	1714	0.98	3.49	27	D	57	6834	1753	0.97	3.49	31	D	
																	377,600

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			AM Speed	AM (PHV)	PHV (15 min)	PHF	% Truck	AM Density	AM LOS	PM Speed	PM (PHV)	PHV (15 min)	PHF	% Truck	PM Density	PM LOS	
22.55	SEAL BEACH	6	57	10282	2698	0.95	3.00	32	D	62	10233	2595	0.99	3.00	28	D	
																	370,100
23.62	SALMON	5	54	7983	2111	0.95	3.00	32	D	62	8625	2184	0.99	3.00	29	D	
																	254,400

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Postmile	SEGMENT	# of LANES	AM PEAK PERIOD							PM PEAK PERIOD							2016 ADT
			AM Speed	AM (PHV)	PHV (15 min)	PHF	% Truck	AM Density	AM LOS	PM Speed	PM (PHV)	PHV (15 min)	PHF	% Truck	PM Density	PM LOS	
0.230	JCT. RTE. 5	5	66	5526	1419	0.97	5.00	18	**B**	66	6341	1656	0.96	5.00	21	**C**	
																	190,500
0.949	IRVINE CENTER	4	64	5311	1356	0.98	5.00	22	**C**	60	5696	1464	0.97	5.00	25	**C**	
																	212,900
1.804	JCT. RTE. 133	4	63	6000	1528	0.98	4.90	25	**C**	65	5970	1549	0.96	4.90	24	**C**	
																	250,400
2.876	SAND CANYON	4	62	6654	1727	0.96	5.20	29	**D**	48	6684	1701	0.98	5.20	36	**E**	
																	255,900
3.947	UNIVERSITY	4	50	7443	1887	0.99	5.60	38	**E**	50	6695	1704	0.98	5.60	35	**D**	
																	244,300
5.618	CULVER DRIVE	4	51	7164	1848	0.97	5.60	37	**E**	53	6979	1873	0.93	5.60	36	**E**	
																	268,400
6.917	JAMBOREE	6	52	7595	1959	0.97	5.60	26	**C**	50	7197	1848	0.97	5.60	25	**C**	
																	277,000
7.803	MAC ARTHUR	6	42	11368	2923	0.97	5.00	47	**F**	62	9573	2416	0.99	5.00	27	**D**	
																	279,200
8.740	JCT. RTE. 55	4	52	7440	1886	0.99	3.49	37	**E**	65	6189	1563	0.99	3.49	25	**C**	
																	239,200
9.54	BRISTOL	5	45	9174	2389	0.96	3.49	43	**E**	67	6174	1571	0.98	3.49	19	**C**	
																	229,200
9.9	BEAR	4	39	7937	2081	0.95	3.49	55	**F**	64	5532	1395	0.99	3.49	22	**C**	
																	229,200
10.28	FAIRVIEW	5	51	8416	2185	0.96	3.49	35	**D**	71	6328	1596	0.99	3.49	18	**C**	
																	292,400
11.2	HARBOR	6	47	10921	2750	0.99	3.49	39	**E**	67	8953	2309	0.97	3.49	24	**C**	
																	312,400
12.5	EUCLID	5	53	9698	2477	0.98	3.49	38	**E**	69	8590	2185	0.98	3.49	26	**C**	
																	291,300
13.81	BROOKHURST	4	61	8771	2246	0.98	3.49	38	**E**	61	8317	2126	0.98	3.49	36	**E**	
																	269,200
14.72	WARNER	4	69	5313	1479	0.90	3.49	22	**C**	42	7049	1903	0.93	3.49	46	**F**	
																	252,400
15.16	MAGNOLIA	4	39	7713	2130	0.91	3.49	55	**F**	55	8136	2094	0.97	3.49	39	**E**	
																	266,000
16.26	EDINGER	5	73	6261	1751	0.89	3.49	20	**C**	46	7992	2153	0.93	3.49	38	**E**	
																	266,000
16.6	BEACH	4	45	6209	1741	0.89	3.49	39	**E**	64	6702	1682	1.00	3.49	27	**D**	
																	266,000
17.45	MCFADDEN	4	42	6969	1837	0.95	3.49	45	**E**	44	7836	1984	0.99	3.49	45	**F**	
																	266,000
17.98	GOLDENWEST	4	45	7043	1914	0.92	3.49	43	**E**	62	6645	1728	0.96	3.49	29	**D**	
																	262,700
19.05	WESTMINSTER	4	69	6849	1788	0.96	3.49	26	**D**	69	7094	1858	0.95	3.49	28	**D**	
																	245,400

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			AM Speed	AM (PHV)	PHV (15 min)	PHF	% Truck	AM Density	AM LOS	PM Speed	PM (PHV)	PHV (15 min)	PHF	% Truck	PM Density	PM LOS	
20.33	BRYANT	4	52	7261	1997	0.91	3.49	39	**E**	44	7145	1796	0.99	3.49	42	**E**	
																	377,600
22.54	SEAL BEACH	6	34	10509	2699	0.97	3.00	53	**F**	45	10476	2650	0.99	3.00	40	**E**	
																	370,100
23.62	SALMON	4	57	6186	1606	0.96	3.00	28	**D**	60	6493	1636	0.99	3.00	28	**D**	
																	254,400

** % Truck and ADT Values are the most recent values published at
www.dot.ca.gov/hq/traffops/saferesr/trafdata/ which is currently 2016 data **

Postmile	SEGMENT	# of LANES	AM PEAK PERIOD							PM PEAK PERIOD							2016 ADT
			AM Speed	AM (PHV)	PHV (15 min)	PHF	% Truck	AM Density	AM LOS	PM Speed	PM (PHV)	PHV (15 min)	PHF	% Truck	PM Density	PM LOS	
R 1.26	KATELLA 1	4	66	5138	1337	0.96	4.63	21	C	60	5639	1454	0.97	4.63	25	C	
																	162,400
R 1.55	KATELLA 2	4	67	5356	1383	0.97	4.63	21	C	53	5615	1440	0.97	4.63	28	D	
																	167,000

** % Truck and ADT Values are the most recent values published at
www.dot.ca.gov/hq/traffops/saferesr/trafdata/ which is currently 2016 data **

Postmile	SEGMENT	# of LANES	AM PEAK PERIOD							PM PEAK PERIOD							2016 ADT
			AM Speed	AM (PHV)	PHV (15 min)	PHF	% Truck	AM Density	AM LOS	PM Speed	PM (PHV)	PHV (15 min)	PHF	% Truck	PM Density	PM LOS	
R 1.26	KATELLA 1	4	65	4843	1330	0.91	4.63	21	C	65	4660	1225	0.95	4.63	19	C	
																	162,400
R 1.55	KATELLA 2	4	60	4930	1317	0.94	4.63	22	C	65	4690	1196	0.98	4.63	19	C	
																	167,000

** % Truck and ADT Values are the most recent values published at
www.dot.ca.gov/hq/traffops/saferesr/trafdata/ which is currently 2016 data **

Appendix B-1: Meeting CMP Traffic Impact Analysis Requirements

Meeting CMP Traffic Impact Analysis Requirements

AN OPTIONAL GUIDANCE FOR LOCAL JURISDICTIONS

Prepared for:

Orange County Environmental Management Agency
Orange County Transportation Commission
Orange County Transit District
League of Cities, Orange County Division
Transportation Corridor Agencies

Prepared by:

Kimley-Horn and Associates, Inc.
and
The Planning Center

June 11, 1991

CMP-TIA REQUIREMENTS

Requirements of CMP legislation

- Analyze impacts of land use decisions on CMP Highway System.
- Estimate costs associated with mitigation of impacts on CMP Highway System.
- Exclude costs associated with mitigating the impacts of interregional travel.
- Allow credits against mitigation costs for local public and private contributions to improvements to the CMP Highway System.
  - For toll road facilities, allow credits only for local public and private contributions which will not be reimbursed from toll revenues or other state or federal sources.
- Report annually on actions taken to adopt and implement a program to analyze the impacts of land use decisions on the CMP Highway System and to estimate the costs of mitigating those impacts.

Year One Goal

- Identify the impacts of development anticipated to occur over the next 7 years on the CMP Highway System and the projected costs of mitigating those impacts.

Actions Required of Local Jurisdictions

- A TIA will be required for CMP purposes for all proposed developments generating 2,400 or more daily trips. For developments which will directly access the CMP Highway System, the threshold for requiring a TIA should be reduced to 1,600 or more trips per day.
- Document procedures used to identify and analyze traffic impacts of new development on CMP Highway System. This documentation should include the following:
  - Identification of type of development proposals which are subject to a traffic impact analyses (TIA);
  - Description of required or acceptable TIA methodology; and
  - Description of inter-jurisdictional coordination process used when impacts cross local agency boundaries.
- Document procedures/standards used to determine the costs of mitigation requirements for impacts of new development on CMP Highway System.
- Document methodology and procedures for determining applicable credits against mitigation costs including allowable credits associated with contributions to toll road facilities.

SECTION 1 – INTRODUCTION

Purpose

State legislation creating the Congestion Management Program (CMP) requires that the program contain a process to analyze the impacts of land use decisions by local governments on the regional transportation system. Once impacts of a land use decision are identified, the CMP also requires that the costs to mitigate the impacts be determined.

For CMP purposes, the regional transportation system is defined by the legislation as all state highways and principal arterials at a minimum. This system is referred to as the CMP Highway System. The identification and analysis of impacts along with estimated mitigation costs are determined with respect to this CMP Highway System.

The objectives of this report are to:

- Provide guidance to local agencies in conducting traffic impact analyses.
- Assist local agencies in maintaining eligibility for funds through documentation of CMP compliance.
- Make available minimum standards for jurisdictions wishing to use them for identifying and analyzing impacts on CMP Highway System.
- Establish CMP documentation requirements for those jurisdictions which elect to use their own TIA methodology.
- Establish a baseline from which TIA standardization may evolve as experience is gained in the CMP process.
- Cause the analysis of impacts on the CMP Highway System to be integrated into the local agency development review process.
- Provide a method for determining the costs associated with mitigating development impacts.
- Provide a framework for facilitating coordination between agencies when appropriate.

Background

Through a coordinated effort among local jurisdictions, public agencies, business and community groups, Orange County has developed a Congestion Management Program framework in response to the requirements of Assembly Bill 1791. This framework is contained in the Congestion Management Program Preparation Manual which was issued in January 1991 as a joint publication of the following agencies:

- County of Orange
- Orange County Division, League of California Cities
- Orange County Transportation Commission
- Orange County Transit District

- Transportation Corridor Agencies

The CMP Manual describes the CMP Program requirements for each component prescribed by the CMP provision of AB 1791. The components include one entitled Land Use Coordination, which sets forth the basic requirements for the assessment, mitigation, and monitoring of traffic impacts to the CMP Highway System which are attributable to development projects.

Consolidation of Remaining Issues

This report is intended to present a useful reference in addressing the remaining issues associated with the identification and treatment of development impacts on the CMP Highway System. It is desirable that a standardized approach be utilized for determining which projects require analysis and in carrying out the resulting traffic impact analysis (TIA). It is also desirable that a reasonably uniform approach be utilized in determining appropriate mitigation strategies and estimating the associated costs.

TIA Survey History

In 1989, Kimley-Horn and Associates, Inc. conducted a survey of TIA procedures being used at the time by local jurisdictions within Orange County. The survey revealed that although there were some commonalities, there was considerable variation in approach, scope, evaluation methodology, and project disposition.

As part of the CMP process, it was determined that the identification of TIA elements which can or should be standardized should be accomplished. Additional documentation of cost estimating practices and the development of standardized costs and estimating procedures will be valuable in achieving desired consistency among jurisdictions.

In order to accomplish these objectives, Kimley-Horn's previous TIA survey was updated and additional information was solicited from each local agency within Orange County. The information was obtained through telephone interviews with City Engineers and Planners after they had an opportunity to examine the survey questionnaire which was mailed to them in advance of the interview. The information obtained was used in preparing the methodology recommendations contained in this report. A summary of the update survey results is provided in the Appendix.

Relationships with Other Components

In addition to being an integral part of the Land Use Coordination component of the CMP, the traffic impact analysis requirements also relate to all other CMP components to a greater or lesser degree. These components include the following:

- Modeling
- Level of Service
- Transit Standards
- Traffic Demand Management
- Deficiency Plans
- Capital Improvement Program

The Land Use Coordination section in Chapter 3 of the CMP Preparation Manual dated January, 1991 contains a detailed description of each of the component linkages listed above.

SECTION 2- REQUIREMENTS OF CMP LEGISLATION

The complete text of CMP legislation is contained in Appendix A to the Preparation Manual for the Congestion Management Program for Orange County dated January, 1991. For ease of reference, the requirements of this legislation related to analysis of the impacts of land use decisions made by local jurisdictions are summarized as follows:

- Analyze impacts of land use decisions on CMP Highway System.
- Estimate costs associated with mitigation of impacts on CMP Highway System.
- Exclude costs associated with mitigating the impacts of interregional travel.
- Allow credits against mitigation costs for local public and private contributions to improvements to the CMP Highway System.
    - For toll road facilities, allow credits only for local public and private contributions which will not be reimbursed from toll revenues or other state or federal sources.
- Report annually on actions taken to adopt and implement a program to analyze the impacts of land use decisions on the CMP Highway System and to estimate the costs of mitigating those impacts.

SECTION 3 - ACTIONS REQUIRED OF LOCAL AGENCIES

The provisions of CMP legislation, as summarized in the preceding section, impose a requirement on local jurisdictions to carry out certain actions in order to demonstrate their compliance with the CMP program. This compliance will maintain eligibility to receive state gas tax funds made available by the voter approved Proposition 111. The actions and documentation requirements related to the identification and analysis of traffic impacts include the following:

- A TIA will be required for CMP purposes for all proposed developments generating 2,400 or more daily trips. For developments which will directly access the CMP Highway System, the threshold for requiring a TIA should be reduced to 1,600 or more trips per day.
- Document procedures used to identify and analyze traffic impacts of new development on CMP Highway System. This documentation should include the following:
    - Identification of type of development proposals which are subject to a traffic impact analyses (TIA);
    - Description of required or acceptable TIA methodology; and
    - Description of inter-jurisdictional coordination process used when impacts

cross local agency boundaries.

- Document procedures/standards used to determine the costs of mitigation requirements for impacts of new development on CMP Highway System.
- Document methodology and procedures for determining applicable credits against mitigation costs including allowable credits associated with contributions to toll road facilities.
- Establish annual monitoring and reporting process to summarize activities performed in analyzing the impacts of land use decisions on the CMP Highway System and in estimating the associated mitigation costs. Procedures for incorporating mitigation measures into the Capital Improvement Program should also-be established.
- For the first year, local jurisdictions may assume that all interregional travel occurs on the freeway system or they may develop an analysis methodology to determine the amount of interregional travel occurring on arterials which are part of the CMP Highway System. During the first year, TIAs need to analyze only the impacts to arterial portions of the CMP Highway System.

SECTION 4 - CMP TRAFFIC IMPACT ANALYSIS METHODOLOGY

In order to assure that the CMP Program meets its objectives of linking land use decisions with the adequate evaluation of impacts related to those decisions, traffic impact analyses must often be undertaken. There are a number of essential elements which should be included in traffic impact analyses (TIA) used to support the program. Many local jurisdictions already employ development review processes which will be adequate for addressing CMP requirements. For those jurisdictions wishing technical guidance in carrying out the analysis of traffic impacts on the CMP Highway System, this section offers an appropriate TIA methodology.

PROJECTS REQUIRING TIA ANALYSIS

All development in Orange County will use the CMP Network to a greater or lesser extent from time-to-time. The seven-year capital improvement program, together with deficiency plans to respond to deficiencies which cannot be resolved in the 7-year timeframe, are developed in response to anticipated growth in travel within a jurisdiction. Thus, a certain level of travel growth is addressed in the normal planning process and it is not necessary to evaluate relatively small projects with a TIA or to rely on TIA's as the primary means of identifying needed CMP Highway System improvements. Furthermore, County voters have approved a sales tax increase which will fund major improvements to the transit and highway systems serving the County.

Many jurisdictions will require an EIR for a proposed development project. When required, the EIR should include steps necessary to incorporate the required CMP analysis. Most or all of the TIA elements described in this section would normally be

incorporated into the typical EIR traffic analysis.

Certain development projects not requiring an EIR should still be evaluated through a TIA process due to their land use type, intensity, proximity to the CMP network, and/or duration of development timeframe. In other words, developments which will significantly alter the anticipated demand on a CMP roadway should be evaluated through a TIA approach.

At the present time, there is a wide-ranging approach to determining which projects will require a TIA. In some jurisdictions, there are formal guidelines, while in others it depends primarily on the judgment of a member of staff relative to the probable significance of the project's impact on the surrounding road system.

The OCTC TIA guidelines recommended defining three percent of the level of service standard as significant impact. This seems reasonable for application for CMP purposes. Thus, project impacts of three percent or less can be mitigated by impact fees or other revenues. Projects with a potential to create an impact of more than three percent of Level of Service E capacity will require TIA's. On this basis, it is recommended that all development projects which generate more than 2,400 daily trips be subject to a TIA for CMP evaluation. For projects which will directly access or be in close proximity to a CMP Highway System link a reduced threshold of 1,600 trips/day would be appropriate. Appendix B provides background information of the derivation of these threshold values.

TIA PROCESS

There are a number of essential elements in the TIA process itself. It is desirable that all of these elements be evaluated within an acceptable range of criteria in order to assure the objectives of the CMP process and to maintain a reasonable degree of equity from jurisdiction to jurisdiction. It is recognized, however, that for certain of the elements, some variations relating to professional judgment and local criteria and characteristics are necessary and appropriate to the process. These factors have been fully considered in developing the descriptions of the following elements:

- Evaluation of existing conditions
- Trip generation
- Internal capture and passer-by traffic
- Trip distribution and assignment
- Radius of development influence
- Background traffic
- Capacity analysis methodology
- Impact costs/mitigation

Evaluation of Existing Conditions

In order to evaluate the relative impacts of a proposed development, determine CMP Highway System status and define appropriate mitigation for new impacts, it is necessary to understand the existing conditions on the affected roadway network. Evaluation of

existing conditions is common to nearly all jurisdictions in Orange County. Given that most jurisdictions use link and intersection capacity analysis techniques compatible with the techniques identified in the level-of-service component, no changes in existing local jurisdiction procedures should be necessary in connection with the CMP Program.

Trip Generation

At the foundation of traffic impact analyses is the quantification of trip generation. Use of the ITE Trip Generation Manual is common throughout Orange County. In addition, other widely accepted practices are being used when appropriate to supplement the lit data. These practices include use of acceptable rates published by local agencies and surveys conducted at similar sites, subject to approval of the reviewing agency. Given the uniformity of practice in Orange County to date, no major adjustments in this procedure should be required. It would be desirable however to establish a central library for reporting the results of special trip generation studies and making these results available to all other jurisdictions who wish them.

Internal Capture and Passer-by Traffic

Techniques for identifying the internal relationship of travel within mixed-use developments and the degree to which development captures passer-by trips as opposed to creating new trips are being applied by approximately 2/3 of the local jurisdictions within Orange County. The use of guidelines in the ITE Trip Generation Manual and appropriate professional judgment are the predominant techniques employed. To supplement the guidance available through ITE documentation, local jurisdictions are encouraged to undertake additional studies to document rates applicable within their jurisdiction. The determination of applicable rates should be undertaken by experienced transportation engineering professionals with thorough documentation of the methodology, data, and assumptions used. It is recommended that those jurisdictions which do not currently allow these adjustments establish revised TIA procedures incorporating this element. As with trip generation data, a central library would be desirable for reporting of data and analyses performed locally related to determination of appropriate factors.

Trip Distribution and Assignment

Several appropriate distribution and assignment techniques are used in Orange County, depending on the size of the development and the duration of buildout. Manual and computer modeling approaches are used as appropriate. Manual methods based on the best socio-economic information available to the agency and applicant should be acceptable except when a development's size makes a modeling approach more appropriate. Sources of this information include demographic surveys, market analyses, and previous studies.

Radius of Development Influence

There are numerous ways to identify the study area to be evaluated in a TIA. These include both qualitative and quantitative approaches. One of the most effective ways is through the determination of the quantity of project traffic on CMP roadway links compared to a selected level of impact. The goal of a quantitative approach is to be sure that all elements

of the CMP network are addressed in a comparable manner from jurisdiction to jurisdiction. This is important due to the potential for overlapping impacts among jurisdictions. It is also important to maintain flexibility within a quantitative process to allow transportation professionals at local jurisdictions to add areas to the study which are of specific concern. It is not intended that CMP practices should restrict this aspect of each agency's existing TIA process.

It is recommended that the study area for CMP Highway System links be defined by a measure of significant impact on the roadway links. As a starting point, it is proposed that the measure be three percent of existing roadway capacity. Thus, when a traffic impact analysis is being done it would require the inclusion of CMP roadway links that are impacted by 3 percent or more of their LOS E capacity. If a TIA is required only for CMP purposes, the study area would end when traffic falls below three percent of capacity on individual roadway links. If the TIA is also required for other purposes, additional analysis can be required by the local jurisdiction based on engineering judgment or local regulation as applicable.

Background Traffic

In order for a reasonable assessment of the level of service on the CMP network, it is necessary to not only identify the proposed development impact, but also the other traffic which can be expected to occur during the development of the project. There are numerous methods of evaluating background traffic. The implications of these alternative methods are that certain methodologies may result in deficiencies, while other methodologies may find an acceptable operating conditions.

The cost to mitigate impacts of a land use decision is unrelated to background traffic. Rather, it is related to the cost of replacing the capacity which is consumed by the proposed development. However, it is necessary to understand background traffic in order to evaluate level-of-service. Background traffic is composed of existing traffic demands and growth from new development which will occur over a specific period of time. Both the existing and the growth elements of background traffic contain sub-elements. These include traffic which is generated within Orange County, that which begins and/or ends within the County, and interregional traffic which has neither end in Orange County. CMP legislation stipulates that interregional traffic will not be considered in CMP evaluations with respect to LOS compliance or determining costs of mitigation.

Given that the CMP process is new, there is no existing practice of separating interregional traffic from locally generated traffic. Until a procedure for identifying interregional traffic is developed, local jurisdictions may assume that all interregional traffic occurs on the freeway system. Initially TIA's required for CMP purposes need only analyze the impacts to arterial portions of the CMP Highway System.

Local governments in Orange County are generally consistent in their approach to background traffic. There are three major approaches used. The first is to use historical growth factors which are applied to existing traffic volumes to project future demands. The second is to aggregate the impacts of specific individual projects which have been approved or planned but not built to identify the total approved background traffic on the study area roadway system. A third method is to use computer modeling to identify

total traffic demands which represent both background traffic and project impact traffic. For the present CMP program, it is recommended that the discretion for the appropriate process lie within the local jurisdiction, however, the method to be used in the jurisdiction should be clearly defined in the agency's TIA rules and procedures. In addition, it is recommended that all jurisdictions create a listing of approved development projects and a map showing their locations which would be updated frequently and be available to other jurisdictions on request. The listing should include information related to type and size of land use and phasing for each project.

It is appropriate to periodically update long range forecasts based on development approvals and anticipated development growth in the region and plan a transportation system which will provide the necessary level-of-service for this amount of development. When a development proposal will significantly alter this long-term plan, it will be necessary to address the aggregate of all approved development to assure that there is a long-term solution. However, from a TIA perspective, it is reasonable and practical to consider only that development traffic which can be expected to exist at the time of buildout of a new development proposal. That is to say, for CMP purposes background traffic should be limited to that traffic which is generated by development which will exist at the time of buildout of a proposed development. CEQA requirements may dictate that other background traffic scenarios be analyzed as well.

Capacity Analysis Methodology

Once the projected traffic demands are known, it is necessary to evaluate these demands relative to available and planned roadway capacity. The methodology used in capacity determination in Orange County is relatively uniform. Additionally, the level of service (LOS) component of the CMP Program has identified specific criteria which are to be used in determining level-of-service on the CMP Highway System.

Impact Costs/Mitigation

This element is at the heart of the CMP process; that is to identify the costs of mitigating a land development decision on the CMP System.

The current practice throughout Orange County is to require mitigation only when the level-of-service standard is exceeded. However, some jurisdictions require regular impact mitigation fees and phasing road improvements with development. The growth management requirement of the sales tax Measure M mandates a traffic phasing program. Often, mitigation is equated to construction of roadway improvements to maintain an acceptable level-of-service and/or to maintain the existing level-of-service. In some instances, a pay and go mitigation approach is allowed. This means that new development may pay its fair share and go forward and the provision of improvements remain the responsibility for the local jurisdiction.

In order to assess responsibility for impacts, there are a variety of approaches. One approach is to consider impact traffic as a percent of total traffic. Impact traffic may also be taken as a percentage of existing capacity. Another common approach is to use the net impact of development as a percent of total future traffic demand.

Since CMP legislation requires the identification of costs of land use decisions and impacts

across jurisdictional lines, it is desirable that the CMP program have a consistent method for identifying the costs of development impacts. On the other hand, a wide variety of mitigations can occur from jurisdiction to jurisdiction.

It is recommended that the impact costs be calculated as the total of new development traffic on a roadway link requiring improvement divided by the capacity of the improvement times the cost of the improvement. This can be expressed in a formula as follows:

$$\textbf{Impact Cost} = \frac{\text{Development Traffic}}{\text{Capacity of Improvement}} \times \text{Improvement Cost}$$

Improvements to be included in the cost analysis should be those identified in the jurisdiction's adopted Circulation Element and any additional improvements identified in the development TIA. The total impact cost for a development would be the sum of costs for all significantly impacted links. Funds collected from these assessments could be aggregated and applied to specific projects on an annual basis in accordance with locally established priorities. If project impacts extend across jurisdictional boundaries the impact costs calculated for significantly impacted links in an adjacent jurisdiction should be allocated to that jurisdiction for use in its program of prioritized improvements.

Through this process, progress can be achieved in implementing system improvements without having to wait for 100% of the funds being collected for each individual improvement. In theory, all required improvements will be accomplished over time as new developments are approved which will generate traffic to utilize available and planned system capacity. The costs should be based on recent Unit cost experience in Orange County and may include planning, permitting, preliminary engineering, design, right-of-way, construction, landscaping, construction inspection, and, if applicable, financing costs.

There are two approaches to mitigation. One is traffic reduction and the other is to build improvements to accommodate the new traffic. Traffic reduction through transportation demand ordinances or other regulations which will reduce impacts can be calculated in the same way a development impact would be calculated. But in this case, it would be taken as a credit or a reduction in impact. Mitigation techniques such as TDM or phasing or reduction in project intensity merely reduce for a new development the amount of impact which must be mitigated and are changes which should occur prior to the calculation of project impact costs. A monitoring program should be established to confirm that anticipated reductions are realized.

To comply with the CMP process, a local jurisdiction should accomplish two things. First, it should demonstrate that it is analyzing and mitigating the impact of new development on the CMP Highway System. Second, it should maintain the level-of-service standards or adopt a deficiency plan Consistent with CMP legislation. In order to demonstrate the mitigation which has been undertaken, the local jurisdiction should maintain a record of the cumulative impact cost of all development approvals and the cumulative mitigation value of improvements provided by the local jurisdiction. These could be construction programs or credits from a TDM ordinance or other traffic reduction measures. It is then

only necessary to show on an annual basis that the total improvement costs plus traffic reduction credits are equal to or greater than the total impact cost of new development approvals to prove mitigation compliance.

The maintenance of level-of-service would come through implementation of improvements contained in the 7-year capital improvements element, Measure M and state-funded improvements, additional improvements which may be made in conjunction with development approvals, and from deficiency plans which may be required from time to time. From a TIA perspective, it would be necessary to document the following:

a. the level-of-service on the CMP network at buildout of the proposed development will be: 1) level—of-service "E or better, or 2) will not result in a cumulative increase of more than 0.10 in v/c ratio if the established LOS standard is worse than LOS E.

b. a deficiency plan exists to address the links for which level-of-service is not provided, and

c. a deficiency plan will be developed for a new link when a deficiency will occur.

DOCUMENTATION OF RULES AND PROCEDURES

To assure a clear understanding of the TIA procedures which are necessary to support a viable CMP program, it is recommended that a set of rules and procedures be established by each local jurisdiction. Ideally, these rules and procedures would cover the requirements for the full TIA analysis and would include minimum requirements for the CMP process. Local jurisdictions which prefer not to adopt separate CMP TIA standards could implement standards for CMP requirements within a TIA and maintain their existing approach for all other aspects of their existing TIA process. The following is a summary of the elements which should be included in CMP procedures documentation and the methodologies applicable to each element:

1. **Thresholds for Requiring a TIA for CMP** - Projects with the potential to create an impact of more than 3% of LOS "E' capacity on CMP Highway system links should require a TIA. All projects generating 2,400 or more daily trips should require a TM for CMP evaluation. If a project will have direct access to a CMP link this threshold should be reduced to 1,600 or more daily trips. A TIA should not be required again if one has already been performed for the project as part of an earlier development approval which takes the impact on the CMP Highway System into account.

2. **Existing Conditions Evaluation** - Identify current level-of-service on CMP roadways and intersections where the proposed development traffic will contribute to 3 percent of the existing capacity. Use procedures defined in the level-of-service component for evaluation of level—of-service.

3. **Trip Generation** - ITE trip generation rates or studies from other agencies and locally approved studies for specific land uses.

4. **Internal Capture and Passerby Traffic** - Justification for internal capture should be

included in the discussion. Passerby traffic should be calculated based upon ITE data or approved special studies.

5. **Distribution and Assignment** - Basis for trip distribution should be discussed and should be linked to demographic or market data in the area. Quantitative and/or qualitative information can be used depending on the size of the proposed development. As the size of the project increases, there should be a tendency to use a detailed quantitative approach for trip distribution. Trip assignment should be based on existing and projected travel patterns and the future roadway network and its travel time characteristics.
6. **Radius of Impact/Project Influence** - The analysis should identify the traffic assignment on all CMP roadway links until the impact becomes less than 3 percent of level of service E capacity.
7. **Background Traffic** - Total traffic which is expected to occur at buildout of the proposed development should be identified.
8. **Impact Assessment Period** - This should be the buildout timeframe of the proposed development.
9. **Capacity Analysis Methodology**- The methodology should be consistent with that specified in the level-of—service component of the CMP Program.
10. **Improvement Costs** - The cost of roadway improvements should include all costs of implementation including studies, design, right-of-way, construction, construction inspection, and financing costs, if applicable.
11. **Impact Costs and Mitigation** - The project impact divided by the capacity of a roadway improvement times the cost of the improvement should be identified for each significantly impacted CMP link and summed for the study area.
12. **Projected Level-of-Service** - The TIA should document that the projected level-of-service on all CMP links in the study area will be at Level-of-Service "E" or the existing level-of-service whichever is less, or that a deficiency plan exists or will be developed to address specific links or intersections.

SECTION 5 – APPENDICES

Appendix A – Summary of TIA Update Survey Results (Available Upon Request)

Appendix B – Deviation of Thresholds for Projects Requiring TIA Analysis

APPENDIX B

DERIVATION OF THRESHOLDS FOR PROJECTS REQUIRING TRAFFIC IMPACT ANALYSIS

The TIA process recommendation is to require a TIA for any project generating 2,400 or more daily trips. This number is based on the desire to analyze any impacts which will be 3% or more of the existing capacity. Since most CMP Highway System will be four lanes or more, the capacity used to derive the threshold is a generalized capacity of 40,000 vehicles/day. The calculations are as follows:

40,000 veh./day x 3% = 1,200 veh./day

Assuming 50/50 distribution of project traffic on a CMP link

1,200 x 2 = 2,400 veh./day total generation

As can be seen, a project which will generate 2,400 trips/day will have an expected maximum link impact on the CMP system of 1,200 trips/day based on a reasonably balanced distribution of project traffic. On a peak-hour basis, the 3% level of impact would be 120 peak-hour trips. For intersections, a 3% level of impact applied to the sum of critical volume (1,700 veh./hr.) would be 51 vehicles per hour.

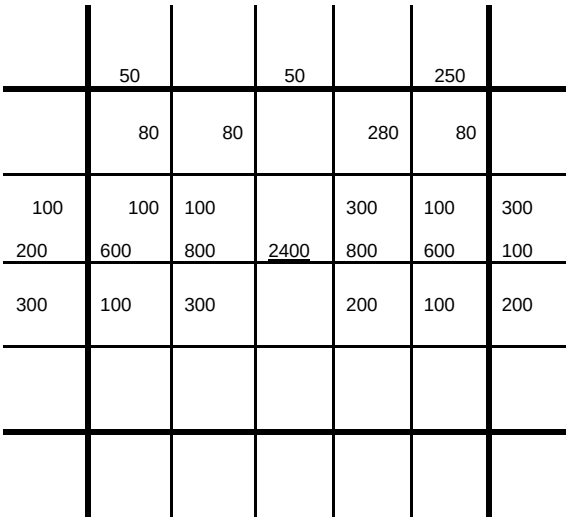
A level of impact below 3% is not recommended because it sets thresholds which are generally too sensitive for the planning and analytical tools available. Minor changes in project assumptions can significantly alter the results of the analysis and the end result can be additional unnecessary cost to the developer and additional review time by staff with little benefit. Additionally, a lower threshold of significance will expand the study area, which also increases effort and costs, and increases the probability that the analysis would extend beyond jurisdictional boundaries.

The following illustration shows that the 2,400 trip/day threshold would be expected to produce a 3% impact on the CMP System only when the project has relatively direct access to a CMP link. As a project location moves further off the CMP System the expected impacts is reduced. With a more directional distribution of project traffic a development with direct CMP System access cold produce a 3% impact with somewhat lower daily trip generation.

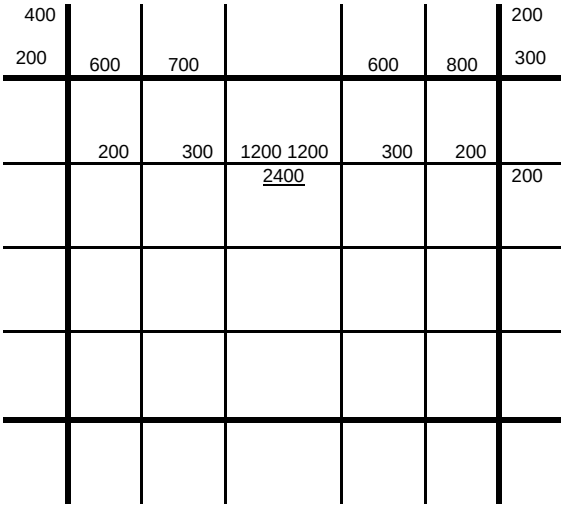
The table included on the following page illustrates the daily trip generation thresholds which would produce various levels of impact on the CMP System for project locations with and without direct access to the system. Based on a 3% impact the trip generation thresholds for requiring a TIA are 1,600 veh./day with direct CMP System access and 2,400 veh./day if a project does not have direct CMP System access.

CMP Highway System Impacts for Development Generating 2,400 trips/day

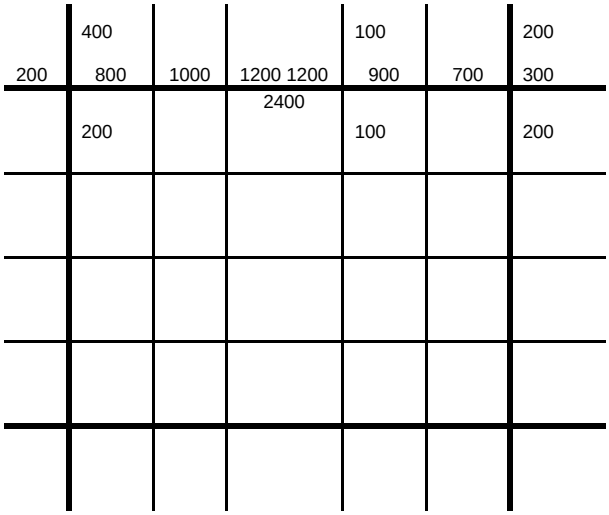
Based on proximity to CMP System



MAXIMUM IMPACT < 1%



MAXIMUM = 1.8%



MAXIMUM = 3%
COULD BE 4.5% WITH 75/25 SPLIT

Alternative Criteria

Assume 75/25 distribution

For direct access to CMP System:
1,200/.75 = 1,600 veh./day

For no direct CMP System Access:
Approximately 1/3 less impact on CMP System
1,600 x 3/2 = 2,400 veh./day

Daily Trip Generation

Significant Impact	Direct Access	No Direct Access
1%	500	800
2%	1,100	1,600
3%	1,600	2,400

Appendix B-2: Traffic Impact Analysis Exempt Projects

Appendix B-2: Traffic Impact Analysis Exempt Projects

Projects exempt from the requirements of a mandatory, CMP Traffic Impact Analysis are listed below. This list is not meant to be all-inclusive. Any inquiries regarding additional exemptions shall be transmitted in writing to the Orange County Transportation Authority, attention CMP Program Manager.

Project Not Requiring a CMP TIA Analysis:

1. Applicants for subsequent development permits (i.e., conditional use permits, subdivision maps, site plans, etc.) for entitlement specified in and granted in a development agreement entered into prior to July 10, 1989.[1]
2. Any development application generating vehicular trips below the Average Daily Trip (ADT) threshold for CMP Traffic Impact Analysis, specifically, any project generating less than 2,400 ADT total, or any project generating less than 1,600 ADT directly onto the CMPHS. [1, 2]
3. Final tract and parcel maps. [1, 2, 3]
4. Issuance of building permits. [1, 2, 3]
5. Issuance of certificates of use and occupancy. [1, 2, 3]
6. Minor modifications to approved developments where the location and intensity of project uses have been approved through previous and separate local government actions prior to January 1, 1992. [1, 2, 3]

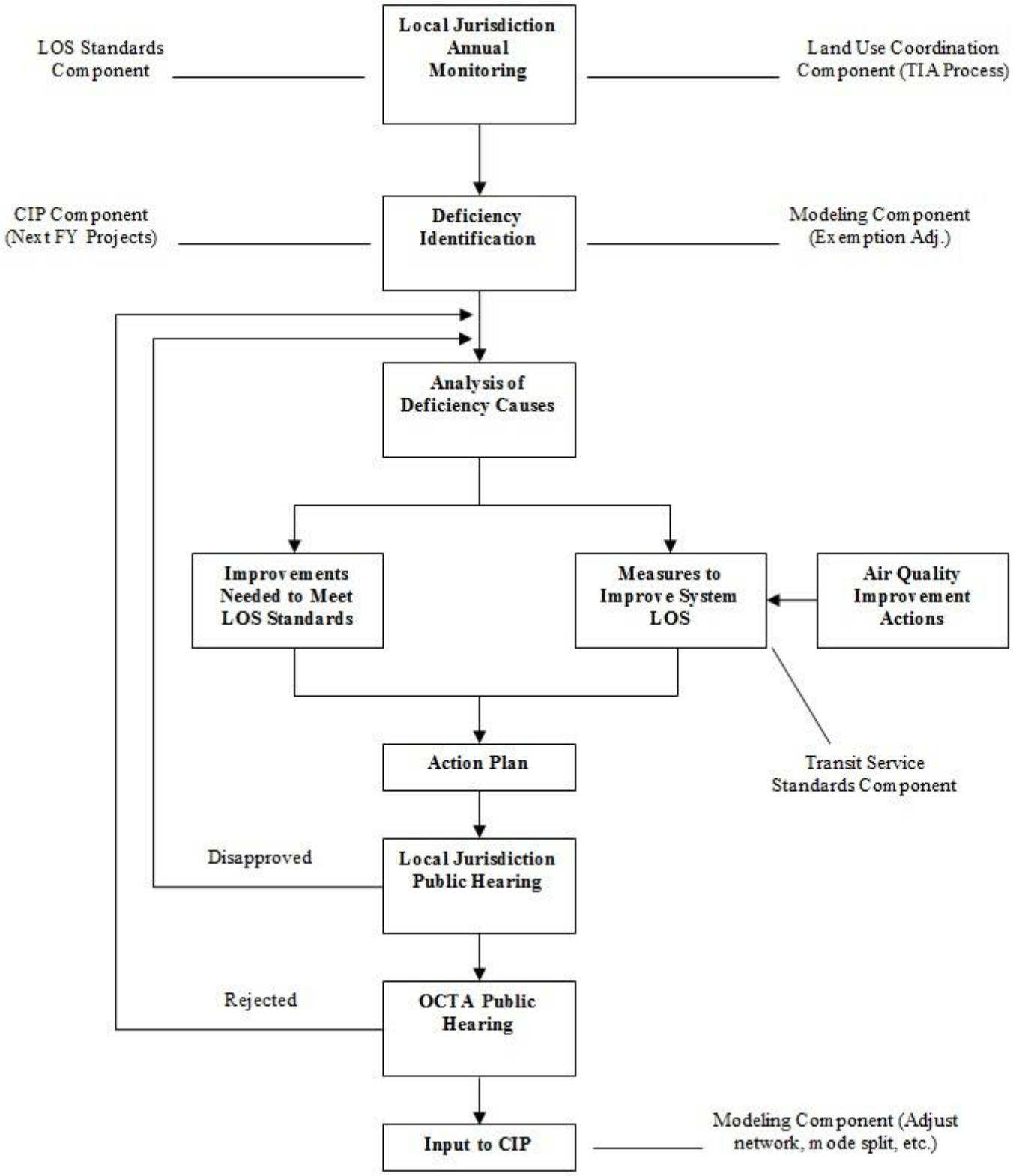
[1] Vehicular trips generated by CMP TIA-exempt development applications shall not be factored out in any traffic analyses or levels of service calculations for the CMPHS.

[2] Exemption from conduction a CMP TIA shall not be considered an exemption from such projects' participation in approved, transportation fee programs established by the local jurisdiction.

[3] A CMP TIA is not required for these projects only in those instances where development approvals granting entitlement for the project sites were granted prior to the effective date of CMP TIA requirements (i.e., January 1992).

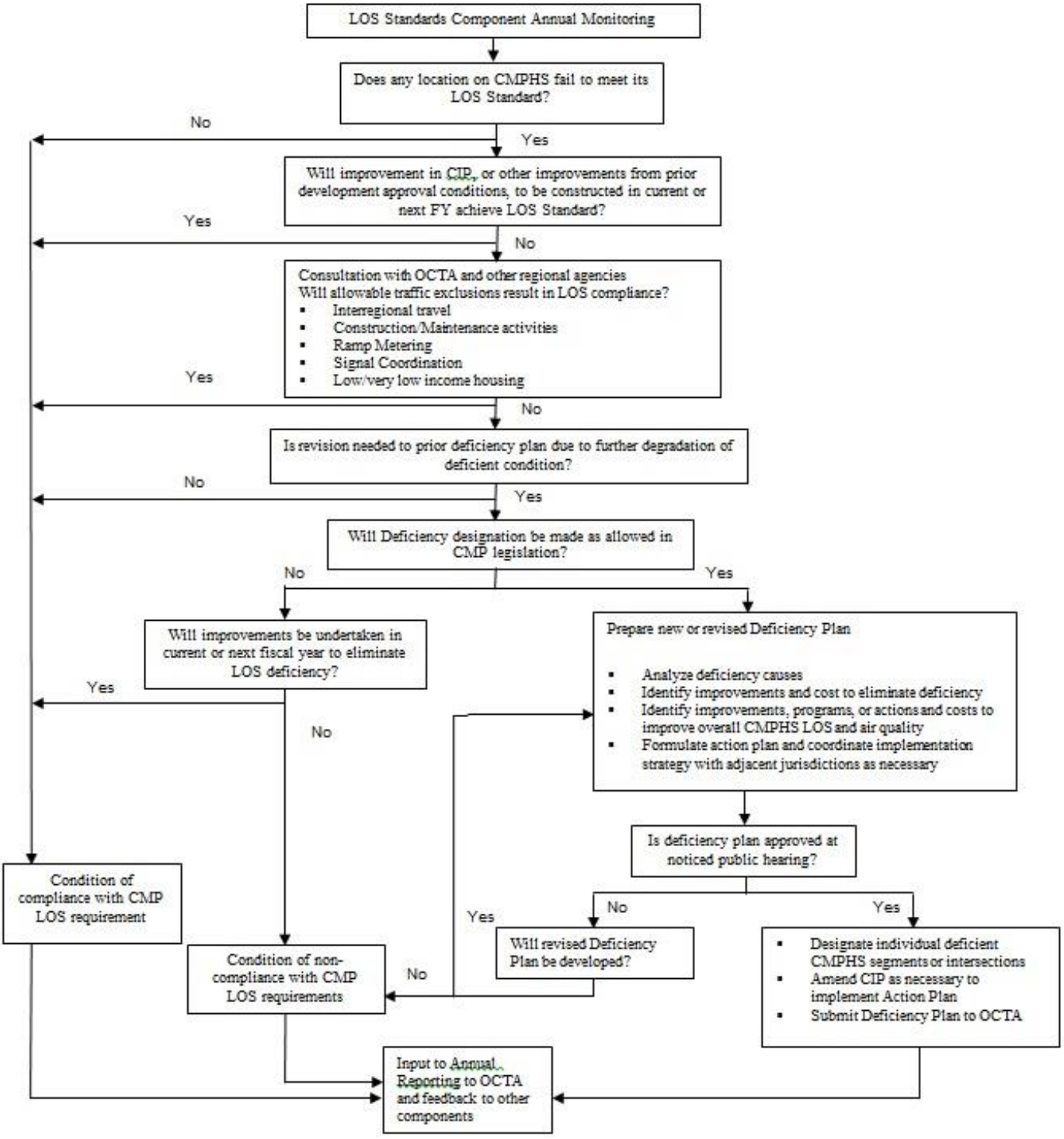
Appendix C-1: CMP Deficiency Plan Flow Chart

APPENDIX C-1: CMP Deficiency Plan Flow Chart



Appendix C-2: Deficiency Plan Decision Flow Chart

APPENDIX C-2: Deficiency Plan Decision Flow Chart



Appendix D: CMP Monitoring Checklists

APPENDIX C

Congestion Management Program (CMP)

Jurisdiction:	Choose an item.

CMP Monitoring Checklist: Level of Service (LOS)				
CMP Checklist		**YES**	**NO**	**N/A**
1.	Check "Yes" if either of the following apply: • There are no CMP intersections in your jurisdiction. • Factoring out statutorily-exempt activities[1], all CMP intersections within your jurisdiction are operating at LOS E (or the baseline level, if worse than E) or better.	☐	☐	
NOTE: ONLY THOSE AGENCIES THAT CHECKED "NO" FOR QUESTION 1 NEED TO ANSWER THE REMAINING QUESTIONS.				
2.	If any, please list those intersections that are not operating at the CMP LOS standards. • _____ • _____ • _____			☐
3.	Will deficient intersections, if any, be improved by mitigation measures to be implemented in the next 18 months or improvements programmed in the first year of any recent funding program (i.e. local jurisdiction CIP, Measure M CIP)?	☐	☐	☐
	a. If not, has a deficiency plan been developed for each intersection that will be operating below the CMP LOS standards?	☐	☐	☐
Additional Comments:				

[1]The following activities are statutorily-exempt from deficiency determinations: interregional travel, traffic generated by the provision of low and very low income housing, construction rehabilitation or maintenance of facilities that impact the system, freeway ramp metering, traffic signal coordination by the state or multi-jurisdictional agencies, traffic generated by high-density residential development within 1/4 mile of a fixed-rail passenger station, traffic generated by mixed-use residential development within 1/4 mile of a fixed-rail passenger station.

CMP Monitoring Checklist: Deficiency Plans				
CMP Checklist		**YES**	**NO**	**N/A**
1.	Check "Yes" if either of the following apply: • There are no CMP intersections in your jurisdiction. • Factoring out statutorily-exempt activities[2], all CMP Highway System (CMPHS) intersections within your jurisdiction are operating at LOS E (or the baseline level, if worse than E) or better.	☐	☐	
NOTE: ONLY THOSE AGENCIES THAT CHECKED "NO" FOR QUESTION 1 NEED TO ANSWER THE REMAINING QUESTIONS.				
2.	If any, please list those intersections found that are not operating at the CMP LOS standards. • _____ • _____ • _____			☐
3.	Are there improvements to bring these intersections to the CMP LOS standard scheduled for completion during the next 18 months or programmed in the first year of the CIP?	☐	☐	☐
NOTE: ONLY THOSE AGENCIES THAT CHECKED "NO" FOR QUESTION 3 NEED TO ANSWER THE REMAINING QUESTIONS.				
4.	Has a deficiency plan or a schedule for preparing a deficiency plan been submitted to OCTA?	☐	☐	☐
5.	Does the deficiency plan fulfill the following statutory requirements? :			
	a. Include an analysis of the causes of the deficiency?	☐	☐	☐
	b. Include a list of improvements necessary to maintain minimum LOS standards on the CMPHS and the estimated costs of the improvements?	☐	☐	☐
	c. Include a list of improvements, programs, or actions, and estimates of their costs, which will improve LOS on the CMPHS and improve air quality?	☐	☐	☐
	i. Do the improvements, programs, or actions meet the criteria established by South Coast Air Quality Management District (SCAQMD) (see the CMP Preparation Manual)?	☐	☐	☐

[2]The following activities are statutorily-exempt from deficiency determinations: interregional travel, traffic generated by the provision of low and very low income housing, construction rehabilitation or maintenance of facilities that impact the system, freeway ramp metering, traffic signal coordination by the state or multi-jurisdictional agencies, traffic generated by high-density residential development within 1/4 mile of a fixed-rail passenger station, traffic generated by mixed-use residential development within 1/4 mile of a fixed-rail passenger station.

CMP Monitoring Checklist: Deficiency Plans (cont.)				
CMP Checklist		**YES**	**NO**	**N/A**
6.	Are the capital improvements identified in the deficiency plan programmed in your seven-year CIP?	☐	☐	☐
7.	Does the deficiency plan include a monitoring program that will ensure its implementation?	☐	☐	☐
8.	Does the deficiency plan include a process to allow some level of development to proceed pending correction of the deficiency?	☐	☐	☐
9.	Has necessary inter-jurisdictional coordination occurred?	☐	☐	☐
10.	Please describe any innovative programs, if any, included in the deficiency plan:			☐
Additional Comments:				

CMP Monitoring Checklist: Land Use Coordination				
CMP Checklist		YES	NO	N/A
1.	Have you maintained the CMP traffic impact analysis (TIA) process you selected for the previous CMP?	☐	☐	
	a. If not, have you submitted the revised TIA approach and methodology to OCTA for review and approval?	☐	☐	☐
2.	Did any development projects require a CMP TIA during this CMP cycle?[3]	☐	☐	
NOTE: ONLY THOSE AGENCIES THAT CHECKED "YES" FOR QUESTION 2 NEED TO ANSWER THE REMAINING QUESTIONS.				
3.	If so, how many?		_____	
4.	Please list any CMPHS links & intersections that were projected to not meet the CMP LOS standards (indicate whether any are outside of your jurisdiction). • _____ • _____ • _____			☐
	a. Were mitigation measures and costs identified for each and included in your seven-year CIP?	☐	☐	☐
	b. If any impacted links & intersections were outside your jurisdiction, did your agency coordinate with other jurisdictions to develop a mitigation strategy?	☐	☐	☐
5.	If a local traffic model was/will be used, did you follow the data and modeling consistency requirements as described in the CMP Preparation Manual (available online at http://www.octa.net/pdf/cmpprepmanual.pdf)?	☐	☐	☐
Additional Comments:				

[3]Exemptions include: any development generating less than 2,400 daily trips, any development generating less than 1,600 daily trips (if it directly accesses a CMP highway), final tract and parcel maps, issuance of building permits, issuance of certificate of use and occupancy, and minor modifications to approved developments where the location and intensity of project uses have been approved through previous and separate local government actions prior to January 1, 1992.

CMP Monitoring Checklist: Capital Improvement Program (CIP)				
CMP Checklist		**YES**	**NO**	**N/A**
1.	Did you submit a seven-year CIP to OCTA by June 30?	☐	☐	☐
2.	Does the CIP include projects to maintain or improve the performance of the CMPHS (including capacity expansion, safety, maintenance, and rehabilitation)?	☐	☐	☐
3.	Is it consistent with air quality mitigation measures for transportation- related vehicle emissions?	☐	☐	☐
4.	Was the Web Smart CIP provided by the OCTA used to prepare the CIP?	☐	☐	☐
Additional Comments:				

I certify that the information contained in this checklist is true.

Name (Print)	Title	Signature	Date

Appendix E: Capital Improvement Programs

Available online at:

http://www.octa.net/Plans-and-Programs/Congestion-Management-Program/Overview/

Appendix F: Measure M Program of Projects

OCGO PROJECTS

FREEWAY IMPROVEMENT PROGRAM

Interstate 5 (I-5) Projects

- (A) **I-5**, SR-55 to SR-57
- (B) **I-5**, El Toro "Y" Area to SR-55
- (C) **I-5**, SR-73 to El Toro Road
- (C) **I-5**, Avenida Pico to San Juan Creek Road
- (D) **I-5** Highway Interchanges

State Route 22 (SR-22) Projects

- (E) **SR-22** Access Improvements

State Route 55 (SR-55) Projects

- (F) **SR-55**, I-405 to I-5
- (F) **SR-55**, I-5 to SR-91

State Route 57 (SR-57) Projects

- (G) **SR-57** NB, Orangewood Avenue to Katella Avenue
- (G) **SR-57** NB, Katella Avenue to Lincoln Avenue
- (G) **SR-57** NB, Orangethorpe Avenue to Lambert Road
- (G) **SR-57** NB, Lambert Road to Tonner Canyon Road

State Route 91 (SR-91) Projects

- (H) **SR-91** WB, I-5 to SR-57
- (I) **SR-91**, SR-57 to SR-55
- (J) **SR-91**, SR-55 to Riverside County Line

Interstate 405 (I-405) Projects

- (K) **I-405**, I-605 to SR-73
- (L) **I-405**, SR-55 to El Toro "Y" Area

Interstate 605 (I-605) Projects

- (M) **I-605** Katella Interchange Improvements

Freeway Mitigation Restoration Projects
Part of Projects A-M

Freeway Mitigation Acquisition Projects
Part of Projects A-M

STREETS & ROADS

- (O) **Grade Separation Program** (shown)
- (P) **Signal Synchronization Project Corridors**

TRANSIT PROJECTS

- (R) **Grade Separation and Station Improvement Projects**
- (S) **Transit Extensions to Metrolink**
- (T) **Metrolink Station Conversion to accept Future High-Speed Rail Systems**

OC GO PROJECTS NOT SHOWN

Project N: Freeway Service Patrol

Project O: Streets & Roads - Regional Capacity Program

Project Q: Local Fair Share Program

Project R: Grade crossing and Trail Safety Enhancements

Metrolink Service Expansion Program

Project U: Senior Mobility Program (SMP), Senior Non-emergency Medical Transportation Program (SNEMT), and Fare Stabilization Programs

Project V: Community Based Transit/Circulators

Project W: Safe Transit Stops

Project X: Environmental Cleanup Program

Appendix G: Orange County Subarea Modeling Guidelines

Available online at:

http://www.octa.net/Plans-and-Programs/Congestion-Management-Program/Overview/

OCTA

September 5, 2019

To: Regional Planning and Highways Committee

From: Darrell E. Johnson, Chief Executive Officer

Subject: Consultant Selection for the Preparation of Plans, Specifications, and Estimates for the State Route 91 Improvement Project Between State Route 55 and Lakeview Avenue

Overview

On May 13, 2019, the Orange County Transportation Authority Board of Directors approved the release of a request for proposals for the preparation of plans, specifications, and estimates for the State Route 91 improvement project between State Route 55 and Lakeview Avenue. Board of Directors' approval is requested for the selection of a firm to perform the required work.

Recommendations

A. Approve the selection of Parsons Transportation Group, Inc., as the firm to prepare the plans, specifications, and estimates for the State Route 91 improvement project between State Route 55 and Lakeview Avenue.

B. Authorize the Chief Executive Officer to negotiate and execute Agreement No. C-9-1160 between the Orange County Transportation Authority and Parsons Transportation Group, Inc., to prepare the plans, specifications, and estimates for the State Route 91 improvement project between State Route 55 and Lakeview Avenue.

Discussion

State Route 91 (SR-91) improvements between State Route 57 (SR-57) and State Route 55 (SR-55) (Project) are part of Project I in the Measure M2 (M2) freeway program. In the Next 10 Plan, adopted by the Orange County Transportation Authority (OCTA) Board of Directors (Board) in November 2016, the Project is listed as one of the M2 freeway projects to be cleared through the environmental process. The Project is now scheduled to move into design using net excess 91 Express Lanes revenue, as approved by the Board.

The Project will add a general purpose lane in the eastbound direction between La Palma Avenue and SR-55, and provide westbound operational improvements between Acacia Street and La Palma Avenue and between SR-55 and Lakeview Avenue. The Project includes reconstruction of the La Palma Avenue overcrossing bridge and reconstruction of the Kraemer Boulevard/ Glassell Street, Tustin Avenue, and Lakeview Avenue interchanges.

The draft environmental document was circulated for public comment on November 20, 2018, and the build alternative has been identified as the preferred alternative by the Project development team. Therefore, the Project is ready to proceed into the final design phase. 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

Procurement Approach

This procurement for Segment 1 was handled in accordance with OCTA's Board-approved procedures for architectural and engineering (A&E) services that conform to both state and federal laws. Proposals are evaluated and ranked in accordance with the qualifications of the firm, staffing and project organization, and work plan. As this is an A&E procurement, price is not an evaluation criterion pursuant to state and federal laws. Evaluation of the proposals was conducted on the basis of overall qualifications to develop a competitive range of offerors. The highest-ranked firm is requested to submit a cost proposal, and the final agreement is negotiated. Should negotiations fail with the highest-ranked firm, a cost proposal will be solicited from the second-ranked firm in accordance with Board-approved procurement policies.

On May 13, 2019, the Board authorized the release of Request for Proposals (RFP) 9-1160 for Segment 1, which was electronically issued on CAMM NET. The Project was advertised on May 13 and May 20, 2019, in a newspaper of general circulation. A pre-proposal conference was held on May 21, 2019, with 21 attendees representing 15 firms. Three addenda were issued to make available the pre-proposal conference registration sheets, provide responses to questions received, and handle administrative issues related to the RFP.

On June 11, 2019, seven proposals were received. An evaluation committee consisting of members from OCTA's Contracts Administration and Materials Management and Highway Programs departments, as well as external representatives from the California Department of Transportation (Caltrans) and the City of Anaheim met to review all submitted proposals. The proposals were evaluated utilizing the following Board-approved evaluation criteria and weights:

- Qualifications of the Firm 25 percent
- Staffing and Project Organization 40 percent
- Work Plan 35 percent

The evaluation criteria are consistent with the weighting developed for similar A&E procurements. In developing these weights, several factors were considered, giving the greatest importance to staffing and project organization of the firm, as the qualifications of the project manager and other key personnel are very important to the successful and timely delivery of the Project. Similarly, high importance was given to the work plan criterion to emphasize the importance of the team's understanding of the Project, its challenges, and its approach to implementing the various elements of the scope of work. The technical approach to the Project is critical to the successful performance of the Project. The final criterion, qualifications of the firm, evaluated the firm's experience in performing work of similar scope and size.

The evaluation committee reviewed all proposals based on the evaluation criteria and found three firms most qualified to perform the required services. The most qualified firms are listed below in alphabetical order:

Firm and Location

AECOM Engineering, Inc. (AECOM)
Orange, California

Parsons Transportation Group (PTG)
Irvine, California

T.Y. Lin International (TY Lin)
Irvine, California

On July 24, 2019, the evaluation committee interviewed the three firms. The interviews consisted of a presentation allowing each team to present its

qualifications, highlight its proposal, and respond to evaluation committee questions. Each firm also highlighted its staffing plan, work plan, and perceived Project challenges. Each firm was asked general questions related to qualifications, relevant experience, Project organization, and approach to the work plan. All three firms were asked specific questions regarding the team's approach to the requirements of the scope of work, management of the Project, coordination with various agencies, experience with similar projects, and the team's solutions toward achieving the Project's goals. After considering responses to the questions asked during the interview, the evaluation committee adjusted the preliminary scores for two of the three firms; however, PTG remained as the top-ranked firm with the highest cumulative score.

Based on the evaluation of written proposals and information obtained during the interviews, staff recommends PTG as the top-ranked firm to prepare the plans, specifications, and estimates (PS&E) for the Project. PTG's proposal received the highest ranking, largely due to the team's successful management and implementation of recent and relevant PS&E projects of similar scale and scope, including projects involving toll lanes, the firm's comprehensive understanding of the Project objectives and constraints, and presentation of relevant technical solutions. The firm demonstrated a comprehensive understanding of the Project requirements and presented a detailed work plan addressing key issues that are critical to the success of the Project.

Qualifications of the Firm

All three firms are established with recent and relevant experience, and are qualified to perform the services.

PTG has been providing engineering, construction, program and construction management services, and other professional services for federal, regional, and local government agencies since 1944. The firm has over 15,000 employees with offices in 34 states and 15 countries, including six offices in Southern California, one of which is an office in the City of Irvine. The firm has experience delivering more than 50 PS&E projects throughout Southern California, including projects that involved coordination with express lanes during construction. PTG and its key personnel have delivered numerous PS&E projects of similar complexity. Recent relevant firm experience includes PS&E for the Interstate 5 (I-5) high-occupancy vehicle (HOV) widening from Avenida Pico to Avenida Vista Hermosa (Segment 1) and the Interstate 405 (I-405)/State Route 22 (SR-22) West County Connectors (WCC) project for OCTA, as well as the SR-57/Lambert Road interchange for the

City of Brea. PTG is currently OCTA's program management consultant on the I-405 design-build project providing key design oversight and other services, and is delivering the SR-91 corridor operations project and Interstate 15 (I-15)/ SR-91 Express Lanes connector for the Riverside County Transportation Commission (RCTC). PTG's experience on these projects demonstrated leadership, technical expertise, coordination with various stakeholders, familiarity with Caltrans' process and requirements, and the ability to manage all phases of the Project.

AECOM has been providing project management, engineering, and other professional services to the transportation industry since 1990. AECOM has offices worldwide and locally, with 1,800 professionals working in 12 offices in Southern California. AECOM has experience with PS&E projects in Southern California, including the I-5 HOV widening from Avenida Vista Hermosa to Pacific Coast Highway (Segment 2), and is currently working on the I-5 widening project approval/environmental document (PA/ED) project from I-405 to SR-55 for OCTA.

TY Lin, founded in 1954, is a full service infrastructure engineering firm providing roadway and structure design services, with four local offices and over 130 employees. TY Lin is familiar with Caltrans' design standards, and has experience delivering similar design work. The firm prepared the PS&E for the I-5 HOV widening from SR-55 to SR-57 for OCTA.

Staffing and Project Organization

All short-listed firms proposed qualified project managers, key personnel, and subconsultants with relevant PS&E experience in interchange and freeway widening projects.

PTG proposed a qualified project team with relevant comprehensive experience and understanding of the Project issues, risks, and challenges. The team is proficient in various disciplines required for the Project and has extensive Caltrans experience. The team has demonstrated experience working on projects of similar size and scope. The proposed project manager has 22 years of experience with over 32 Caltrans freeway improvement projects and served as project manager for 12 of them. The project manager also has experience in constructability review and construction estimating which will be beneficial in delivering a design that is ready for construction. The proposed civil lead has 27 years of experience, including a record of success in obtaining Caltrans approval from Caltrans design units and for design standard decision

documents. The proposed structures lead has 17 years of extensive experience with all technical aspects of bridge design, including conceptual studies through final design, and approval of complex bridges through Caltrans' type selection process. PTG's proposed team demonstrated relevant experience delivering PS&E projects, including the I-5 HOV widening from Avenida Pico to Avenida Vista Hermosa, I-405/SR-22 WCC, SR-57/Lambert Road interchange, SR-91 corridor operations project, and I-15/SR-91 Express Lanes connector project.

AECOM proposed a project team and key personnel with relevant experience in PA/ED and PS&E projects. The proposed project manager has more than 30 years of experience and has managed projects throughout Southern California. The proposed roadway lead has 18 years of experience in delivering highway/freeway improvements, and interchange and grade separation projects throughout Southern California. The structures lead has 36 years of experience in civil and structural engineering on a wide range of transportation infrastructure projects, including bridge, highway, heavy rail, and facilities projects. The team's recent relevant experience includes the I-5 HOV widening PA/ED between SR-55 and SR-57, I-5 widening PA/ED between I-405 and SR-55, State Route 60 Central Avenue interchange PS&E, and I-15/ Base Line Road interchange PS&E.

TY Lin proposed a project team with PS&E experience on numerous Caltrans freeway corridor design projects throughout California. The proposed project manager has 26 years of experience delivering Caltrans PS&E packages in various capacities. The proposed roadway lead has ten years of transportation engineering experience. The proposed structures lead has 22 years of experience with a variety of projects related to bridge design. Recent team PS&E experience include the I-5 HOV from SR-55 to SR-57 for OCTA, the State Route 241/Oso Parkway interchange project for the Transportation Corridor Agencies, and the Interstate 215/Placentia Avenue interchange for RCTC.

Work Plan

All three short-listed firms met the requirements of the RFP, and each firm adequately discussed its approach to the Project.

PTG presented a comprehensive work plan that demonstrated an understanding of the Project. PTG presented a well-organized and well thought out list of key issues containing innovative solutions with accompanying benefits that

demonstrated PTG's knowledge and experience. A comprehensive Project schedule with a first 60-day action plan and other proposed tracking tools displayed PTG's understanding of work needed for the Project and its roadmap to deliver the Project. The plan encompassed an overall detailed review of the Project, key issues, enhancements, all from a constructability viewpoint, including construction staging, sequencing and construction detours, with construction cost and schedule savings. The plan included a discussion of innovative freeway closure measures that have the most comprehensive coordination with the 91 Express Lanes and reconstruction of the Lakeview Avenue bridge. The overall reasonable and practical approaches to Project execution described in the work plan also covered a thorough discussion of disciplines that are critical for successful PS&E performance and were validated with recent project experience. The interview confirmed the technical knowledge and expertise of the PTG team and its comprehensive understanding of Project issues, and emphasized the importance of quality assurance/quality control in successful Project completion. The PTG team presented an interview demonstrating knowledge of its proposed approach to the scope of work and provided detailed responses to interview questions.

AECOM presented a concise explanation of enhancements and proposed ideas, with a summary of Project issues. The plan presented good technical solutions for identified key issues supported with exhibits. The sequential outline and schedule demonstrated understanding of the Project. The work plan presented an innovative bridge type to address vertical clearance issues at Lakeview Avenue and a solution for construction staging. However, solutions were not comprehensive, and constructability was not addressed. AECOM's interview supported the firm's experience, staffing, work plan, and understanding of the overall Project.

TY Lin presented a work plan that demonstrated an understanding of the scope of work, challenges, and Project risks. The plan discussed Project issues not identified in the draft project report and included a list of concerns; however, clear solutions to all of these issues and concerns were not provided. The plan also contained a discussion of the use of innovative bridge concepts for the Project, but construction staging and detours for the proposed idea were not addressed. The discussion of construction staging during the interview was still unclear. Also, some of the proposed solutions consider revisiting studies done in the environmental phase that require Caltrans approval. TY Lin's project manager was responsive to the interview questions. The team demonstrated an understanding of the overall Project goals, issues, and challenges.

Procurement Summary

Based on the evaluation of the written proposals, team qualifications, and information obtained during the interviews, the evaluation committee recommends the selection of PTG as the top-ranked firm to prepare the PS&E for the SR-91 improvement project between SR-55 and Lakeview Avenue.

Fiscal Impact

The Project is included in OCTA's Fiscal Year 2019-20 Budget, Capital Programs Division, Account 0017-7519-FI106-NA7, and will be funded through net excess 91 Express Lanes revenue.

Summary

Staff requests Board of Directors' approval for the Chief Executive Officer to negotiate and execute Agreement No. C-9-1160 with Parsons Transportation Group, Inc., as the firm to prepare the plans, specifications, and estimates for the State Route 91 improvement project between State Route 55 and Lakeview Avenue.

Attachments

A. Review of Proposals, RFP 9-1160 Consultant Services for the Preparation of Plans, Specifications, and Estimates for the State Route 91 Improvement Project Between State Route 55 and Lakeview Avenue
B. Proposal Evaluation Criteria Matrix (Short-Listed), RFP 9-1160 Consultant Services for the Preparation of Plans, Specifications, and Estimates for the State Route 91 Improvement Project Between State Route 55 and Lakeview Avenue
C. Contract History for the Past Two Years, RFP 9-1160 Consultant Services for the Preparation of Plans, Specifications, and Estimates for the State Route 91 Improvement Project Between State Route 55 and Lakeview Avenue

Prepared by:

Jeannie Lee, P.E.
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(714) 560-5735

Approved by:

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Review of Proposals

RFP 9-1160 Consultant Services for the Preparation of Plans, Specifications, and Estimates for the State Route 91 Improvement Project Between State Route 55 and Lakeview Avenue

Presented to Regional Planning and Highways Committee - September 5, 2019

7 proposals were received, 3 firms were interviewed, 1 firm is being recommended

Overall Ranking	Overall Score	Firm & Location	Subcontractors	Evaluation Committee Comments
1	90	Parsons Transportation Group, Inc. Irvine, California	C Below, Inc. Earth Mechanics, Inc. Epic Land Solutions EXP U.S. Services, Inc. Kleinfelder, Inc. Paleo Solutions PSOMAS Q4 Transportation Solutions	Highest-ranked overall firm. Recent and relevant experience delivering numerous projects of similar scope and size. Project manager, discipline leads, key and technical staff, and subconsultants with extensive experience working together on recent plans, specifications, and estimates (PS&E) projects. Project manager has direct experience managing, planning, and successfully delivering numerous recent PS&E projects - including express lanes. Comprehensive work plan identifying key issues, providing recommendations. Interview demonstrated project knowledge and experience with detailed answers to interview questions.
2	84	AECOM Technical Services, Inc. Orange, California	PSOMAS LIN Consulting Tatsumi and Partners C Below	Firm has very good relevant experience managing transportation projects of similar scope and size. Project manager is well-qualified with relevant experience managing major transportation project approval/environmental documentation (PA/ED), PS&E, and other similar projects. Qualified key personnel and subconsultants with proven experience delivering different phases of design projects. Work plan demonstrated a good understanding of project objectives, requirements, and challenges. Very good interview that demonstrated an experienced cohesive team and good responses to all interview questions.
3	81	T.Y. Lin International Irvine, California	Earth Mechanics, Inc. Guida Surveying, Inc. HDR Engineering, Inc. Leighton Consulting, Inc. Lynn Capouya, Inc. OPTITRANS Engineering, Inc	Firm has relevant experience performing PS&E and other similar projects. Project manager has experience managing a variety of transportation PA/ED, PS&E, and similar projects. Qualified team with expertise to deliver all tasks required in the scope of work. Work plan demonstrated a good understanding of the project requirements and potential issues. Construction staging plan unclear. Good responses to interview questions.

Evaluation Panel: (6 Members)

Internal:

Contracts Administration and Materials Management (1)

Highway Programs (2)

External:

California Department of Transportation (1)

City of Anaheim (1)

Evaluation Criteria:	Weight Factors
Qualifications of the Firm	25%
Staffing and Project Organization	40%
Work Plan	35%

ATTACHMENT A

ATTACHMENT B

PROPOSAL EVALUATION CRITERIA MATRIX (Short-Listed)

RFP 9-1160 Consultant Services for the Preparation of Plans, Specifications, and Estimates for the State Route 91 Improvement Project Between State Route 55 and Lakeview Avenue

Firm: Parsons Transportation Group, Inc.							
Evaluator Number	1	2	3	4	5	Weights	Average Weighted Score
Qualifications of Firm	5.0	4.5	4.5	4.5	4.5	5	23.0
Staffing/Project Organization	4.5	4.5	4.5	4.0	4.5	8	35.2
Work Plan	4.5	4.5	4.5	4.5	4.5	7	31.5
Overall Score	92.5	90.0	90.0	86.0	90.0		90

Firm: AECOM Technical Services, Inc.							
Evaluator Number	1	2	3	4	5	Weights	Average Weighted Score
Qualifications of Firm	4.5	4.0	4.0	4.5	4.5	5	21.5
Staffing/Project Organization	4.5	4.5	4.5	4.0	4.0	8	34.4
Work Plan	4.0	4.0	4.0	4.0	4.0	7	28.0
Overall Score	86.5	84.0	84.0	82.5	82.5		84

Firm: T.Y. Lin International							
Evaluator Number	1	2	3	4	5	Weights	Average Weighted Score
Qualifications of Firm	5.0	4.5	4.5	4.0	4.0	5	22.0
Staffing/Project Organization	4.0	4.0	4.0	4.0	4.0	8	32.0
Work Plan	3.5	4.0	4.0	4.0	4.0	7	27.3
Overall Score	81.5	82.5	82.5	80.0	80.0		81

The range of scores for non-short-listed firms is 43-74.

CONTRACT HISTORY FOR THE PAST TWO YEARS

RFP 9-1160

Consultant Services for the Preparation of Plans, Specifications, and Estimates for the State Route 91 Improvement Project Between State Route 55 and Lakeview Avenue

Prime and Subconsultants	Contract No.	Description	Contract Start Date	Contract End Date	Subconsultant Amount	Total Contract Amount
Parsons Transportation Group, Inc.						
Contract Type: Firm-Fixed Price	C-8-2107	Plans, specifications, and estimates (PS&E) for State Route 91 Express Lanes gantry project	June 8, 2011	December 31, 2019		$ 374,510
Subconsultants:						
Earth Mechanics, Inc.					$ 47,685.00	
Psomas					$ 10,015.00	
Contract Type: Firm-Fixed Price	C-0-1864	PS&E for Segment 1 of the Interstate 5 (I-5) high-occupancy vehicle (HOV) project between San Juan Creek Road and Avenida Pico	June 8, 2011	December 31, 2019		$ 7,308,519
Subconsultants:						
BonTerra Consulting					$ 20,115.65	
Earth Mechanics, Inc.					$ 444,696.00	
FPL & Associates, Inc.					$ 667,661.00	
Group Delta Consultants, Inc.					$ 29,767.37	
Lynn Capouya, Inc.					$ 196,804.00	
Psomas					$ 245,555.00	
WKE, Inc.					$ 45,021.00	
Contract Type: Time and Expense	C-2-1513	Program management consultant services for the Interstate 405 (I-405) improvement project from Euclid Street to Interstate 605	March 3, 2014	May 31, 2023	N/A	$ 132,796,531
Subconsultants:						
The Alliance Group Consulting						
Coast Surveying, Inc.						
CTI Environmental, Inc.						
Delcan Corporation						
Falcon Engineering Services						
GCAP Services, Inc.						
Group Delta Consultants, Inc.						
HNTB Corporation						
MARRS Services, Inc.						
McLean & Schultz						
Overland, Pacific and Cutler, Inc.						
Panacea, Inc.						
Progressive Transportation Solutions, LLC						
Psomas						
Rosendin Electric, Inc.						
Spec Services, Inc.						

ATTACHMENT C

Prime and Subconsultants	Contract No.	Description	Contract Start Date	Contract End Date	Subconsultant Amount	Total Contract Amount
Parsons Transportation Group, Inc. (continued)						
Contract Type: Firm-Fixed Price	C-3-2190	Consultant services to prepare the project report and environmental document for the I-405 improvement project from I-5 to State Route 55 (SR-55)	December 10, 2014	December 31, 2018		$ 6,119,865
Subconsultants:						
Advanced Civil Technologies					$ 266,659.00	
Bonterra Psomas					$ 160,907.00	
Earth Mechanics, Inc.					$ 107,926.00	
Iteris, Inc.					$ 152,452.00	
MARRS Services, Inc.					$ 159,269.00	
Psomas					$ 247,438.00	
Terry A. Hayes Associates, Inc.					$ 147,440.00	
TranSystems Corporation					$ 865,221.08	
Value Management Strategies					$ 42,791.00	
Contract Type: Firm-Fixed Price	C-8-0693	Consultant services to prepare the project report and environmental document for the I-405 widening	March 17, 2009	January 31, 2018		$ 17,287,202
Subconsultants:						
Albert Grover & Associates					$ 753,550.00	
ECORP Consulting					$ 84,000.00	
Group Delta Consultants, Inc.					$ 773,434.00	
McLean & Schultz					$ 118,266.35	
Nossaman, LLP					$ 58,000.00	
Paragon Partners, LTD					$ 157,820.00	
Psomas					$ 387,167.00	
Stantec Consulting, Inc.					$ 1,768,149.14	
TEC Management Consultants, Inc.					$ 200,974.00	
Terry A. Hayes Associates, Inc.					$ 5,000.00	
URS Corporation					$ 994,276.00	
Value Management Strategies					$ 54,681.00	
Contract Type: Time and Expense	C-9-0809	Consultant services for construction program management consultant services for the railroad grade separation projects	July 30, 2010	July 31, 2019	N/A	$ 9,407,991
Subconsultants:						
Nossaman, LLP						
Padilla & Associates, Inc.						
				Subtotal		**$173,294,618**

Prime and Subconsultants	Contract No.	Description	Contract Start Date	Contract End Date	Subconsultant Amount	Total Contract Amount
AECOM Technical Services, Inc.						
Contract Type: Firm-Fixed Price	C-3-1433	Project report and environmental document for the I-5 improvement project from north of I-405 to SR-55	May 8, 2014	September 30, 2019		$ 7,218,511
Subconsultants:						
CNS Engineering, Inc.					$ 263,257.00	
Coast Surveying, Inc.					$ 230,485.00	
Earth Mechanics, Inc					$ 159,455.00	
Epic Land Solutions, Inc.					$ 136,508.00	
FPL and Associates, Inc.					$ 144,173.00	
LSA Associates, Inc.					$ 1,671,786.00	
Lynn Capouya, Inc.					$ 76,554.00	
RBF Consulting					$ 358,437.00	
Value Management Strategies, Inc.					$ 42,474.00	
Wiltec					$ 26,000.00	
Contract Type: Firm-Fixed Price	C-1-2543	Design and construction support services for preparation of PS&E for Segment 2 of the I-5 HOV project between San Juan Creek Road and Avenida Pico	June 8, 2011	June 30, 2018		$ 6,288,700
Subconsultants:						
Civil Source					$ 58,966.00	
Earth Mechanics, Inc					$ 613,647.00	
HDR Engineering, Inc					$ 262,624.00	
Lin Consulting, Inc.					$ 671,077.00	
Psomas					$ 372,351.00	
Safeprobe, Inc.					$ 26,600.00	
Sweeney & Associates, Inc.					$ 57,403.00	
Contract Type: Firm-Fixed Price	C-8-0987	Design and construction support services for preparation of PS&E for the Orangethorpe Avenue railroad grade separation project	February 6, 2009	December 31, 2017		$6,996,161
Subconsultants:						
Austin-Foust Associates, Inc.						
Edaw, Inc.						
Kleinfelder						
TranSystems Corporation						
Psomas						
				Subtotal		**$20,503,372**
T.Y. Lin International						
Contract Type: Firm-Fixed Price	C-5-3676	Consultant services for the preparation of PS&E for the HOV improvements project between SR-55 and State Route 57	June 30, 2015	March 31, 2020		$3,600,218
Subconsultants:						
CH2M HILL					$923,225	
Coast Surveying, Inc.					$181,110	
Earth Mechanics, Inc.					$224,563	
Lin Consulting, Inc.					$332,364	
Lynn Capouya, Inc.					$77,765	

Contract Type: Firm-Fixed Price	C-5-3676	Prepare the project study report/project development support document for I-5 project from Avenida Pico to San Diego County line	June 28, 2016	November 30, 2019		$518,482
Subconsultants:						
Chen Ryan Associates, Inc.					$14,078	
Kittelson & Associates, Inc.					$109,615	
Leighton Consulting, Inc.					$23,805	
Optitrans					$68,929	
Vandermost Consulting Services					$7,938	
					Subtotal	**$4,118,700**

OCTA

September 5, 2019

To: Regional Planning and Highways Committee

From: Darrell E. Johnson, Chief Executive Officer

Subject: Interstate 405 Improvement Project Update

Overview

The Orange County Transportation Authority is currently underway with the implementation of the Interstate 405 Improvement Project. This report provides a project update.

Recommendation

Receive and file as an information item.

Background

The Orange County Transportation Authority (OCTA), in cooperation with the California Department of Transportation, and the cities of Costa Mesa, Fountain Valley, Huntington Beach, Seal Beach, and Westminster, is implementing the Interstate 405 (I-405) Improvement Project between State Route 73 (SR-73) and Interstate 605 (I-605) (Project). The Project will add one general purpose lane from Euclid Street to I-605, consistent with Measure M2 Project K, and will add an additional lane in each direction that will combine with the existing high-occupancy vehicle lane to provide dual express lanes in each direction of I-405 from SR-73 to I-605, otherwise known as the 405 Express Lanes.

On November 14, 2016, the OCTA Board of Directors (Board) awarded the design-build (DB) contract to OC 405 Partners (OC405), a joint venture. OCTA executed the DB contract with OC405 and issued Notice to Proceed (NTP) No. 1 on January 31, 2017. NTP No. 1 was a limited NTP for mobilization, design, and administrative activities. On July 26, 2017, the Transportation Infrastructure Finance and Innovation Act (TIFIA) loan agreement was executed between OCTA and the United States Department of Transportation (USDOT). On July 27, 2017, OCTA issued NTP No. 2 to OC405. NTP No. 2 was a full NTP for all activities, including construction.

Discussion

A number of activities are ongoing as the final design, right-of-way (ROW) acquisition, utility relocations, and construction activities continue to advance. The following provides a more detailed status of Project activities.

Financing and TIFIA Loan

On July 26, 2017, OCTA executed a TIFIA loan agreement with the USDOT for up to $628.93 million. Pursuant to the terms identified in the loan agreement, OCTA staff submits periodic reimbursement requisitions to the USDOT Build America Bureau and Federal Highway Administration. OCTA has received two TIFIA loan disbursements to date and anticipates receiving the third disbursement in September 2020.

Tolling Contracts

On February 26, 2018, the Board selected Kapsch TrafficCom USA, Inc., (Kapsch) to provide toll lanes system integration services for design, installation, operation, and maintenance of the electronic toll and traffic management system on both the 405 and 91 Express Lanes. Kapsch is currently under contract and is working closely with the design-builder to deliver fully functional express lanes upon opening in 2023.

Staff has initiated the development of a request for proposals for the back office support and customer service center contract for the 405 Express Lanes, and plans to seek Board approval for its release in early 2020.

Design

The final design is approximately 85 percent complete overall and is anticipated to be fully complete in early 2020.

ROW Acquisition

Construction of the Project impacts 288 properties, including 179 residential properties, 71 commercial/industrial properties, 37 public properties, and one railroad property. There are 287 properties identified as partial acquisitions and one property identified as a full acquisition at the owner's request. The real property requirements for the partial acquisitions are comprised of a combination of fee acquisitions, permanent easements, temporary construction easements (TCE), permanent and temporary ground lease reductions, and access control rights needed to construct the proposed highway and express

lane improvements for the Project. The full-fee acquisition, partial-fee acquisitions, permanent easements, and TCEs are required for roadway and bridge construction, soundwalls and retaining walls, drainage systems, and for the installation of above-ground and underground facilities, including electrical, telecommunication, water, sewer, gas, and storm drain systems.

The ROW acquisition program is currently on schedule. Of the 288 total parcels impacted, the following summarizes the status of the ROW acquisition:

- 288 offers presented,
- 269 agreements or possession (93 percent of 288 total parcels impacted),
- 60 resolutions of necessity approved.

Utility Relocations

There are currently 107 utilities that require relocation to accommodate the Project. OCTA is coordinating with 22 impacted utility companies to identify and resolve conflicts and relocation issues. There are several utility relocation risks, including Frontier Communication, Crimson and Chevron oil lines, and Southern California Edison facilities for which staff continues to develop and implement mitigation plans, as utilities are a shared risk between OCTA and OC405.

Construction

OC405 began construction on March 6, 2018. Initial construction activities included restriping portions of the freeway and setting up concrete barriers on the outside of the freeway to protect work areas for activities such as tree removals and grading. These initial construction activities are generally complete. Clearing and grubbing, including tree and ground cover removal, and rough grading activities have also advanced in the last quarter.

Significant roadway construction activities, including installation of drainage systems, retaining walls, and paving operations began earlier this year. Construction at Oceanview Channel, a major drainage facility that crosses under the freeway, has commenced. Additionally, over 20 walls are under construction at this time as well.

Construction of the Slater Avenue overcrossing bridge and approaching local roadways was recently completed. The Slater Avenue bridge was the first new bridge opened to traffic. Construction on the McFadden Avenue overcrossing bridge also continues, and is anticipated to be open to traffic in late summer of 2020. Both Slater Avenue and McFadden Avenue are one-stage bridges, which means the bridges are closed to traffic on both sides of I-405 during demolition and reconstruction.

Significant bridge construction also continued at Fairview Road, Magnolia Street, Goldenwest Street, and Bolsa Chica Road overcrossings. These are two-stage bridges, which means traffic will be maintained on the remaining portion of the bridge while the first half of the new bridge is constructed.

Construction began in the last several months at the Bolsa Avenue and Westminster Boulevard overcrossing bridges, both of which are two-stage bridges. Construction also began recently on the Santa Ana River bridge and the Harbor Boulevard overcrossing bridge. Construction at Santa Ana River and Harbor Boulevard consists of widening the existing freeway bridge over both of those facilities.

Looking ahead, the remainder of 2019 will remain busy related to bridge and wall construction. Now that the new Slater Avenue bridge is open to traffic, construction is anticipated to begin on the Talbert Avenue and Bushard Street overcrossing bridges. Both Talbert Avenue and Bushard Street are one-stage bridges, which means the bridges will be closed to traffic on both sides of I-405 during demolition and reconstruction. Additionally, the widening of three existing freeway bridges over Beach Boulevard, Bolsa overhead railroad crossing, and an old Navy railroad crossing is anticipated to begin in the next few months.

Project Challenges

As would be expected on a project of this magnitude, certain challenges have been encountered, including the following:

- Oversight and approvals from many different agencies and third parties
- Cost and availability of construction resources in this active construction market
- Change management
- Minimizing impacts and disruptions to the public
- Schedule impacts and mitigations

OCTA has worked closely with its partners and OC405 to mitigate schedule impacts when identified. Schedule mitigations implemented to date include building the Slater Avenue and Edwards Street overcrossing bridges in one stage instead of two stages, improvements to the construction staging at Oceanview Channel, and the long-term closure of one of the two off-ramps from northbound I-405 to Westminster Boulevard. Other future schedule mitigations include the potential for longer ramp closure durations and extended nightly lane closure durations in order to increase the productivity of the contractor. These types of schedule mitigations are intended to maintain the original Project completion date and will be balanced with minimizing traffic impacts. OCTA staff is also focused on the other Project challenges as well.

Project Cost/Contingency

The overall Project cost remains $1.9 billion, and the Project contingencies have been approximately 30 percent expended to date. This is in line with the percent complete for the Project from both a time and earned value standpoint.

Public Outreach

Over the last several months, in addition to communicating with the public about major construction activities such as bridge demolition and pile driving, the Outreach team has turned its focus to residents living along the freeway with backyard walls being rebuilt as part of the Project. These sensitive activities have required a substantial effort to ensure the impact to residents is minimized wherever possible. The Outreach team took a comprehensive and methodical approach to communicating with residents in multiple languages about temporary fence installation to ensure the safety of residents and pets. In addition, the team has facilitated nearly 100 preconstruction surveys where properties might be affected by wall construction, with dozens more scheduled.

Since April 2019, the Outreach team also has hosted three additional neighborhood meetings to apprise residents of construction at the Santa Ana River bridge, the Talbert Avenue and Bushard Street overcrossing bridges, and at soundwall locations. The team continues to find cost-effective ways to communicate about activities such as bridge and wall demolition, pile driving, and freeway closures. The team canvassed flyers in English, Vietnamese, and Spanish to nearly 110,000 addresses, reached more than a half-million people on social media through promoted posts, and emailed more than 10,000 recipients weekly with a construction update. In addition, there continues to be strong growth in the use of the Project's interactive map of closures and detours that is integrated with Waze, with an increase in monthly unique users of 156 percent (1,345 to 3,448) from April to June 2019. Nearly 600 users have downloaded the Project mobile app, up from 89 in March 2019. Meanwhile, the team continues to average about 110 inquiries a month from residents and business owners regarding the Project.

The Outreach team participated in a half-dozen community events, from festivals in Westminster and Rossmoor to Fountain Valley's Summerfest and the Taste of Huntington Beach. Project updates were provided to key stakeholders such as the OC Fair & Events Center and Westminster Mall, presentations were made to the Irvine Chamber of Commerce Government Affairs Committee, OCTA's Diverse Community Leaders Committee, several service organizations, and site visits to the Slater Avenue bridge were facilitated for members of the Fountain Valley City Council. Last month, completion of the Slater Avenue bridge was highlighted with a community event, which was well attended.

In the coming months, the Outreach team will focus on an enhanced safety awareness campaign and expanded outreach in diverse communities, including face-to-face meetings with faith-based groups, coordination with social media influencers in the community to share Project information, “insider” tours led by Project team members that reflect the ethnic communities along the Project corridor, and participation in cultural youth group events.

Next Steps

Staff will continue to work closely with the design-builder as design and construction continue. This involves completing portions of the final design, obtaining permits, utility relocation coordination, and construction activities. Additionally, the ROW acquisition program will continue as planned.

Summary

Final design and construction continue to advance. Currently, final design, ROW acquisition, public outreach, and other activities are in process to continue the construction phase of the Project.

Attachment

None.

Prepared by:

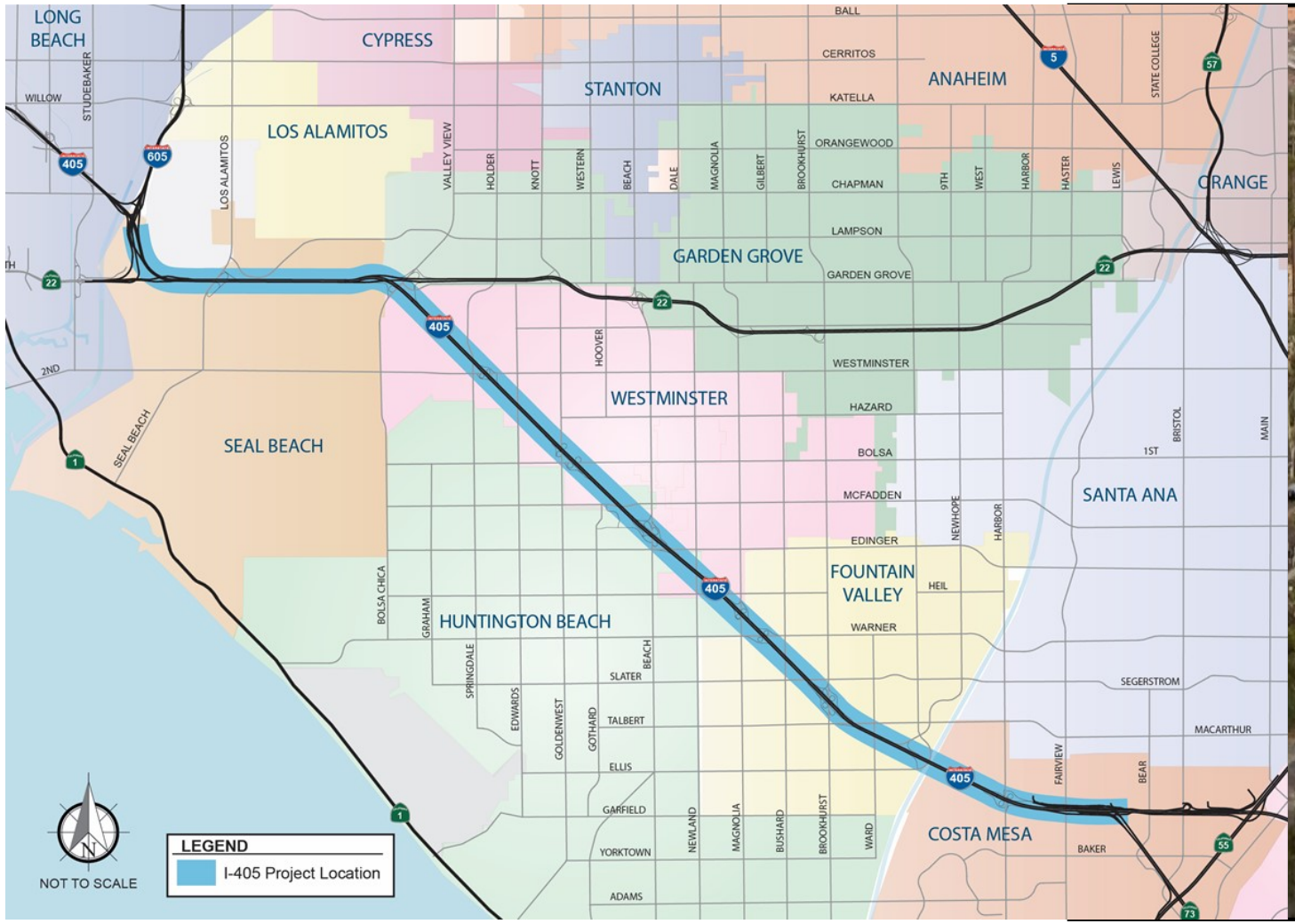
Jeff Mills, P.E.
Program Manager
(714) 560-5925

Approved by:

James G. Beil, P.E.
Executive Director, Capital Programs
(714) 560-5646

Interstate 405 Improvement Project Update

Project Location and Key Features



Background

Milestone	Completion Date
Environmental clearance	May 2015
Orange County Transportation Authority (OCTA) Board of Directors (Board) awards design-build contract to OC 405 Partners	November 2016
Notice to Proceed (NTP) No. 1 issued	January 2017
TIFIA* loan executed	July 2017
NTP No. 2 issued	July 2017
Construction began	March 2018

* Transportation Infrastructure Finance and Innovation Act

Project Update

Funding/ Financing	• TIFIA has reimbursed OCTA approximately $287 million to date • Next TIFIA loan disbursement anticipated in September 2020
Design	• Project design approximately 85 percent complete • Design anticipated to be fully complete by early 2020
Right-of-Way	• 288 parcels impacted – on schedule overall • 288 offers presented • 269 agreements or possession (93 percent of total parcels needed) • 60 resolutions of necessity adopted by the Board

Construction Update

Santa Ana River bridge construction can only take place in the “dry season” (inside the river channel)

Santa Ana River bridge construction

Construction Update

Slater Avenue bridge construction -
Opened prior to Labor Day

Construction Update

Oceanview Channel construction

Construction Update

Magnolia Street bridge construction

Construction Update

McFadden Avenue bridge construction

Construction Update

Goldenwest Street bridge construction

Look Ahead for Bridge Construction

August – December 2019

- After Slater Avenue bridge opens to traffic:
  - Talbert Avenue overcrossing (replace in one stage)
  - Bushard Street overcrossing (replace in one stage)
- Three freeway bridge widenings:
  - Navy overhead (old railroad crossing)
  - Bolsa overhead (current railroad crossing)
  - Beach Boulevard undercrossing

Bridge Construction Map

Project Challenges

- Oversight and approvals from many different agencies and third parties
- Cost and availability of construction resources in this active construction market
- Change management
- Minimizing impacts and disruptions to the public
- Schedule impacts and mitigations

Schedule Mitigations

Implemented		Other Future Opportunities
Slater Avenue bridge from two-stage to one-stage construction	Edwards Street bridge from two-stage to one-stage construction	Longer ramp closure durations
Improvements to staging of Oceanview Channel construction	Long-term closure of one of two northbound off-ramps to Westminster Boulevard	Extended and/or multiple night closures

- Mitigations intended to maintain Project completion date
- To be balanced with minimizing traffic impacts

Interactive Engagement

	April	May	June	July
Website users*	627	631	649	725
Interactive map users*	1,589	2,994	3,728	2,051
Mobile app installs	84	246	54	28

*Includes new and returning users

Upcoming Community Outreach

- Community Events
  - Back to School
  - Rossmoor Winter Festival
- Safety Awareness Campaign
- Ethnic Communities Outreach
- “Insider” tours
- Stakeholder Briefings
- Committee Updates
- Neighborhood meetings
  - Long-term ramp closures

2019 Fountain Valley Summerfest

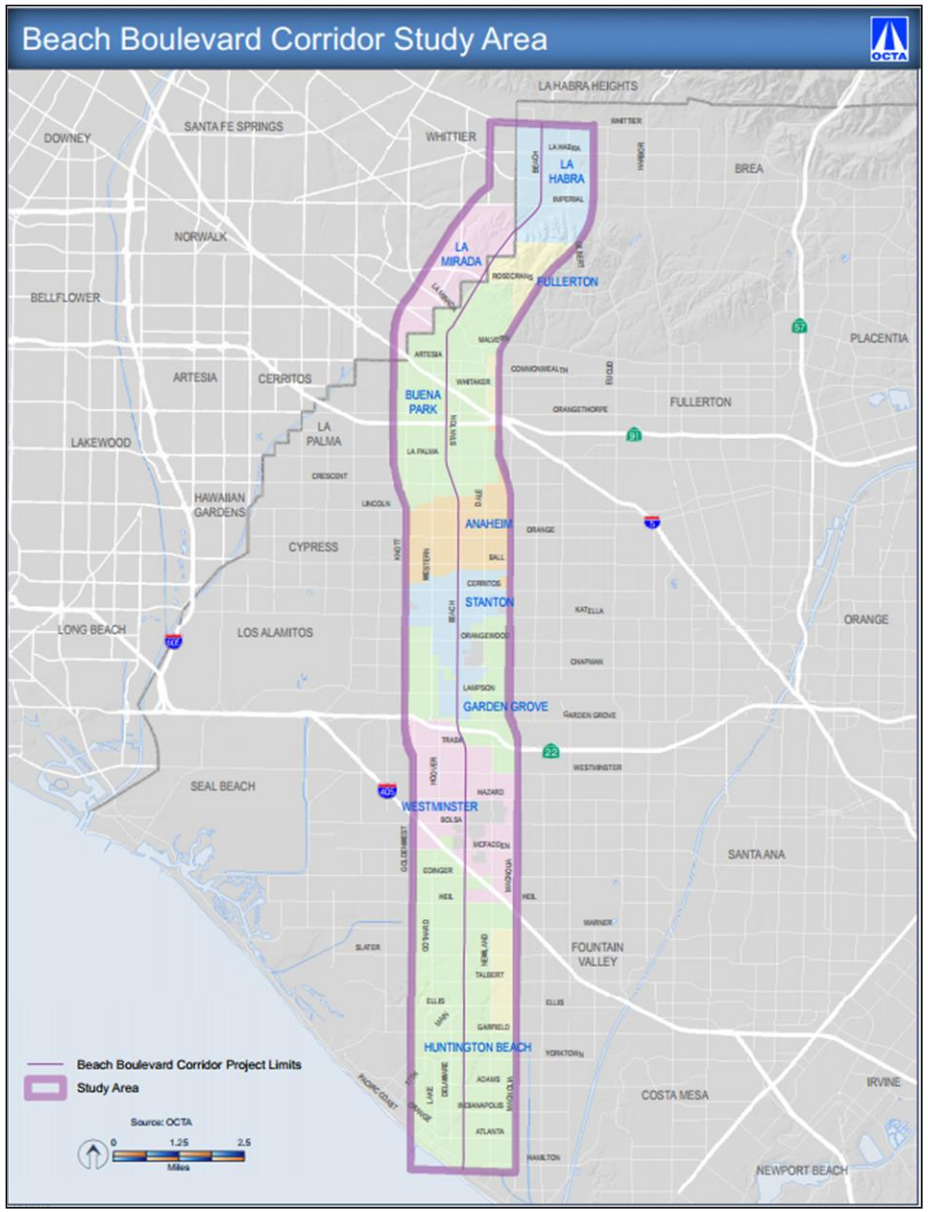
Beach Boulevard Corridor Study

OCTA Caltrans

Project Overview

- Develop a comprehensive multimodal transportation vision for Beach Boulevard
- Collaborate with corridor cities/agencies and Caltrans
- Identify constraints/opportunities to improve and enhance local and regional mobility
- Coordinate local land use objectives with transportation solutions
- Prepare concepts for future project implementation efforts and identify potential policy revisions

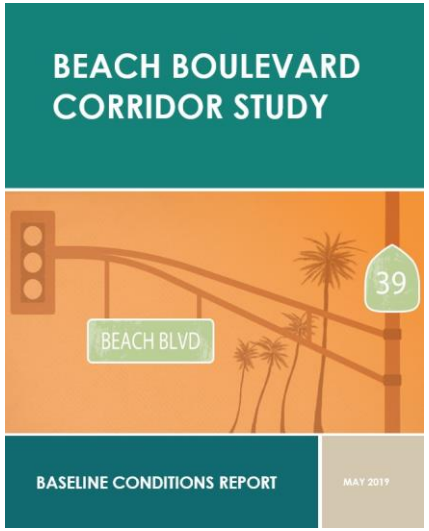
Corridor Overview



- Beach Boulevard is generally a state highway facility
- 21-miles long, from Pacific Coast Highway to Whittier Boulevard
- Study area includes 1.25-mile buffer on either side
- Crosses nine cities and unincorporated county areas
- Typically 6-8 lanes
- Daily traffic volumes range from 30,000 to 85,000

Study Approach

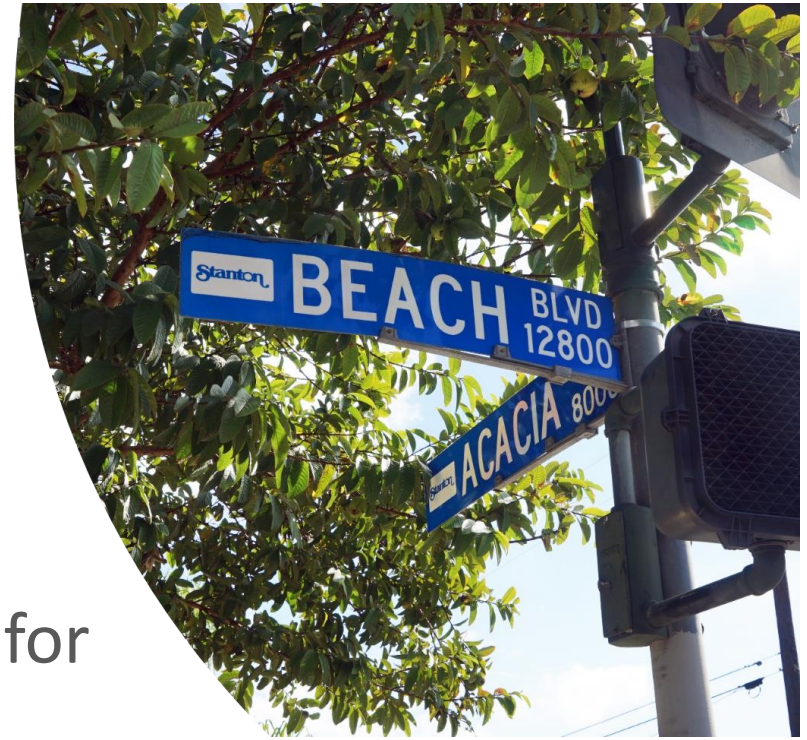
- Document existing and future conditions
- Identify study purpose and need
- Develop range of potential improvement concepts
- Conduct high-level and detailed analysis to determine preferred concepts
- Prepare conceptual designs, cost estimates and implementation strategies for recommended elements
- Maintain ongoing community engagement through outreach events and surveys
- Consider state policies and disruptive technologies



Purpose and Need

Purpose

- To identify and recommend feasible multimodal transportation improvements to facilitate mobility and connectivity for travelers of all modes along Beach Boulevard

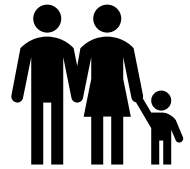


Need

- To address existing and anticipated future demands for local and regional travel along Beach Boulevard, including vehicular throughput, transit operations and active transportation connectivity, and to complement local land use types

Toolbox Development

- Initial list of potential improvements by mode of travel
- Preliminary assessments of:
  - Consistency with purpose/need
  - Costs
  - East of implementation and other risk factors
  - Consistency with Caltrans
- Established tiers of toolbox elements
- Identified local vs. corridor/system implementation



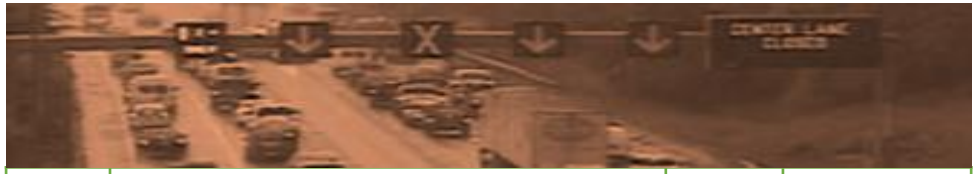
Draft Concepts By Mode

#	Pedestrian Concepts	Tier	Local/ Corridor
P1	Close gaps in sidewalk network	0/2	L
P2	Remove sidewalk obstructions	2	L
P3	Sidewalk amenities	1	L
P4	Pedestrian scrambles	2	L
P5	Pedestrian refuge islands	2	L
P6	Countdown pedestrian signal heads	1	L
P7	High-visibility crosswalks	0	L
P8	Realign crosswalks at freeway ramps	1	C
P9	Corner/sidewalk bulbs	2	L
P10	Mid-block signalized pedestrian crossings	2	L
P11	On-street parking/loading zones	3	C

#	Bicycle Concepts	Tier	Local/ Corridor
B1	Protected bike lanes (on Beach Boulevard)	3	C
B2	Close gaps in bicycle network (on parallel streets)	0	L
B3	Painted Bike Lanes (on Beach Boulevard)	1	L
B4	Bicycle preferential treatments	1	L
B5	Bike on sidewalk treatments	0	L

Tier 0: Lowest cost/least complicated, easiest to implement
Tier 1: Low cost/generally less complicated, shorter implementation lead time
Tier 2: Mid cost/moderately complicated, longer implementation lead time
Tier 3: High cost/complicated, longest implementation lead time

Draft Concepts By Mode



#	Vehicular Concepts	Tier	Local/ Corridor
V1	Advanced traffic signal timing/ITS	2	C
V2	Active traffic management	3	C
V3	Access management (remove driveways)	2	L
V4	On-street parking/loading zones removal	1	L
V5	Eliminate mid-block median breaks	2	L
V6	Pedestrian bridges	3	L
V7	Adjust interchange ramp locations/configurations	3	C
V8	Alternative intersection configurations	3	C

#	Transit Concepts	Tier	Local/ Corridor
T1	Bus stops/stations amenities	1	L
T2	Transit signal priority treatments	2	C
T3	Transit preferential treatments	2	C
T4	Dedicated transit lanes (for BRT)	2	C
T5	First-last mile improvements at major stops	1	L

Tier 0: Lowest cost/least complicated, easiest to implement
Tier 1: Low cost/generally less complicated, shorter implementation lead time
Tier 2: Mid cost/moderately complicated, longer implementation lead time
Tier 3: High cost/complicated, longest implementation lead time

BRT – Bus Rapid Transit

Next Steps

- Detailed assessment of effectiveness of each toolbox element
- Solicit input and feedback from public through next round of outreach and surveys
- Prepare conceptual layouts, cost estimates
- Identify potential funding sources and implementation plan
- Deliver final report by February 2020
- Provide support to cities/county and Caltrans as they look to implement new projects per this study

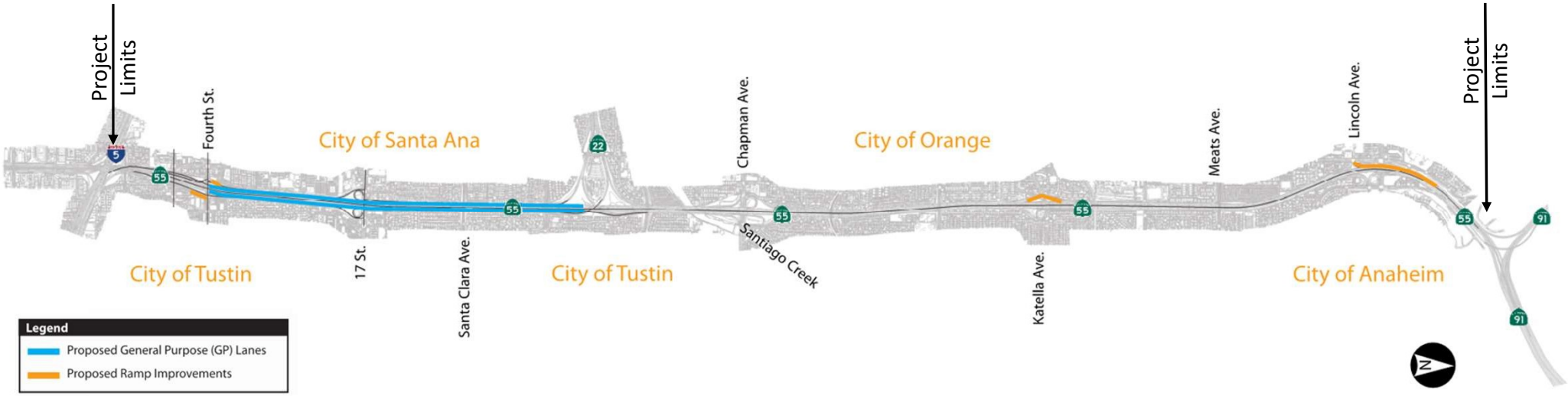
OCTA Caltrans

Update on State Route 55 Improvement Project from Interstate 5 to State Route 91

About the Project

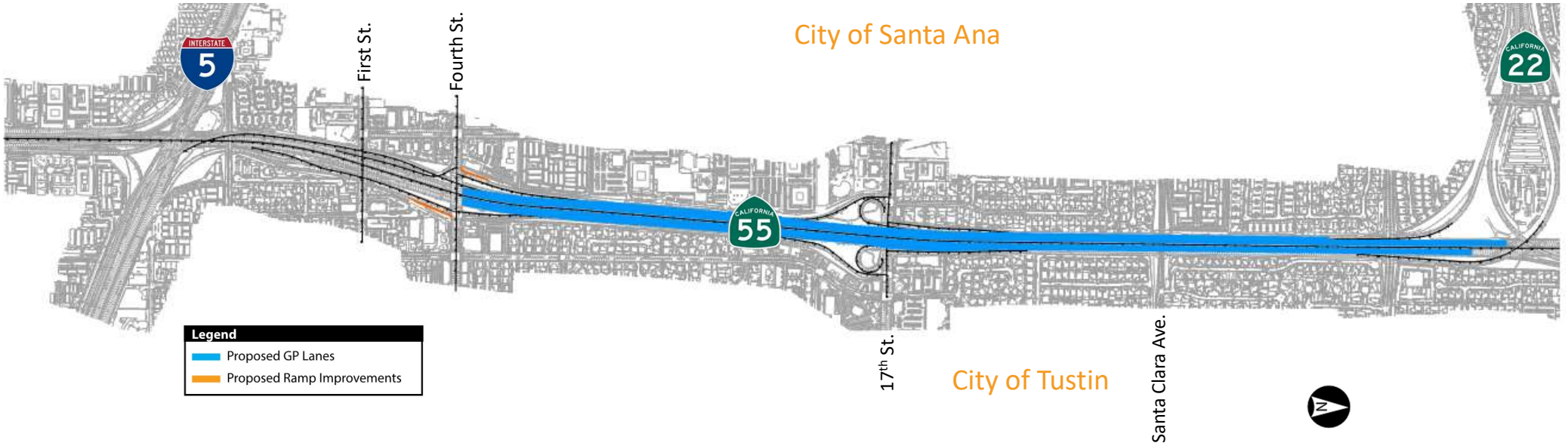
- **Measure M2 Project F, State Route 55 (SR-55) Improvements**
  - Add new lanes between Interstate 5 (I-5) and State Route 22 (SR-22)
  - Provide operational improvements between SR-22 and State Route 91 (SR-91)
- **Project Purpose:**
  - Improve mobility
  - Reduce congestion
  - Increase freeway capacity
  - Improve traffic operations
- **Project Objective:**
  - Minimize environmental impacts and right-of-way (ROW) impacts

Project Limits



- Traffic congestion exists on southbound (SB) SR-55 in the AM and northbound (NB) SR-55 in the PM.
- Existing traffic demand exceeds capacity.
  - Average daily traffic is expected to grow from 257,000 to 281,000 by 2055.
- A traffic study and extensive coordination resulted in the proposed addition of new lanes and interchange operational improvements, generally within the existing ROW.

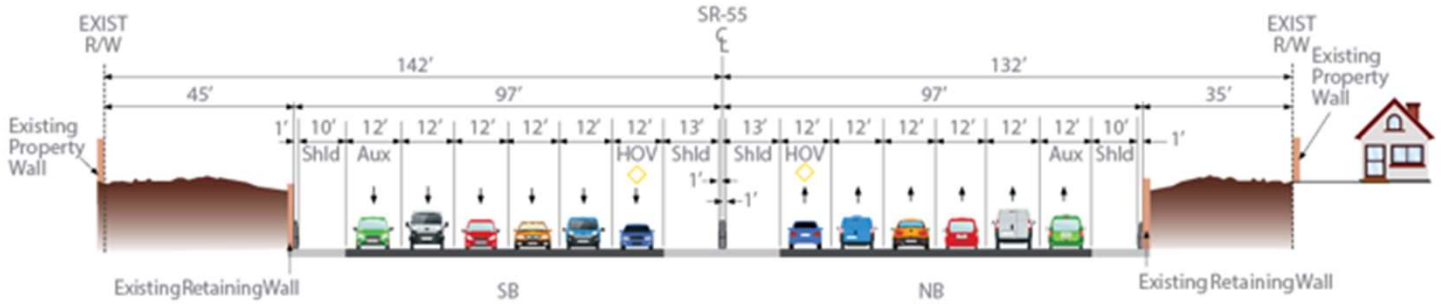
SR-55 Between I-5 and SR-22



- Add one GP lane in each direction
- Add capacity to off-ramps at Fourth Street
- Improve Fourth Street intersections to comply with the Americans with Disabilities Act (ADA)

SR-55 Between Fourth Street and 17th Street

Alternative 1 (No Build):

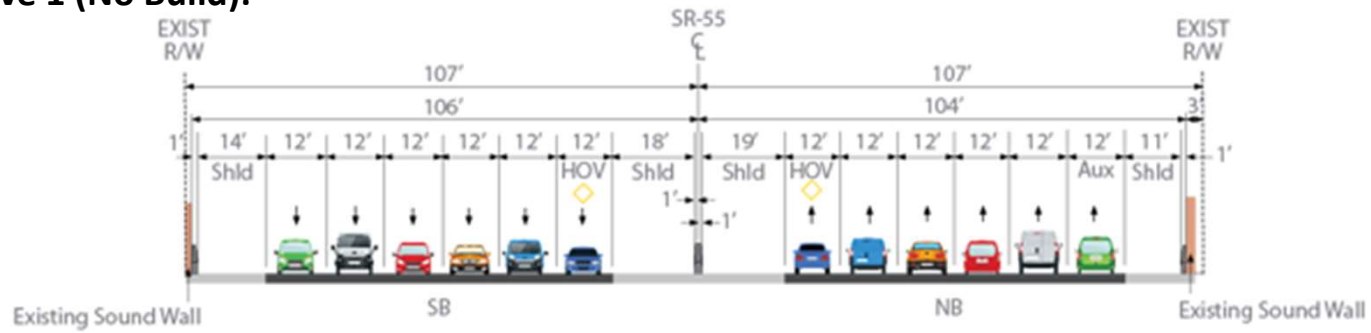


Alternative 2 (Build):

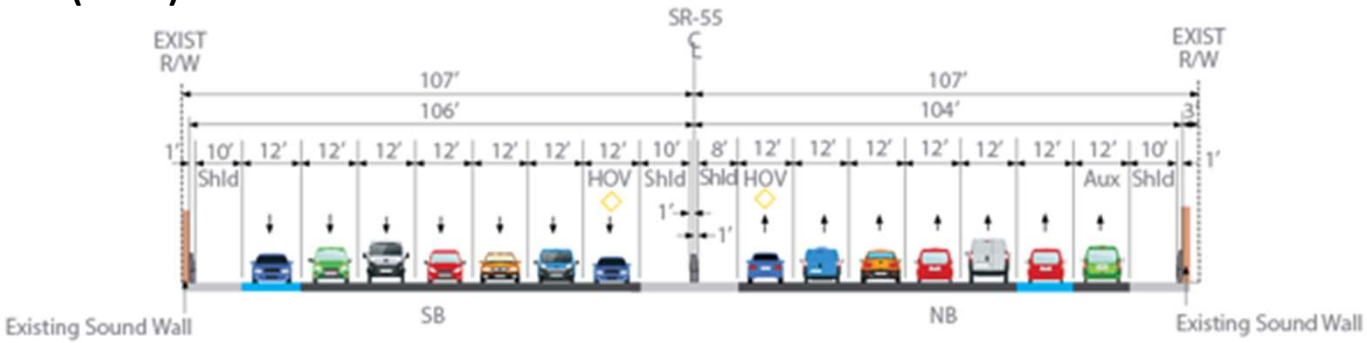
- Centerline shift to reduce construction impacts

SR-55 Between 17th Street and SR-22

Alternative 1 (No Build):



Alternative 2 (Build):



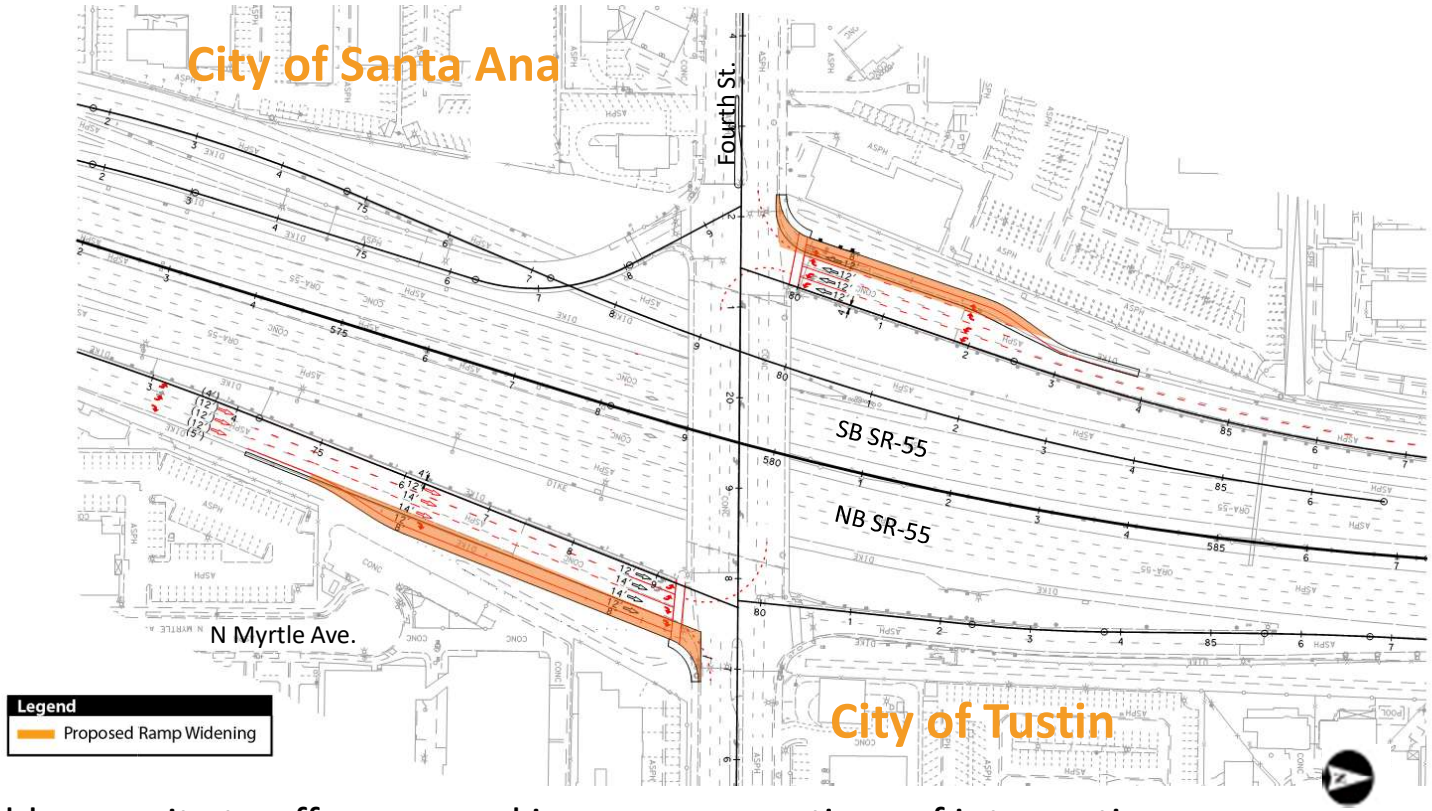
- Maintain existing centerline with reduced inside shoulder to avoid ROW and environmental impacts

Traffic Benefits

Average Daily Traffic Volumes			
SR-55	**Existing**	**2055 – Alternative 1 (No Build)**	**2055 – Alternative 2 (Build)**
NB	135,000	146,000	158,000
SB	122,000	135,000	139,000
Total	**257,000**	**281,000**	**297,000**

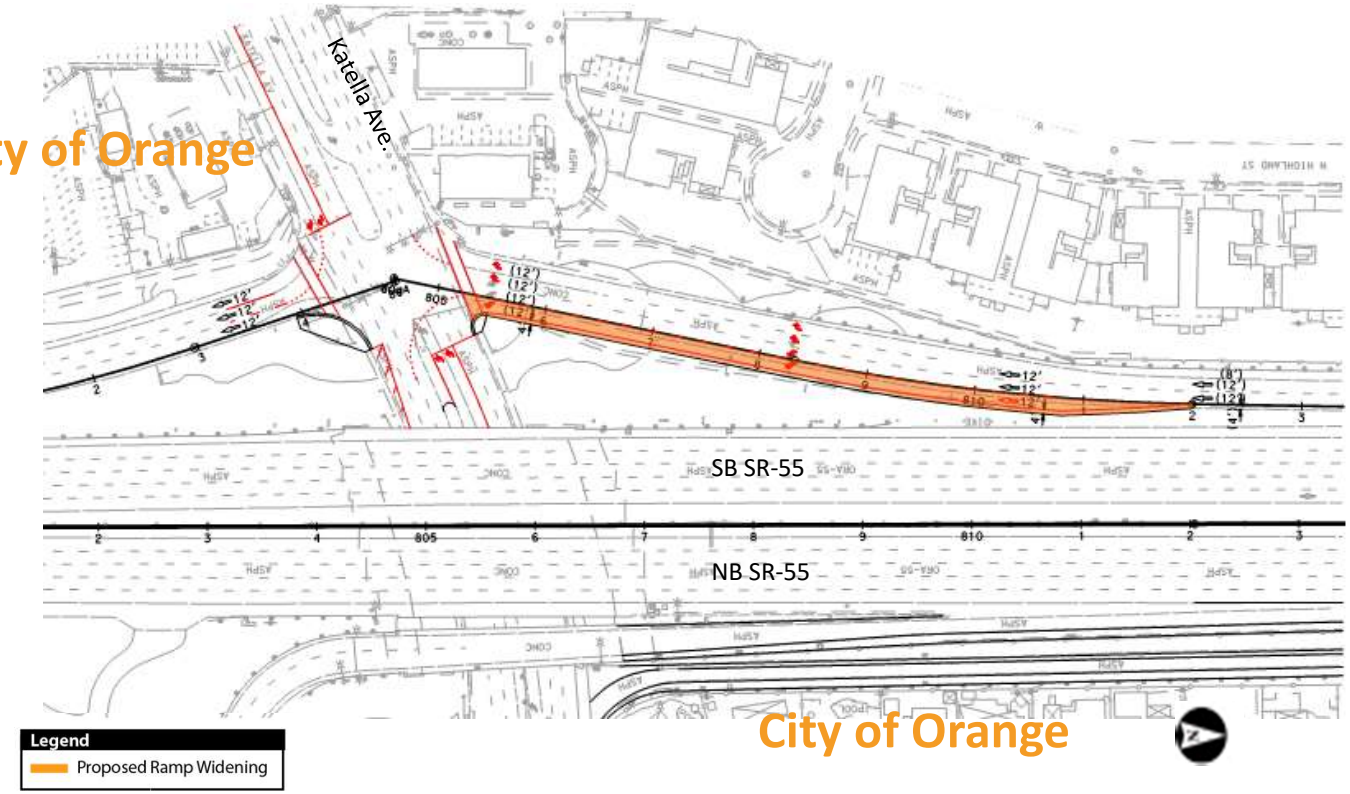
Build Annual Vehicle Delay Savings (Hours)		
Year	**Delay Savings**	**Delay Savings (%)**
2035	905,000	10%
2055	1,256,000	11%

SR-55 Fourth Street Off-Ramp Widenings



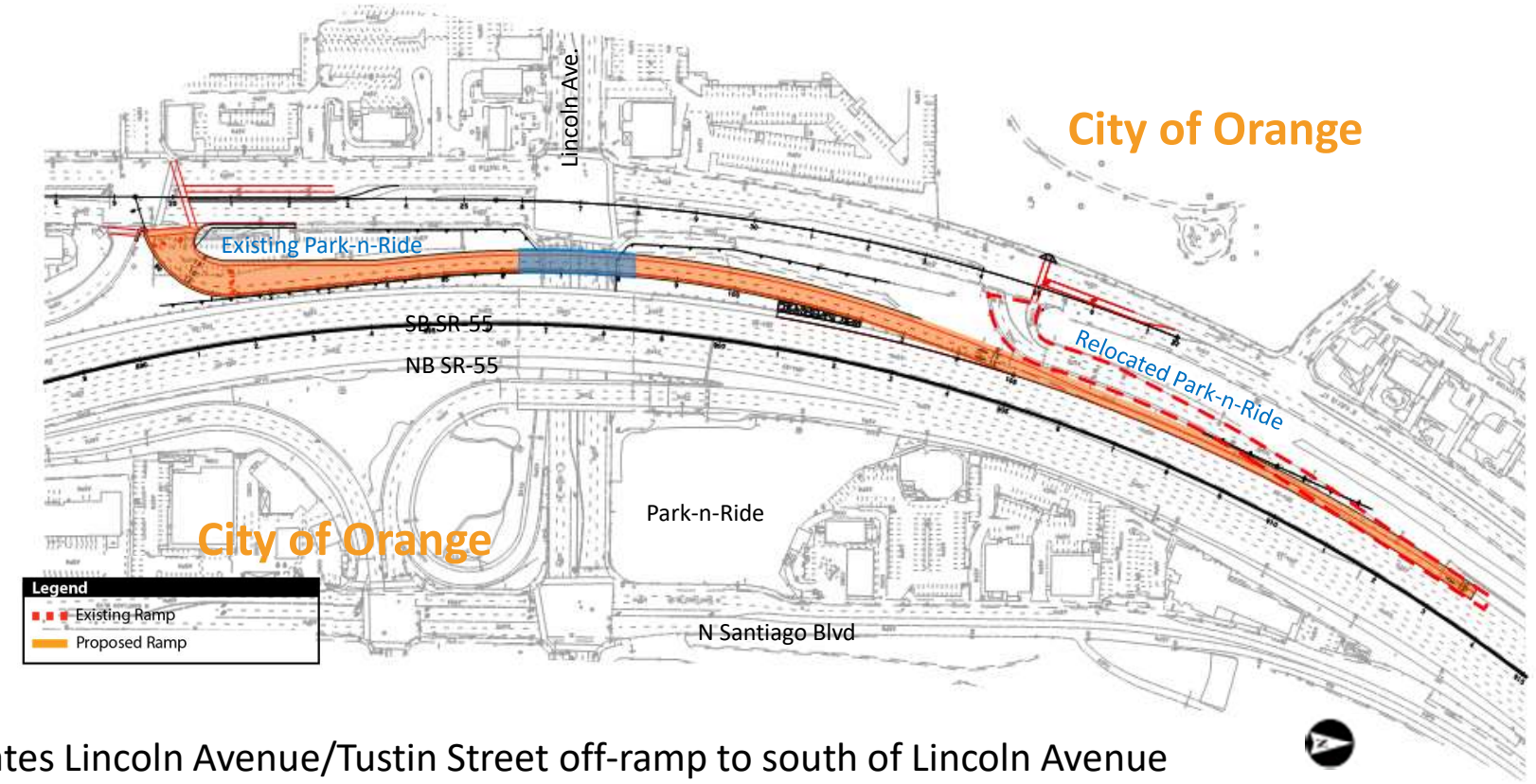
- Adds capacity to off-ramps and improves operations of intersections
- Provides ADA-compliant crossings

SR-55 Katella Avenue Ramp Widening



- Adds capacity to SB off-ramp and improves operations of intersection
- Provides ADA-compliant crossing
- Reduces queue on right-turns onto SB on-ramp

SR-55 Between SR-91 and South of Lincoln Avenue



- Relocates Lincoln Avenue/Tustin Street off-ramp to south of Lincoln Avenue
- Existing Park-n-Ride will be relocated to the existing off-ramp as a part of the Project

Public Outreach and Noticing

- Civic organization briefings
- Business/school outreach
- City Council presentations
- Collateral development
- Media advertisement
- Social media

Environmental Phase Schedule