



AGENDA

Regional Planning and Highways Committee Meeting

Committee Members

Mark A. Murphy, Chairman
Barbara Delgleize, Vice Chair
Lisa A. Bartlett
Shawn Nelson
Miguel Pulido
Todd Spitzer
Michelle Steel

Orange County Transportation Authority
Headquarters
550 South Main Street
Board Room – Conf. Room 07
Orange, California
Monday, April 2, 2018 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 Nelson

1. Public Comments

Special Calendar

There are no Special Calendar matters.

Consent Calendar (Items 2 through 9)

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 March 5, 2018.



- 3. Amendment to Agreement for Additional Design Services for Interstate 5 Improvement Project from South of Alicia Parkway to El Toro Road**
Niall Barrett/James G. Beil

Overview

On August 11, 2014, the Orange County Transportation Authority Board of Directors approved an agreement with TRC Solutions, Inc., for preparation of plans, specifications, and estimates for the Interstate 5 Improvement Project from south of Alicia Parkway to El Toro Road. An amendment to the existing agreement is required for additional design services.

Recommendation

Authorize the Chief Executive Officer to negotiate and execute Amendment No. 3 to Agreement No. C-4-1426 between the Orange County Transportation Authority and TRC Solutions, Inc., in the amount of \$949,605, for additional design services for the Interstate 5 Improvement Project from south of Alicia Parkway to El Toro Road. This will increase the maximum cumulative obligation of the agreement to a total contract value of \$8,569,287.

- 4. Agreement for Right-of-Way Clearance Services for the Interstate 5 Far North Widening Project in the City of Anaheim**
Joe Gallardo/James G. Beil

Overview

On January 10, 2018, the Orange County Transportation Authority issued an invitation for bids for right-of-way clearance services for the Interstate 5 Far North Widening Project in the City of Anaheim. Bids were received in accordance with the Orange County Transportation Authority's public works procurement procedures. Board of Directors' approval is requested to execute the agreement.

Recommendation

Authorize the Chief Executive Officer to negotiate and execute Agreement No. C-7-2115 between the Orange County Transportation Authority and OFRS, Inc., the lowest responsive, responsible bidder, in the amount of \$62,475, for right-of-way clearance services for the Interstate 5 Far North Widening Project in the City of Anaheim.



5. Interstate 5 (Avenida Pico to San Diego County Line) Project Status Update
Carolyn Mamaradlo/Kia Mortazavi

Overview

The Orange County Transportation Authority is developing a project study report/project development support document for potential improvements to Interstate 5, in San Clemente, from Avenida Pico to the San Diego County line. An initial project status update was provided in September 2017. At that meeting, the Board of Directors requested that staff return in early 2018 to provide an update, which is provided in this report.

Recommendation

Receive and file as an information item.

6. Fiscal Year 2018-19 Measure M2 Eligibility and Countywide Pavement Management Plan Guidelines and City of Placentia's Maintenance of Effort Benchmark
May Hout/Kia Mortazavi

Overview

The Orange County Transportation Authority Ordinance No. 3 includes eligibility requirements that local jurisdictions must satisfy in order to receive Measure M funds. The Measure M2 Eligibility Guidelines and the Countywide Pavement Management Plan Guidelines are used to guide local jurisdictions through eligibility requirements and submittal processes. Updates to these guidelines are presented for Board of Directors review and approval. A proposed minor adjustment to the maintenance of effort benchmark for the City of Placentia to align with final city general fund revenue figures is also presented for review and approval.

Recommendations

- A. Approve the fiscal year 2018-19 Measure M2 Eligibility Guidelines.
- B. Approve the proposed revisions to the Countywide Pavement Management Plan Guidelines.
- C. Approve the City of Placentia's maintenance of effort benchmark adjustment for the fiscal year 2017-18 eligibility cycle.



7. 2018 State Transportation Improvement Program Update
Ben Ku/Kia Mortazavi

Overview

On March 21, 2018, the California Transportation Commission approved the final 2018 State Transportation Improvement Program, which includes several changes to the Orange County Transportation Authority's State Transportation Improvement Program submittal. An update on the changes is provided.

Recommendations

- A. Authorize the use of up to \$7.372 million in Surface Transportation Block Grant funds for the Interstate 5 improvements from Interstate 405 to State Route 55.
- B. Authorize an exchange of Measure M2 funds between three segments of the Interstate 5 Improvement Project.
 - Decrease Measure M2 funds by \$11 million for the Interstate 5 improvements from Alicia Parkway to El Toro Road,
 - Increase Measure M2 funds by \$9.1 million for Interstate 5 improvements from State Route 73 to Oso Parkway, and
 - Add Measure M2 funds for \$1.9 million for the Interstate 5 improvements from State Route 73 to El Toro Road Landscaping.
- C. Direct staff to work with the California Transportation Commission to deliver projects based on the existing project schedules.
- D. Authorize staff to process all necessary amendments to the Federal Transportation Improvement Program and execute or amend all necessary agreements to facilitate the above actions.

8. Amendment to the Master Plan of Arterial Highways
Carolyn Mamaradlo/Kia Mortazavi

Overview

The Orange County Transportation Authority administers the Master Plan of Arterial Highways, including the review and approval of amendments requested by local agencies. The County of Orange has requested an amendment to the Master Plan of Arterial Highways that is recommended for approval. A status update on the active Master Plan of Arterial Highways amendments is also provided.



8. (Continued)

Recommendations

- A. Approve an amendment to the Master Plan of Arterial Highways for the following:
- Reclassify Esperanza Road, between Imperial Highway and the Fairmont Boulevard Connector, from a major (six-lane, divided) to a primary (four-lane, divided) arterial;
 - Reclassify Fairmont Boulevard Connector, between Esperanza Road and Fairmont Boulevard, from a major (six-lane, divided) to a primary (four-lane, divided) arterial;
 - Reclassify Los Patrones Parkway, between Chiquita Canyon Road to Cow Camp Road, from a primary (four-lane, divided) to secondary (four-lane, undivided) arterial; and
 - Add Los Patrones Parkway, south of Oso Parkway to Chiquita Canyon Road, as a secondary (four-lane, undivided) arterial.

The proposed amendment will become final, contingent upon the Orange County Transportation Authority receiving documentation that the County of Orange and City of Yorba Linda have amended their respective general plans and have complied with the requirements of the California Environmental Quality Act.

If the original proposed Master Plan of Arterial Highways amendment is modified as a result of the California Environmental Quality Act and/or general plan amendments processes, the modified Master Plan of Arterial Highways amendment shall be returned to the Orange County Transportation Authority's Board of Directors for consideration.

- B. Direct the Executive Director of Planning, or his designee, to file a Notice of Exemption from the California Environmental Quality Act in support of the amendment to the Master Plan of Arterial Highways.
- C. Receive and file a status report on active Master Plan of Arterial Highways amendments.



9. SB 1 (Chapter 5, Statutes of 2017) Programs Update
Adriann Cardoso/Kia Mortazavi

Overview

SB 1 (Chapter 5, Statutes of 2017), the Road Repair and Accountability Act of 2017, will provide an estimated \$52.5 billion for transportation purposes over the next ten years, with investments targeted towards fix-it-first purposes on local streets and roads, highways, transit operations and maintenance, capital investments, and active transportation. An update on the status and general requirements of key competitive programs are presented for review.

Recommendation

Receive and file as an information item.

Regular Calendar

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.

11. 2018 Long-Range Transportation Plan Update
Greg Nord/Kia Mortazavi

Overview

The Long-Range Transportation Plan provides Orange County's program of projects for the multi-county Regional Transportation Plan, prepared by the Southern California Association of Governments. The plan also serves as a policy framework for future transportation investments in Orange County. Initial model results presented in February 2018, along with ongoing activity at the state and regional levels, suggest that it would be appropriate to consider including priced managed lanes within the Long-Range Transportation Plan. Initial model results for the priced managed lane scenario are presented below for consideration.



11. (Continued)

Recommendation

Direct staff to assume priced managed lanes within the Trend 2040 scenario, recognizing that further study, interagency coordination, and public outreach are required as part of future planning efforts.

Discussion Items

12. Chief Executive Officer's Report

13. Committee Members' Reports

14. Closed Session

There are no Closed Session items scheduled.

15. Adjournment

The next regularly scheduled meeting of this Committee will be held at **10:30 a.m. on Monday, May 7, 2018**, at the Orange County Transportation Authority Headquarters, 550 South Main Street, Board Room - Conference Room 07, Orange, California.



MINUTES

Regional Planning and Highways Committee Meeting

Committee Members Present

Mark A. Murphy, Chairman
Shawn Nelson
Miguel Pulido
Michelle Steel

Committee Members Absent

Barbara Delgleize, Vice Chair
Lisa A. Bartlett
Todd Spitzer

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

Call to Order

The March 5, 2018 regular meeting of the Regional Planning and Highways Committee was called to order by Committee Chairman M. Murphy at 10:31 a.m.

Pledge of Allegiance

Director Nelson led in the Pledge of Allegiance.

1. Public Comments

No public comments were received.

Special Calendar

There were no Special Calendar matters.

Consent Calendar (Item 2)

2. Approval of Minutes

A motion was made by Director Pulido, seconded by Director Nelson, and declared passed by those present, to approve the minutes of the Regional Planning and Highways Committee meeting of February 5, 2018.



Regular Calendar

3. **Measure M2 Environmental Cleanup Program - Tier 1 Grant Program Call for Projects**

Alison Army, Transportation Analyst Principal, Planning, provided background information on the Measure M2 (M2) Environmental Cleanup Program (ECP), Project X, which provides competitive grant funding to local agencies as well as the County of Orange for water quality improvement projects that reduce transportation-generated pollution.

Ms. Army also reported that:

- Over the last seven years, the Orange County Transportation Authority (OCTA) Board of Directors (Board) has approved over \$20 million of Tier 1 funding for 154 projects.
- OCTA has worked with local agencies and the Environmental Cleanup Allocation Committee (ECAC) to review the M2 ECP Tier 1 Program Guidelines.
- The 2018-19 Tier 1 call for projects is anticipated to be released upon Board approval and remain open until mid-May. Two workshops will be held to assist the applicants with the process.
- The Board will be notified when the call for projects will begin and end.

A discussion ensued regarding:

- The Board will be notified when the call for projects is to begin and end.
- Issues with pollution on the Santa Ana River, which travels straight into the beaches.
- Darrell E. Johnson, Chief Executive Officer (CEO), reported that OCTA staff will communicate with all the applicants to ensure that every city has an opportunity to apply.

A motion was made by Director Pulido, seconded by Director Nelson, and declared passed by those present, to:

- A. Approve the proposed revisions to the Comprehensive Transportation Funding Programs Guidelines for Environmental Cleanup Program Tier 1 projects.
- B. Authorize staff to issue the fiscal year 2018-19 Environmental Cleanup Program Tier 1 call for projects for approximately \$2.8 million.



Discussion Items

4. Update on Interstate 605/Katella Avenue Interchange Project

Darrell E. Johnson, CEO, introduced Jeannie Lee, Program Manager, Capital Programs, and Ms. Lee provided a PowerPoint presentation for this item as follows:

- Project Improvements;
- Alternative 1 – Existing Condition;
- Alternative 2;
- Alternative 3;
- Project Benefits;
- Public Noticing and Outreach; and
- Environmental Phase Schedule.

Director Steel asked what the cost difference was between Alternatives 2 and 3. Ms. Lee responded that based on the current updated cost estimate, Alternative 2 is estimated at \$35 million, and Alternative 3 is estimated at \$40 million.

5. Update on the Interstate 5/El Toro Road Interchange Improvement Project

Darrell E. Johnson, CEO, provided opening remarks and introduced Lisa Ramsey, Acting Deputy District Director for Capital Programs, California Department of Transportation (Caltrans) District 12. Ms. Ramsey provided a PowerPoint presentation on this item as follows:

- Project Location;
- Purpose and Need;
- Partnering;
- Progress to Date;
- Alternative 1 – Intersection Modification (\$65 million);
- Alternative 2 – (Flyover (\$95 million)
- Alternative 3 – Diverging Diamond Interchange (\$65 million); and
- Project Schedule for Environmental Phase.

A discussion ensued regarding:

- Alternative 3 (Diverging Diamond Interchange) where traffic crisscrosses on top of the bridge to not cause interference to the opposite side of the road.



5. (Continued)

- Darrell E. Johnson, CEO, reported that the Interstate 5 (I-5) from the State Route (SR) 73 to El Toro Road Project will go into construction in five years and the two projects are linked.
- Staff will return to the Committee with an update later this year.

6. **Eastbound State Route 22 Safety Improvement Project at Interstate 5/ State Route 22/State Route 57**

Lisa Ramsey, Acting Deputy District Director for Capital Programs, Caltrans District 12, provided a PowerPoint presentation on this item as follows:

- Project Location – Eastbound (EB) SR-22;
- Project Purpose and Funding;
- Project Scope – Modify EB SR-22;
- Progress to Date;
- Project Schedule; and
- Public Outreach.

A discussion ensued regarding:

- This project will eliminate the EB SR-22 Bristol Street onramp and still allow northbound I-5, SR-57, and southbound I-5 access under the freeway.
- EB SR-22 traffic can circle back on Memory Lane up to The City Drive and access the onramp.
- The project will reduce weaving between the lanes to access the various freeways.
- Clarification on the removal and retention of the various barriers.
- This project has been modeled and the project will alleviate a lot of the traffic back-up.
- Director Pulido requested a planned view of the barriers and modeling information.

7. **Executive Officer's Report**

Darrell E. Johnson, CEO, reported that:

- OCTA will host an open house for the SR-91 Project (from SR-57 to SR-55), which is in the environmental phase. The open house will be held on Wednesday, March 14, from 5:00 p.m. to 8:00 p.m., at Rio Vista Elementary School in Anaheim. The public hearing and draft environmental document circulation are anticipated for late 2018.



MINUTES

Regional Planning and Highways Committee Meeting

7. (Continued)

- Staff will follow-up with Caltrans regarding the requested information for Item 6 on the Agenda.
- Mr. Johnson, CEO, thanked Caltrans for working hard to get Item 6 on the Agenda into the State Highway Operations and Protection Program.

8. Committee Members' Reports

There were no Committee Members' reports.

9. Closed Session

A Closed Session was not conducted at this meeting.

10. Adjournment

The meeting adjourned at 11:05 a.m.

The next regularly scheduled meeting of this Committee will be held at **10:30 a.m. on Monday, April 2, 2018**, 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



April 2, 2018

To: Regional Planning and Highways Committee

From: Darrell E. Johnson, Chief Executive Officer

Subject: Amendment to Agreement for Additional Design Services for Interstate 5 Improvement Project from South of Alicia Parkway to El Toro Road

Overview

On August 11, 2014, the Orange County Transportation Authority Board of Directors approved an agreement with TRC Solutions, Inc., for preparation of plans, specifications, and estimates for the Interstate 5 Improvement Project from south of Alicia Parkway to El Toro Road. An amendment to the existing agreement is required for additional design services.

Recommendation

Authorize the Chief Executive Officer to negotiate and execute Amendment No. 3 to Agreement No. C-4-1426 between the Orange County Transportation Authority and TRC Solutions, Inc., in the amount of \$949,605, for additional design services for the Interstate 5 Improvement Project from south of Alicia Parkway to El Toro Road. This will increase the maximum cumulative obligation of the agreement to a total contract value of \$8,569,287.

Discussion

The Interstate 5 (I-5) Improvement Project from south of Alicia Parkway to El Toro Road (Project) is part of the Measure M2 (M2) freeway program, Project C, and is being advanced through the Next 10 Delivery Plan approved by the Orange County Transportation Authority (OCTA) Board of Directors (Board) in November 2016.

The Project will add a second high-occupancy vehicle (HOV) lane in each direction on I-5 between Alicia Parkway and El Toro Road, an additional general purpose lane in the southbound direction between north of Alicia Parkway and south of Alicia Parkway, re-establish existing auxiliary lanes, add a new auxiliary lane southbound between the El Toro Road on-ramp

and the Los Alisos Boulevard off-ramp, replace the Los Alisos Boulevard overcrossing, and convert existing HOV lanes to continuous access. Additional project scope has been identified which requires further design effort. An amendment to the Project design contract is recommended, and additional design services will include the following:

The environmental phase for the Project, which was completed in early 2014, identified northbound freeway widening within the City of Lake Forest that would have necessitated replacement of an existing retaining wall and soundwall, and the need to acquire a temporary construction easement (TCE) to perform this work. During the final design phase, the consultant, TRC Solutions, Inc., (TRC) proposed shifting the freeway alignment westerly, therefore eliminating the need for this wall replacement work. Since this realignment was proposed, TRC has worked with OCTA, the California Department of Transportation (Caltrans), and Orange County Parks (OC Parks) to determine the conceptual proposed realignment for Aliso Creek and the bike path.

As realignment of Aliso Creek was not identified in the environmental phase or the existing TRC contract scope, TRC will need to perform additional required geotechnical exploration, surveys, environmental studies, and a supplemental project report. TRC will also coordinate with Caltrans, the City of Laguna Hills, OC Parks, Orange County Flood Control District, State Water Resources Control Board, California Department of Fish and Wildlife, and the United States Army Corps Of Engineers regarding the environmental revalidation related to the Aliso Creek and bike trail realignments. This design and environmental effort was not anticipated in the original contract scope of work.

The Project's environmental document also included replacement of an existing soundwall and the need for another TCE on Bridger Road, also in the City of Lake Forest. TRC proposed shifting the freeway westerly, which eliminates this soundwall replacement work and the need to acquire the TCE. Shifting the freeway westerly requires realignment of Avenida De La Carlota, and TRC has coordinated with the City of Laguna Hills as part of the early stages of design. The design team will continue to work with the City of Laguna Hills, Caltrans, and various utility agencies such as Southern California Edison and Southern California Gas Company to reduce the impacts of the freeway realignment.

A rough order of magnitude (ROM) of cost savings due to the elimination of the need to replace the existing retaining and soundwalls between Aliso Creek and El Toro Road is approximately \$5 million. TRC has also identified another construction cost reduction measure, namely reducing the height of the existing sloped area westerly of the freeway, which in turn reduces the height, type, and cost of the proposed retaining wall between the I-5 freeway and Avenida De La Carlota, which will result in a ROM savings of approximately \$1 million. Recent changes to the Laguna Hills Mall redevelopment have also impacted the design for the realignment of Avenida De La Carlota. The design team will also coordinate with the utility agencies to ensure that all necessary utility potholing, grading, and phasing for utility relocations will be performed and utility agencies' relocation designs align with the Project's design. The design team will obtain updated title reports and make right-of-way (ROW) plan revisions as needed. The roadway and structural design, utility coordination, and ROW efforts required are more than originally anticipated in the contract scope of work.

Finally, updated Caltrans standards and changes to the design of the Project will require the design team to prepare a revised storm water data report.

Procurement Approach

This procurement was handled in accordance with OCTA's Board-approved procedures for architectural and engineering services, which conform to both federal and state laws. The original agreement was executed on March 31, 2015, in the amount of \$7,399,963, and has been previously amended in accordance with Attachment A. It has become necessary to amend the existing agreement to include additional design services to complete the plans, specifications, and estimates.

OCTA staff negotiated the required level of effort with TRC to provide additional design services. OCTA found TRC's price proposal, in the amount of \$949,605, to be fair and reasonable relative to the negotiated level of effort. Proposed Amendment No. 3 to Agreement No. C-4-1426 will increase the total contract value to \$8,569,287.

Fiscal Impact

Funding for the Project was approved in OCTA's Fiscal Year 2017-18 Budget, Capital Programs Division, Account 0017-7519-FC106-06W, and is funded with federal Surface Transportation Block Grant and local M2 funds.

Amendment to Agreement for Additional Design Services for Interstate 5 Improvement Project from South of Alicia Parkway to El Toro Road **Page 4**

Summary

Staff requests Board of Directors' approval for the Chief Executive Officer to negotiate and execute Amendment No. 3 to Agreement No. C-4-1426 with TRC, Solutions, Inc., in the amount of \$949,605, for additional design services for the Interstate 5 Improvement Project from south of Alicia Parkway to El Toro Road.

Attachment

A. TRC Solutions, Inc., Agreement No. C-4-1426 Fact Sheet

Prepared by:



Niall Barrett, P.E.
Program Manager
(714) 560-5879

Approved by:



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



Virginia Abadessa
Director, Contracts Administration and
Materials Management
(714) 560-5623

**TRC Solutions, Inc.
Agreement No. C-4-1426 Fact Sheet**

1. August 11, 2014, Agreement No. C-4-1426, \$7,399,963, approved by the Board of Directors (Board).
 - Agreement was executed on March 31, 2015, for preparation of plans, specifications, and estimates (PS&E) for the Interstate 5 Improvement Project from south of Alicia Parkway to El Toro Road.
2. August 15, 2016, Amendment No. 1 to Agreement No. C-4-1426, \$0, approved by the Contracts Administration and Materials Management (CAMM) Department.
 - To modify key project personnel and revise the consultant address.
3. April 26, 2017, Amendment No. 2 to Agreement No. C-4-1426, \$219,719, approved by the CAMM Department.
 - Additional design services including supplemental fact sheets, right-of-way maps, roadway plans, and bridge and retaining walls plans to comply with new standards.
4. April 9, 2018, Amendment No. 3 to Agreement No. C-4-1426, \$949,605, pending Board approval.
 - Provide additional design services to complete the project PS&E.

Total funds committed to TRC Solutions, Inc., after approval of Amendment No. 3 to Agreement No. C-4-1426: \$8,569,287.



April 2, 2018

To: Regional Planning and Highways Committee

From: Darrell E. Johnson, Chief Executive Officer 

Subject: Agreement for Right-of-Way Clearance Services for the Interstate 5 Far North Widening Project in the City of Anaheim

Overview

On January 10, 2018, the Orange County Transportation Authority issued an invitation for bids for right-of-way clearance services for the Interstate 5 Far North Widening Project in the City of Anaheim. Bids were received in accordance with the Orange County Transportation Authority's public works procurement procedures. Board of Directors' approval is requested to execute the agreement.

Recommendation

Authorize the Chief Executive Officer to negotiate and execute Agreement No. C-7-2115 between the Orange County Transportation Authority and OFRS, Inc., the lowest responsive, responsible bidder, in the amount of \$62,475, for right-of-way clearance services for the Interstate 5 Far North Widening Project in the City of Anaheim.

Discussion

As part of the Interstate 5 Far North Widening Project (Project), the California Department of Transportation (Caltrans) acquired a commercial property needed for the Project. Per a cooperative agreement between the Orange County Transportation Authority (OCTA) and Caltrans, the unused remnant parcels of excess land (property) were transferred to OCTA in 2004, which included a commercial building with several tenants.

The property has been identified as a potential site for the proposed Transit Security and Operations Center (TSOC) project, which is now in the environmental clearance and preliminary design stages. Prior to construction of the proposed TSOC, contractor services are required to remove improvements

from the property, which include a single-story building, hazardous materials, and other impediments.

Procurement Approach

This procurement was handled in accordance with OCTA’s Board of Directors-approved procedures for public works projects. These procedures, which conform to both state and federal requirements, require that contracts are awarded to the lowest responsive, responsible bidder after a sealed bidding process.

Invitation for Bids (IFB) 7-2115 was released on January 10, 2018, through OCTA’s CAMM NET system. The project was advertised on January 10 and January 17, 2018, in a newspaper of general circulation. A pre-bid conference and job walk were held on January 18, 2018, and were attended by 14 firms. Four addenda were issued to provide the pre-bid conference registration sheets and handle administrative issues related to the IFB. On February 13, 2018, 11 bids were received and publicly opened.

All bids were reviewed by staff from both OCTA’s Contracts Administration and Materials Management and Real Property departments to ensure compliance with the contract terms and conditions, and technical specifications. The list of bidders and bid amounts is presented below:

<u>Firm and Location</u>	<u>Bid Amount</u>
OFRS, Inc. Signal Hill, California	\$62,475
5M Contracting, Inc. Tustin, California	\$85,500
Integrated Demolition and Remediation, Inc. Anaheim, California	\$88,700
Precision Contracting, Inc. Anaheim, California	\$88,800
Pena Grading and Demolition Sun Valley, California	\$93,000
AD Improvements, Inc. La Mirada, California	\$112,000

**Agreement for Right-of-Way Clearance Services for the
Interstate 5 Far North Widening Project in the City of Anaheim**

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Interior Demolition, Inc. Montrose, California	\$124,200
Air Clean Environmental, Inc. Los Angeles, California	\$134,127
Joshua Grading & Excavating, Inc. Phelan, California	\$148,500
Clauss Construction, Inc. Lakeside, California	\$154,711
AIR, Inc. Los Angeles, California	\$176,000

The engineer's estimate for this project was \$100,000. The recommended firm's bid is 37.53 percent below the engineer's estimate and is considered by staff to be fair and reasonable.

State law requires award to the lowest responsive, responsible bidder. As such, staff recommends award to OFRS, Inc., as the lowest responsive, responsible bidder, in the amount of \$62,475, for the Project.

Fiscal Impact

Funding for the Project is included in OCTA's Proposed Fiscal Year 2018-19 Budget, Capital Programs Division, Account 0001-9021-F1110-F01, and is funded with Measure M funds, which now reside under General funds.

Summary

Based on information provided, staff recommends the Board of Directors authorize the Chief Executive Officer to negotiate and execute Agreement No. C-7-2115 between the Orange County Transportation Authority and OFRS, Inc., the lowest responsive, responsible bidder, in the amount of \$62,475, for right-of-way clearance services for the Interstate 5 Far North Widening Project in the City of Anaheim.

Attachment

A. Project Location Map

Prepared by:



Joe Gallardo
Manager, Real Property
(714) 560-5546

Approved by:



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



Virginia Abadessa
Director, Contracts Administration and
Materials Management
(714) 560-5623



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April 2, 2018

To: Regional Planning and Highways Committee

From: Darrell E. Johnson, Chief Executive Officer 

Subject: Interstate 5 (Avenida Pico to San Diego County Line) Project Status Update

Overview

The Orange County Transportation Authority is developing a project study report/project development support document for potential improvements to Interstate 5, in San Clemente, from Avenida Pico to the San Diego County line. An initial project status update was provided in September 2017. At that meeting, the Board of Directors requested that staff return in early 2018 to provide an update, which is provided in this report.

Recommendation

Receive and file as information item.

Background

In 2014, the Orange County Transportation Authority's (OCTA) Board of Directors (Board) advanced OCTA's Long-Range Transportation Plan to the Southern California Association of Governments for inclusion in the 2016 Regional Transportation Plan (RTP). OCTA's submittal included a project to extend high-occupancy vehicle (HOV) lanes on Interstate 5 (I-5) in the City of San Clemente (City), from Avenida Pico to the San Diego County line (Project). The Project complements the Measure M2 Freeway Program and completes Orange County's HOV system. The Project could also potentially tie into future improvements (immediately south of the study area) that are planned in the San Diego Association of Governments' (SANDAG) RTP (Attachment A).

In 2016, OCTA initiated development of a project study report/project development support (PSR/PDS) document (Study) for this Project. PSR/PDS documents are planning studies that are required to be approved by the California Department of Transportation (Caltrans) before a project can be considered eligible for state and federal funding. PSR/PDS typically analyze the

engineering feasibility of a range of alternatives, provide cost estimates, and specify a project's purpose and need. However, a preferred alternative is not selected at this stage of the project development process.

Discussion

In September 2017, staff provided the Board a status update on this PSR/PDS. The Board directed staff to return in early 2018 with a status update on project-related activities. Since September 2017, project development team (PDT) and other meetings have been convened, and specific issues emerging from these meetings are discussed below.

In October 2017, an update was provided to the San Clemente City Council (Council). There was general support for the Study, particularly for the HOV lane extension alternative. Concerns were expressed over potential right-of-way (ROW) impacts, especially with alternatives that propose two lanes in each direction. The Council also requested that Study alternatives focus on typical (i.e., weekday AM/PM peak hour) traffic analysis metrics, given the need to maintain consistency of analysis techniques on a county-wide basis.

In November 2017, the Study's seventh PDT meeting was convened. The objective was to finalize traffic forecasts and project alternatives. Key issues discussed at that meeting included the following:

1. Caltrans noted that OCTA's traffic forecasts are substantially lower than previous planning forecasts.
2. Caltrans and the Transportation Corridor Agencies also requested that weekend congestion be factored into the traffic analyses and considered as a major factor in developing project alternatives.

In response to these two issues, staff has provided the following considerations:

- Traffic forecasts change over time as economic trends and the state of the practice evolves. Previous traffic forecasts included socio-economic data that was substantially higher than what is currently observed and forecasted today. For instance, population and employment projections in the South County area have been reduced by California State University, Fullerton's Center for Demographic Research, by approximately four percent and 11 percent respectively, since 2000.

- PSR/PDS documents completed to date by OCTA have utilized state-of-practice AM and PM weekday peak period traffic analyses. While OCTA agrees that a weekend congestion issue exists, utilizing non-traditional analyses is not recommended to develop project alternatives because a validated weekend travel demand model for Orange County does not exist. Further, such a model is not likely to establish a need for project alternatives that are substantially different from what OCTA is currently proposing, especially since the Study's proposed managed lane extension options will likely address both traditional peak period and weekend congestion.

To follow-up on the traffic issues, Caltrans conducted a workshop with the PDT on December 15, 2017 to present a preliminary review of weekend traffic conditions. At that meeting, OCTA agreed to include a qualitative discussion of weekend conditions in the PSR/PDS, and acknowledge that weekend congestion remains an issue of concern that should be addressed in the future project development process. Staff subsequently submitted a discussion memo to the PDT (Attachment B) in February 2018 to reflect OCTA's position. These and other issues were discussed at a subsequent PDT held on February 21, 2018.

The final draft PSR/PDS is scheduled to be submitted to Caltrans in late spring/early summer. Should Caltrans opt to not sign the PSR/PDS due to the above issues, OCTA, at a minimum, would finalize the substantial technical and feasibility work on the Project, which could be incorporated into future project development efforts.

Summary

A status update on the I-5 (Avenida Pico to San Diego County line) PSR/PDS document is provided for information purposes. The document is scheduled to be submitted to Caltrans by early summer 2018.

Attachments

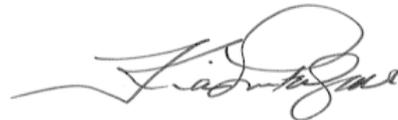
- A. I-5 – Pico to San Diego County Line
- B. Memorandum from Neelam Dorman and Tim Erney, Kittelson & Associates, Inc., to Carolyn Mamaradlo, OCTA, I-5 Avenida Pico to SD County Line PSR/PDS, Weekend Data Review, dated February 21, 2018

Prepared by:



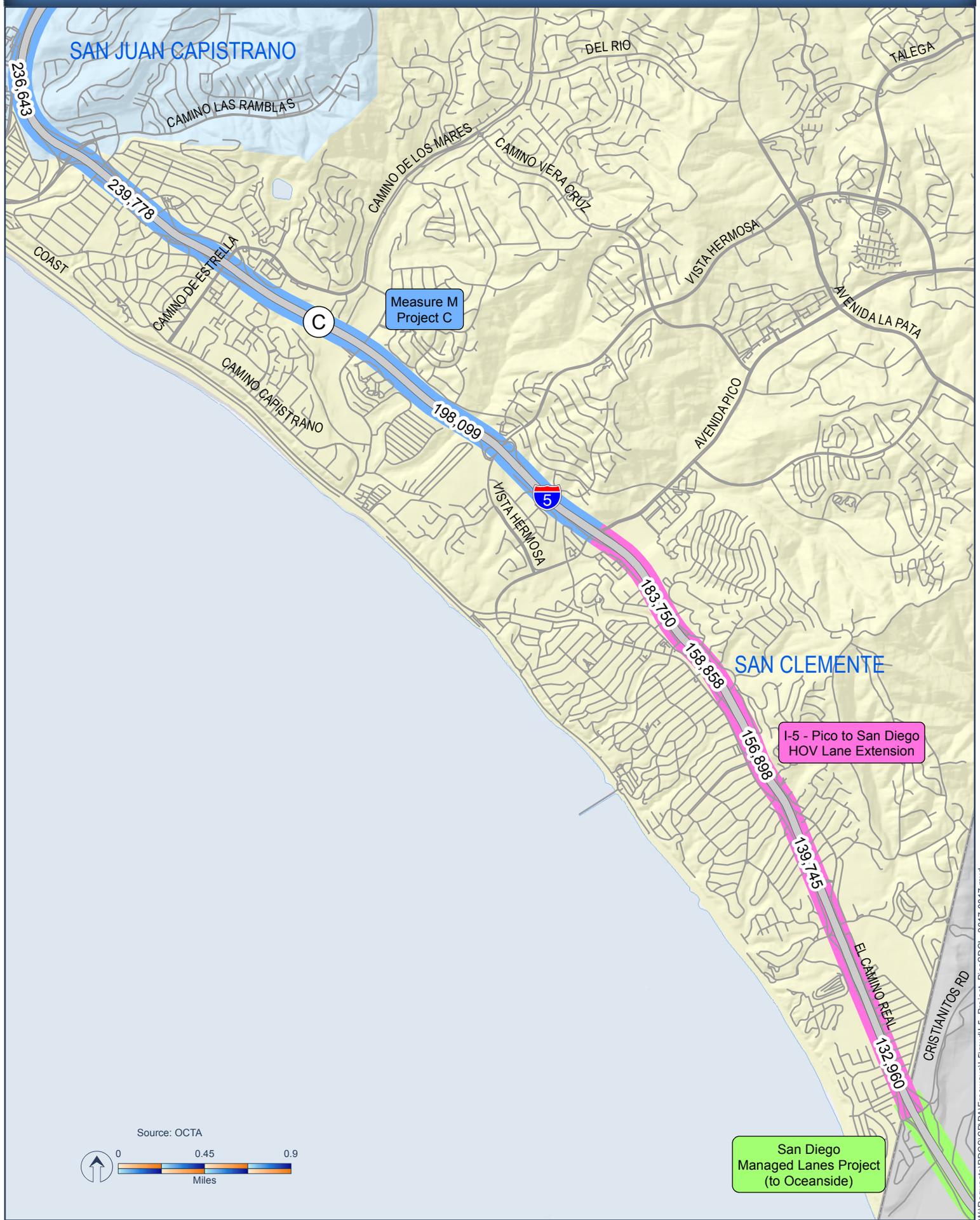
Carolyn Mamaradlo
Senior Transportation Analyst
(714) 560-5748

Approved by:

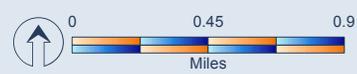


Kia Mortazavi
Executive Director, Planning
(714) 560-5741

I-5 - Pico to San Diego County Line



Source: OCTA



San Diego Managed Lanes Project (to Oceanside)



750 THE CITY DRIVE, SUITE 410
ORANGE, CA 92868
P 714.468.1997

TECHNICAL MEMORANDUM

I-5 Avenida Pico to SD County Line PSR/PDS

Weekend Data Review

Date: February 21, 2018 Project #:19385
To: Carolyn Mamaradlo, OCTA
From: Neelam Dorman & Tim Erney, Kittelson & Associates, Inc.
cc: Karen Chapman, TYLin International

This memorandum documents initial results of the weekend data collection and analysis prepared by Kittelson & Associates, Inc. (KAI), with input from the Orange County Transportation Authority (OCTA), for existing mainline for the Project Study Report/Project Development Support (PSR/PDS) for improvements to Interstate 5 (I-5) between Avenida Pico and Cristianitos Road/San Diego County Line.

Existing Weekday Conditions Freeway Mainline Data and V/C Analysis

Since the study area experiences high demand during recreational travel outside of standard weekday morning and evening commute week hours, a supplemental weekend conditions analysis was conducted for the project.

Additional freeway mainline data was collected through PeMS for I-5 (between Avenida Calafia and Cristianitos Road). Data was collected per the following methodology to determine weekend condition trends:

- Collect PeMS freeway mainline data for all weekdays in March, one month to represent summer conditions (July), and one month to represent fall conditions (October)
- Collect data for Fridays, Saturdays, Sundays, and Mondays for non-holiday weekends
- Determine peak hour volumes per direction for each day (Friday – Monday) and average to develop the overall weekend peak hour volume

Given that recreational weekend traffic could carry over to Fridays and Mondays (e.g. weeks with Friday or Monday holidays), initial data collection was conducted for the full Friday to Monday period. A review of the data collected for the AM and PM peak hours on Fridays and Mondays generally showed a higher demand for Monday volumes during the AM peak hour as compared to the typical weekday AM peak hour, and higher demand for the PM peak hour for Friday as compared to the typical weekday PM peak hour. Overall, the peak hour demand for Saturdays and Sundays were higher than

those for Fridays and Mondays; therefore, the analysis was focused on the Saturday and Sunday data set.

A volume-to-capacity (V/C) analysis was conducted to gauge the performance for the study mainline segments for weekend conditions. A lane capacity of 1,950 passenger cars per hour per lane was applied for general purpose (mixed-flow) lanes and HOV lanes as defined by OCTA. A V/C ratio is a comparison of an amount of traffic on a road with the capacity of that road. A V/C ratio is expressed as a decimal, with values less than 1.00 indicating that volume is less than capacity and values more than 1.00 indicating that volume exceeds capacity. As values approach 1.00, congestion becomes more severe, with values more than 1.00 indicating severe congestion.

Table 1 and Table 2 present the results of the V/C analysis for the study segment. As shown, the weekend peak hour volumes (on average) are between 20% and 34% higher than weekday peak hour volumes. The volumes for both northbound and southbound are also similar between the three seasons with March having the highest northbound volume and July the highest southbound volume. The V/C analysis results are approximately 0.16 and 0.17 higher for weekend conditions as compared to weekday conditions; however, the study segment is operating under capacity (i.e., V/C ratio of less than 1.0) for all three seasons.

Table 1: Existing Freeway Weekend Peak Hour V/C Analysis - Northbound

NB-11: Between Cristianitos Road On-Ramp and Avenida Mendicino Off-Ramp						
Month ¹	Weekend Peak Hour ²	Weekend Peak Hour Volume	Weekday Peak Hour Volume ³	% Difference Weekend vs Weekday	Weekend Peak Hour V/C ⁴	Weekday Peak Hour V/C ⁴
March	11 AM	5,396	4,023	34%	0.69	0.52
July	10 AM	5,275		31%	0.68	
October	10 AM	5,308		32%	0.68	

Notes:

- 1: Data collected for non-holiday Saturday and Sunday for each representative season
- 2: Weekend peak hour (Saturday and Sunday average)
- 3: Weekday AM Peak Hour has the highest volume between AM/PM peak hours. Data only available for March weekday conditions.
- 4: Capacity of 1,950 vehicles per hour per lane

Table 2: Existing Freeway Weekend Peak Hour V/C Analysis - Southbound

SB-10: Between Cristianitos Road On-Ramp and Avenida Califia Off-Ramp						
Month ¹	Weekend Peak Hour ²	Weekend Peak Hour Volume	Weekday Peak Hour Volume ³	% Difference Weekend vs Weekday	Weekend Peak Hour V/C ⁴	Weekday Peak Hour V/C ⁴
March	11 AM	5,576	4,463	25%	0.71	0.57
July	10 AM	5,696		28%	0.73	
October	11 AM	5,372		20%	0.69	

Notes:

- 1: Data collected for non-holiday Saturday and Sunday for each representative season
- 2: Weekend peak hour (Saturday and Sunday average)
- 3: Weekday PM Peak Hour has the highest volume between AM/PM peak hours. Data only available for March Weekday conditions.

4: Capacity of 1,950 vehicles per hour per lane

A supplemental analysis was also conducted to determine the frequency of congestion on I-5 (i.e. speeds less than 35 miles per hour¹) during Weekend Conditions. Hourly speeds were sourced from PeMS, between Avenida Calafia and Cristianitos Road, for non-holidays Fridays, Saturdays, Sundays, and Mondays for July 2016, March 2017, and October 2017. Speeds below 35 miles per hour (MPH) were identified and compared to the total number of weekend hours. Initial analysis shows that speeds are below 35 MPH approximately 6% of weekend hours, predominantly in the northbound direction.

Supporting Studies

Delays in the Project study area along I-5 occur on peak traffic weekends are caused by chokepoints located primarily outside of the study area. This issue was quantified by OCTA in the 2007/08 I-5 Weekend Highway Capacity Study (Weekend Study) using FreQ², a traffic simulation modeling software tool. The analysis evaluated weekend traffic conditions and queuing along the I-5 and identified hotspots and chokepoints contributing to traffic congestion. The analysis included data collection efforts for travel times and volumes along I-5 from SR-55 to the San Diego County Line. FreQ models were developed and calibrated for Saturday southbound and Sunday northbound time periods and directions.

The study confirmed peak travel (summer event) weekend delays in South Orange County along I-5 and identified the causes of those delays. For instance, heavy congestion was seen in the southbound direction between Junipero Serra Road and Camino De Estrella. The model showed that this congestion was likely caused by a chokepoint south of Camino De Estrella, near the termination of HOV lanes and where termination of the auxiliary lane from the Pacific Coast Highway interchange. In the northbound direction congestion was likely caused by operational issues at a chokepoint near Camino Capistrano where the northbound HOV lane begins and an auxiliary lane is dropped. This may result in queuing that extends as far back as Camp Pendleton.

Based on the Weekend Study, extension of the HOV to Avenida Pico was expected to relieve both the southbound and northbound peak travel weekend congestion between Avenida Pico and the San Diego County Line. Currently, OCTA is constructing the I-5 South County Improvements Project that will add this additional HOV lane between San Juan Creek Road to Avenida Pico. Based on the 2040 mainline segment analysis results provided in the I-5 HOV Lane Extension PA/ED Traffic Study (May 2010), operations improve north of the Project study area, with the additional HOV lane, at the northbound and southbound chokepoints identified above. These improvements are reported for weekday peak hour conditions; however, similar improvements in operations would also be expected for weekend conditions with the implementation of the I-5 HOV Lane Extension project.

¹ Congested speeds defined as below 35 MPH is consistent with what is calculated in OCTAM.

² FreQ is an HCM-based tool that permits efficient analysis of freeway corridors, including hotspots, chokepoints, and geometric features.

To check the validity of the findings from the Weekend Study to today, peak hour volumes on I-5 at the Cristianitos Road interchange from the I-5 Avenida Pico PSR were compared to the I-5 Weekend Highway Capacity Study.

Table 3: Existing Freeway Weekend Peak Hour V/C Analysis - Southbound

	July Peak Volumes at Cristianitos
2007 I-5 Weekend Highway Capacity Study	
Saturday Southbound	6,236
Sunday Northbound	5,612
2017 I-5 PSR	
Saturday Southbound	5,275
Sunday Northbound	5,696

Based on the comparisons, peak volumes at the Cristianitos Road interchange were higher for the Weekend Study in the southbound direction compared to the I-5 Avenida Pico PSR. For the northbound direction, the peak volumes are similar. Therefore, the 2007 Weekend Study findings would remain applicable today as the Project volumes are either higher or similar.

Future Weekend Conditions

Future conditions analysis for weekend conditions was not conducted as future weekend peak hour freeway, ramp and intersection data is not available. In particular, the OCTA travel demand model (OCTAM) does not currently project weekend conditions. In order to accurately determine projections for weekend volumes, OCTA would need to collect survey data to determine demand and create a new model to forecast future volumes. The travel functions for weekend conditions are different from weekday conditions, which are based on work commute, and would require significant effort to determine recreational travel patterns. In addition, the specific demand on managed lanes (for Alternative 3) would also differ from weekday conditions, which would require additional refinement and information gathering to correctly account for in the model. The effort to create a new OCTAM for weekend conditions is significant and beyond the scope of this project. Rough order-of-magnitude estimates for future weekend growth can be conducted; however, this would not be consistent with the level of detail provided for weekday conditions and would be difficult to defend. With the addition of a single lane in each direction, a minimum of 40% more traffic demand could be accommodated.



April 2, 2018

To: Regional Planning and Highways Committee

From: Darrell E. Johnson, Chief Executive Officer

A handwritten signature in blue ink, appearing to read "Darrell Johnson", is written over the name of the Chief Executive Officer.

Subject: Fiscal Year 2018-19 Measure M2 Eligibility and Countywide Pavement Management Plan Guidelines and City of Placentia's Maintenance of Effort Benchmark

Overview

The Orange County Transportation Authority Ordinance No. 3 includes eligibility requirements that local jurisdictions must satisfy in order to receive Measure M funds. The Measure M2 Eligibility Guidelines and the Countywide Pavement Management Plan Guidelines are used to guide local jurisdictions through eligibility requirements and submittal processes. Updates to these guidelines are presented for Board of Directors review and approval. A proposed minor adjustment to the maintenance of effort benchmark for the City of Placentia to align with final city general fund revenue figures is also presented for review and approval.

Recommendations

- A. Approve the fiscal year 2018-19 Measure M2 Eligibility Guidelines.
- B. Approve the proposed revisions to the Countywide Pavement Management Plan Guidelines.
- C. Approve the City of Placentia's maintenance of effort benchmark adjustment for the fiscal year 2017-18 eligibility cycle.

Background

The Measure M2 (M2) Eligibility Guidelines (Eligibility Guidelines) establish eligibility requirements to ensure that all local jurisdictions are in compliance to receive M2 funds, including both local fair share and competitive programs. Based upon lessons learned from previous eligibility submittals from local jurisdictions, proposed administrative adjustments are being recommended to clarify the Eligibility Guidelines.

The Countywide Pavement Management Plan (PMP) Guidelines (Guidelines) established a consistent methodology for local jurisdictions to report pavement conditions, evaluate countywide pavement conditions, monitor changes in pavement conditions, anticipate expected improvements, and verify compliance with the ordinance. Minor revisions have been made to the PMP Guidelines to reflect lessons learned.

Local jurisdictions must also satisfy maintenance of effort (MOE) requirements by maintaining a minimum level of local streets and roads expenditures from local jurisdictions' discretionary funds. The ordinance provides a process to adjust the benchmark every three years. The second MOE benchmark adjustment was approved by the Board of Directors (Board) on April 10, 2017. At the time, it was noted that adjustments might be required pending receipt of final documentation from local jurisdictions. Since then, the City of Placentia (City) provided final documentation, and a minor adjustment to the City's benchmark is presented for approval.

Discussion

Eligibility Guidelines

The fiscal year (FY) 2018-19 eligibility cycle will start immediately following the approval of the updated Eligibility Guidelines. The Eligibility Guidelines assist local jurisdictions in submitting compliant eligibility packages. The proposed changes to the Eligibility Checklist (Appendix D), sample resolution (Appendix E), PMP Template (Appendix F), Expenditure Report Template, and Instructions and Resolution (Appendix G) incorporate feedback received during the previous eligibility review cycle. The revisions also streamline the eligibility process for items due as part of this eligibility cycle. A summary of the modifications is provided in Attachment A, and the revised redlined Eligibility Guidelines are included as Attachment B.

PMP Guidelines

Orange County Transportation Authority staff identified areas of improvement in the PMP Guidelines, which were presented to the Technical Advisory Committee (TAC) for discussion. The TAC recommended the proposed revisions for Board approval on February 28, 2018. Proposed revisions include:

- Modified criteria for prequalification/calibration of inspectors to ensure consistency and accuracy in the evaluation of pavement conditions and to better reflect actual desired performance of field inspectors.

The changes in the criteria are expected to expand the list of pre-qualified inspectors.

- Deleted Appendix A – PMP agency checklist and replaced it with the required PMP submittal template in order to standardize the submittal process.

Additional minor revisions were made to the PMP Guidelines and certification form for internal consistency. The revised redlined PMP Guidelines are provided in Attachment C.

City's MOE Benchmark Adjustment

In April 2017, the appropriate MOE benchmark adjustment for each local jurisdiction was determined by a comparison of the growth in general fund revenues (GFR) and California Department of Transportation construction cost index. At the time the revised MOE benchmarks were presented to the Board, the City had not finalized their GFR, so staff used a draft GFR to calculate an estimated benchmark and noted that adjustments may be required pending receipt of the City's final GFR. The City submitted their final GFR in June 2017, and it was determined that the City required an adjustment to the estimated MOE benchmark. The adjustment increased the City's benchmark from \$655,255 to \$660,496. The City Finance Director was notified of the adjustment in August 2017, and the City met the required MOE benchmark in the FY 2017-18 M2 Eligibility cycle that was presented to the Board in December 2017. Board approval is requested to serve as a formal record of the revised benchmark.

Summary

Modifications to the Eligibility Guidelines and to the PMP Guidelines are provided to assist local jurisdictions with upcoming submittals. The MOE benchmark for the City has been amended based on receipt of final documentation.

Attachments

- A. Revisions to the Measure M2 Eligibility Guidelines
- B. Measure M2 Eligibility Guidelines, Fiscal Year 2018/2019
- C. Countywide Pavement Management Plan Guidelines, April 2018

Prepared by:



May Hout
Senior Transportation Funding Analyst
(714) 560-5905

Approved by:



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

Revisions to the Measure M2 Eligibility Guidelines

Administrative changes

- **Page 5** – Updating deadlines and information on summary of eligibility requirements table consistent with eligibility requirements discussed in Chapter 2, and noting the City of Huntington Beach is transitioning from a federal fiscal year to a July-June fiscal year beginning July 1, 2018.
- **Page 9** – Updating Exhibit 1 with the latest centerline mileage that is used to calculate local fair share payments.
- **Page 13** – Updating Exhibit 2 to reflect the revised maintenance of effort benchmark for the City of Placentia.
- **Page 14** – Providing clarifications on what is considered an update to a local jurisdiction's mitigation fee program to determine appropriate frequency of submittal.
- **Page 16** – Updating deadlines for eligibility requirements on Exhibit 3.

Eligibility Checklist (Appendix D)

Eligibility requirements have not changed; however, checklist items have been added to Appendix D to align with requirements discussed in Chapter 2 as part of this eligibility cycle.

Sample Resolution (Appendix E)

Updated to include eligibility requirements that must receive the City Council/ Board of Supervisors approval for this cycle. These requirements include the Pavement Management Plan (PMP).

Expenditure Report Template, Instructions and Resolution (Appendix G)

Clarified eligible expenditures reported as indirect and/or overhead on the expenditure report.

PMP Template (Appendix F)

Incorporate the new required PMP submittal template that was designed to facilitate and standardize the PMP submittal process.

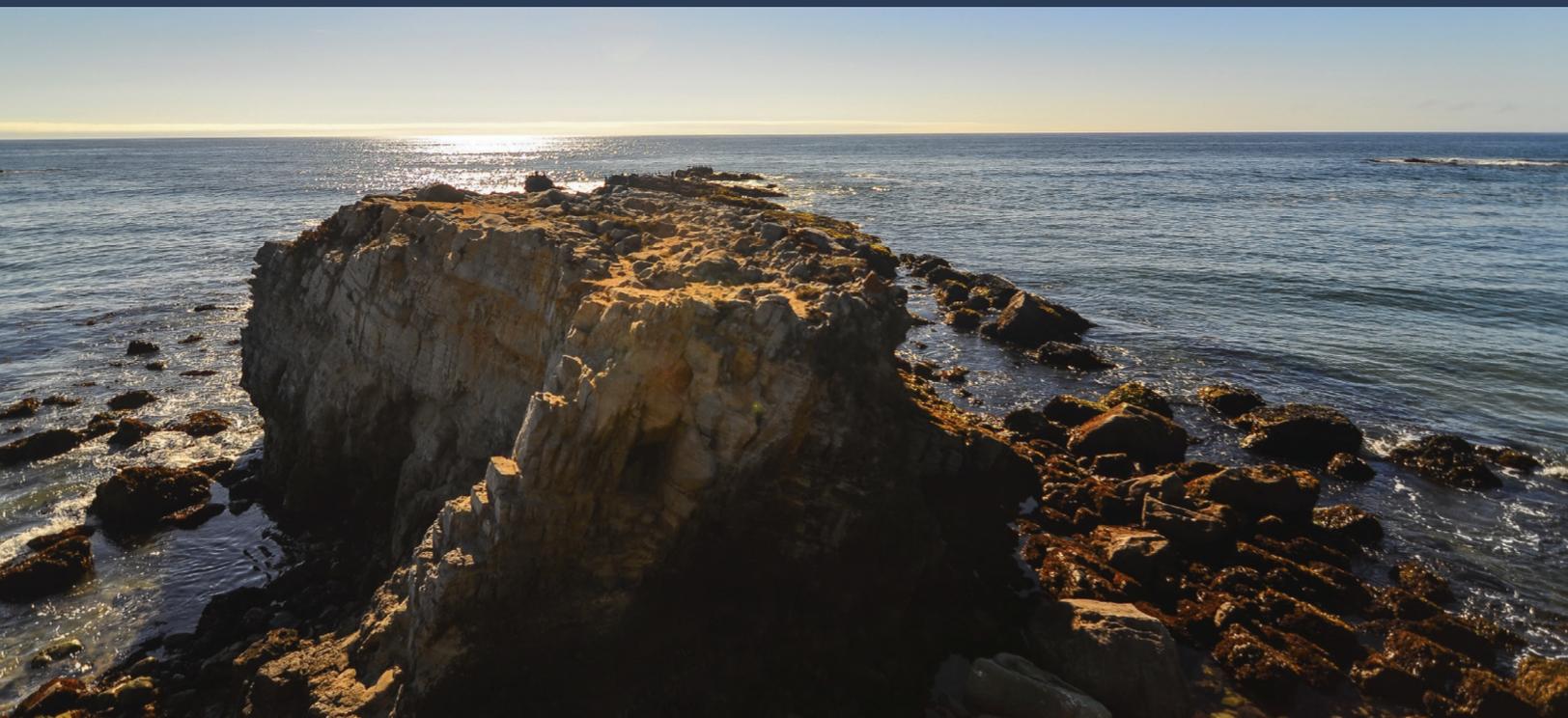


MEASURE M2 ELIGIBILITY GUIDELINES

FISCAL YEAR 2018 / 2019



ORANGE COUNTY TRANSPORTATION AUTHORITY



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Chapter 1 – Eligibility Overview

1.1 Introduction

On November 6, 1990, the voters in Orange County approved a ½-cent sales tax for transportation improvements known as Measure M. On November 7, 2006, voters approved a renewal of the original sales tax measure (M2) to continue the ½-cent sales tax for thirty years, beginning in 2011. Major improvement plans target Orange County freeways, streets and roads, transit and environmental programs.

The Ordinance, included as Appendix A, outlines the eligibility requirements that local jurisdictions must satisfy annually in order to receive M2 Net Revenues. The M2 Eligibility Guidelines (Eligibility Guidelines) provide the resources local jurisdictions need to remain eligible to participate in M2 funding programs. Guidelines for newly incorporated cities are outlined in Appendix B.

Net Revenues are generated from the transactions and use tax plus any interest or other earnings, after allowable deductions. Net Revenues may be allocated to local jurisdictions for a variety of programs and the Orange County Transportation Authority (OCTA) shall allocate the Net Revenues to freeways, environmental, transit, and streets and roads projects.

Freeway Projects

Orange County freeways will receive forty-three percent (43%) of Net Revenues. Relieving congestion on State Route 91 is the centerpiece of the freeway program. Other major projects include improving Interstate 5 (I-5) in south Orange County, Interstate 405 (I-405) in west Orange County and State Route 57 in North Orange County. Under the plan, major traffic chokepoints on almost every freeway will be improved.

Environmental Programs

To address any environmental impact of freeway improvements, five percent (5%) of the allocated freeway funds will be used for environmental mitigation programs. A Master Agreement between OCTA and state and federal resource jurisdictions will provide higher-value environmental benefits such as habitat protection, wildlife corridors and resource preservation in exchange for streamlined project approvals for the freeway program as a whole. Funds are also available under the Environmental Cleanup Program (ECP) to implement water quality improvement projects.

Transit Projects

Orange County's rail and bus service will receive twenty-five percent (25%) of Net Revenues. These funds will be used to add transit extensions to the Metrolink corridor, reduce bus fares for senior citizens and persons with disabilities, and establish local bus circulators.

Streets and Roads Projects

Orange County has more than 7,300 lane miles of streets and roads; many in need of repair and rehabilitation. This sales tax measure will allocate thirty-two percent (32%) of Net Revenues to streets and roads. These funds will help fix potholes, improve intersections, synchronize traffic signals countywide, and make the existing network of streets and roads safer and more efficient.

The allocation of thirty-two percent (32%) of the Net Revenues for Streets and Roads Projects shall be made as follows:

1. Ten percent (10%) of the Net Revenues shall be allocated to Project O, Regional Capacity Program (RCP).
2. Four percent (4%) of the Net Revenues shall be allocated to Project P, Regional Traffic Signal Synchronization Program (RTSSP).
3. Eighteen percent (18%) of the Net Revenues shall be allocated to Project Q, Local Fair Share (LFS) Program.

1.2 Competitive Funds

OCTA shall select projects through a competitive process for the RCP, RTSSP, various transit programs (Projects S, T, V, and W), and the ECP (Project X). The criteria for selecting these projects are included in the Comprehensive Transportation Funding Programs (CTFP) Guidelines. The process for calculating and distributing LFS funds are described in Section 1.3.

1.3 Local Fair Share (LFS) Funds

The LFS Program is a formula-based allocation provided to eligible jurisdictions for use on allowable transportation planning and implementation activities. It is funded through an eighteen percent (18%) allocation from Net Revenues and is distributed to eligible jurisdictions on a formula basis as determined by the following:

- Fifty percent (50%) is divided between eligible jurisdictions based upon the ratio of the jurisdiction's population to the County's total population, each from the previous calendar year.
- Twenty-five percent (25%) is divided between eligible jurisdictions based upon the ratio of the jurisdiction's existing Master Plan of Arterial Highways (MPAH) centerline miles to the total MPAH centerline miles within the County as determined annually by OCTA.
- Twenty-five percent (25%) is divided between eligible jurisdictions based upon the ratio of the jurisdiction's total taxable sales to the total taxable sales for the County, each from the previous calendar year.
- OCTA contracts with three universities (Chapman University; University of California, Los Angeles; and California State University, Fullerton) to provide a long-range forecast of taxable sales to forecast M2 revenues for the purposes of planning projects and program expenditures. In the past, OCTA has taken an average of the three university taxable sales projections to develop a long-range forecast of taxable sales. On March 28, 2016, as part of the FY 2016-17 budget development process, the Board approved a new sales tax forecast methodology. The new methodology includes a more conservative approach by utilizing a five-year forecast from MuniServices, Inc. The resulting revenue estimates are used for programming of competitive funds and as a guide for local jurisdiction planning within their respective Capital Improvement Programs (CIPs).

1.4 Eligibility Requirements for Net Revenues

Every year, OCTA determines if a local jurisdiction is eligible to receive M2 Net Revenues. A local jurisdiction must satisfy certain requirements as outlined in the Ordinance. Specifically, a jurisdiction must:

- Comply with the conditions and requirements of the Orange County Congestion Management Program (CMP)
- Establish a policy which requires new development to pay its fair share of transportation-related improvements associated with their new development
- Adopt a General Plan Circulation Element consistent with the MPAH
- Adopt and update a Capital Improvement Program (CIP)
- Participate in Traffic Forums
- Adopt and maintain a Local Signal Synchronization Plan (LSSP)
- Adopt and update biennially a Pavement Management Plan (PMP)
- Adopt and provide an annual Expenditure Report to OCTA
- Provide OCTA with a Project Final Report within six months following completion of a project funded with Net Revenues
- Agree to expend Net Revenues received through M2 within three years of receipt
- Satisfy Maintenance of Effort (MOE) requirements
- Agree that Net Revenues shall not be used to supplant developer funding
- Consider, as part of the eligible jurisdiction's General Plan, land use and planning strategies that accommodate transit and non-motorized transportation

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Chapter 2 – Eligibility Requirements

The annual eligibility process relies upon a variety of reporting methods to verify local jurisdiction compliance. Most methods leverage tools routinely used in the public planning process while others require certification forms or specialized reports. Templates, forms, and report formats are included as appendices to these guidelines and are available in electronic format. The table below summarizes certification frequency and documentation requirements.

Compliance Category	Schedule	Documentation
Capital Improvement Program (CIP)	Annual Next submittal is due June 29, 2018.	<ul style="list-style-type: none"> Electronic, hard copy City Council/Board of Supervisors approval
Circulation Element/MPAH Consistency	Biennial Next submittal is due June 28, 2019.	<ul style="list-style-type: none"> Resolution Circulation Element Exhibit Arterial Highway Mileage Change Report (Appendix H) Certify that the Circulation Element is consistent with MPAH in the Eligibility Checklist (Appendix D)
Congestion Management Program (CMP)	Odd numbered years Next submittal is due June 28, 2019.	<ul style="list-style-type: none"> Eligibility Checklist item in Appendix D Include projects to address deficient intersections in CIP (if applicable) CMP Checklist (Appendix C)
Expenditure Report	Annual – six months after end of fiscal year Next submittal is due December 31, 2018. ¹	<ul style="list-style-type: none"> Expenditure Report and resolution (Appendix G)
Local Signal Synchronization Plan (LSSP)	Every three years Next submittal is due June 30, 2020	<ul style="list-style-type: none"> Copy of plan Resolution
Maintenance of Effort (MOE)	Annual Next submittal is due June 29, 2018.	<ul style="list-style-type: none"> MOE Certification form (Appendix I) signed by Finance Director or equivalent designee that meets/exceeds MOE Benchmark in Exhibit 2 Budget excerpts and fund key
Mitigation Fee Program (MFP)	Biennial Next submittal is due June 28, 2019. ²	<ul style="list-style-type: none"> Eligibility Checklist item in Appendix D Copy of nexus study, revised impact fee schedule, or process methodology Resolution
No Supplanting Existing Commitments	Annual Next submittal is due June 29, 2018.	<ul style="list-style-type: none"> Eligibility Checklist item in Appendix D
Pavement Management Plan (PMP)	Every two years Next submittal for even year agencies is due June 29, 2018. Refer to Exhibit 3 to determine the required PMP submittal schedule.	<ul style="list-style-type: none"> PMP Submittal Template (Appendix F) with PMP Certification form signed by Public Works Director or City Engineer CD with pavement report, and street listings Adoption - Resolution (Appendix E) or City Council/Board of Supervisors approved adoption recommendation
Project Final Report	Within 6 months of project completion	<ul style="list-style-type: none"> Final Report
Timely Expenditure of Funds	Annual Next submittal is due June 29, 2018.	<ul style="list-style-type: none"> Eligibility Checklist item in Appendix D
Traffic Forums	Annual Next submittal is due June 29, 2018.	<ul style="list-style-type: none"> Eligibility Checklist item in Appendix D
Transit/Non-motorized Transportation in General Plan	Annual Next submittal is due June 29, 2018.	<ul style="list-style-type: none"> Eligibility Checklist item in Appendix D Letter outlining land use planning strategies that accommodate transit and active transportation Excerpts of policies from the land use section of the General Plan

¹ City of Huntington Beach follows a federal fiscal year and must submit the M2 Expenditure Report by March 31. [Beginning July 1, 2018, the City of Huntington Beach is transitioning from a federal fiscal year to a July-June fiscal year.](#)

² [Jurisdictions must submit their updated program and revised fee schedule or process methodology when the jurisdiction updates their mitigation program and/or nexus study regardless of eligibility submittal schedule.](#)

2.1 Capital Improvement Program (CIP)

A CIP is a multi-year funding plan to implement capital transportation projects and/or programs including, but not limited to, capacity, safety, operations, maintenance, and rehabilitation projects. For purposes of eligibility, the Ordinance specifies that each jurisdiction must prepare a CIP. The annual seven-year CIP updates are required to enable timely review of eligible use of funds. The CIP shall include all capital transportation projects, such as projects funded by Net Revenues (i.e. ECP, RTSSP, RCP, and LFS projects) and transportation projects required to demonstrate compliance with signal synchronization, pavement management, and CMP requirements (See section 2.3 for the CIP’s relevance to the CMP).

Projects funded by M2 Net Revenues include:

Project Description	Project
Freeway Environmental Mitigation	A-M
Regional Capacity Program (RCP)	O
Regional Traffic Signal Synchronization Program (RTSSP)	P
Local Fair Share Program (LFS)	Q
High Frequency Metrolink Service	R
Transit Extensions to Metrolink	S
Convert Metrolink Station(s) to Regional Gateways that connect Orange County with High-Speed Rail Systems	T
Community Based Transit/Circulators	V
Safe Transit Stops	W
Environmental Cleanup Program (ECP) – Water Quality	X

Each eligible jurisdiction must include projects in their CIP that are needed to meet and maintain the adopted Traffic Level of Service and Performance Standards. The CIP shall also include all projects proposed to receive M2 funding. Local jurisdictions are encouraged, but not required, to include all transportation related projects regardless of M2 funding participation.

If M2 funding needed for a project is not reflected on the current CIP, an amended CIP should be adopted with contract award prior to expending funds. The revised CIP should be submitted to OCTA in hard copy format with evidence of council approval.

Submittal Frequency: Minimum annual or as needed to add M2 projects that are not reflected on the current CIP. Next submittal is due by June 29, 2018.

City Council/Board of Supervisors approval: Required

Verification Method: Each jurisdiction must submit an electronic (online) and hard copy of its CIP with evidence of City Council/Board of Supervisors approval. The OCTA provides a web-based database called the Web Smart CIP used countywide for reporting approved CIP information. A separate CIP User’s Manual has been developed to assist local jurisdictions with the preparation of the seven-year CIP.

The CIP User’s Manual is available for download at <https://www.octa.net/M2Eligibility>.

2.2 Circulation Element/MPAH Consistency

A Circulation Element is one component of a jurisdiction's General Plan that depicts a planned multimodal network and related policies. Each jurisdiction is required to adopt and maintain a Circulation Element that is consistent with the OCTA MPAH, which defines the minimum planned lane configurations for major regionally significant roads in Orange County.

MPAH Consistency

Through a cooperative process, OCTA, the City Engineers Association, the City Managers Association, and the County of Orange developed criteria for determining consistency with the MPAH. Criteria and policies for determining MPAH Consistency are included in a separate manual titled "Guidance for Administration of the Orange County Master Plan of Arterial Highways" and are summarized below:

- The local jurisdiction's Circulation Element is to have the minimum planned carrying capacity equivalent to the MPAH for all MPAH links within its jurisdiction. "Planned carrying capacity" is the number of through lanes on each arterial highway as shown on the local Circulation Element.
- Local jurisdictions will not be found inconsistent with the MPAH due to existing capacity limitations on arterials not yet constructed to the ultimate capacity shown on the MPAH.
- Every two years, each local jurisdiction must submit a resolution adopted by the governing body attesting that no unilateral reduction in lanes has been made on any MPAH arterial.
- The local jurisdiction will be ineligible to participate in M2 programs if a roadway on the MPAH has been unilaterally removed from or downgraded on their Circulation Element and/or does not meet the planned capacity criteria. Eligibility may be reinstated upon completion of a cooperative study that resolves the inconsistency. Additionally, the local jurisdiction can re-establish eligibility upon restoring its Circulation Element to its previous state of MPAH consistency.
- The local jurisdiction must adopt a General Plan Circulation Element that does not preclude implementation of the MPAH.
- A local jurisdiction is inconsistent with the MPAH as of the date the governing body takes unilateral action reducing the number of existing and/or planned through lanes on an MPAH arterial built to its ultimate configuration to less than the ultimate capacity shown on the MPAH. "Unilateral action" means physical action such as striping, signing, or other physical restrictions executed by the local jurisdiction.
- A local jurisdiction may be permitted to reduce existing through lanes, if prior to acting, it can demonstrate to the OCTA that such action is temporary and can be justified for operational reasons. The local jurisdiction must enter into a binding agreement to restore capacity upon demand by OCTA, in which case OCTA may recommend that the local jurisdiction remain eligible on a conditional basis. If it is found to be ineligible, it may regain eligibility upon physical restoration of the arterial to the original state that is consistent with the MPAH.
- Traffic calming measures shall be administered on MPAH facilities per the latest version of the Guidance for the Administration of the Orange County MPAH.
- If a local jurisdiction requests a change to the MPAH and enters into a cooperative study to analyze the request, it may be considered conditionally consistent. No change shall be made

to its Circulation Element until after the cooperative study is completed and agreement is reached on the proposed amendment.

Submittal Frequency: Odd year requirement. Next submittal is due by June 28, 2019.

City Council/Board of Supervisors approval: Required

Verification Method: Each jurisdiction must provide the following every odd year:

- Document within the Eligibility Checklist (Appendix D) that confirms the Circulation Element is consistent with the MPAH.
- A copy of the most current Circulation Element Exhibit biennially showing all arterial highways and their individual arterial designations. Any proposed changes and/or requests for changes to the MPAH should also be included.
- Resolution adopted by the governing body of the local jurisdiction.
- The Arterial Highway Mileage Change Report (Appendix H). Changes are in actual (built or annexed) MPAH centerline miles since the previous MPAH Consistency Review are to be reported to the nearest 0.01 mile, excluding State highways. Data should be current as of April 30 of the reporting year. Exhibit 1 lists the current MPAH centerline miles by jurisdiction that is used to calculate Local Fair Share.

OCTA shall review the materials submitted, and determine whether the local jurisdiction Circulation Elements are consistent with the MPAH, meaning there is a minimum planned carrying capacity equivalent to the MPAH for all MPAH links within the local agency's jurisdiction.

Exhibit 1: MPAH Centerline Miles

As of August 7, 2017

Local Jurisdiction	Centerline Mileage
Aliso Viejo	14.85
Anaheim	148.69
Brea	20.57
Buena Park	34.44
Costa Mesa	49.33
County of Orange	54.64
Cypress	24.93
Dana Point	20.16
Fountain Valley	35.28
Fullerton	62.18
Garden Grove	63.59
Huntington Beach	93.05
Irvine	134.82
La Habra	17.13
La Palma	7.23
Laguna Beach ³	14.01
Laguna Hills	20.73
Laguna Niguel	35.94
Laguna Woods	5.77
Lake Forest	37.47
Los Alamitos	6.44
Mission Viejo	43.77
Newport Beach	48.92
Orange	85.24
Placentia	25.01
Rancho Santa Margarita	18.20
San Clemente	25.57
San Juan Capistrano	18.55
Santa Ana	100.21
Seal Beach	12.24
Stanton	9.48
Tustin	41.28
Villa Park	3.49
Westminster	35.75
Yorba Linda	32.67

1,401.63

³ Laguna Beach credited with State Highway mileage by agreement of the TAC.

2.3 Congestion Management Program (CMP)

With the passage of Proposition 111 Gas Tax increase in June 1990, urbanized areas of California were required to adopt a CMP. OCTA was designated as the County's Congestion Management Agency (CMA), and as such, is responsible for the development, monitoring, and biennial updating of Orange County's CMP. Orange County's CMP is a countywide program established in 1992 to support regional mobility and air quality objectives through the effective use of transportation funds, coordinated land use, and development planning practices. Required elements of the County's CMP include traffic level of service (LOS) standards, performance measures, travel demand assessment methods and strategies, land use analysis programs, and Capital Improvement Programs.

The goals of Orange County's CMP are to support regional mobility and air quality objectives by reducing traffic congestion, providing a mechanism for coordinating land use and development decisions that support the regional economy, and determining gas tax eligibility. Each jurisdiction must comply with the following conditions and requirements of the Orange County CMP pursuant to the provisions of Government Code Section 65089 to be considered eligible for both gas tax revenues and M2 funding:

- Level of Service – Highways and roadways designated by OCTA must operate at an established LOS of no less than LOS "E" (unless the LOS from the baseline CMP dataset was lower).
- Deficiency Plans – Any CMP intersections that do not comply with the LOS standards must have a deficiency plan prepared by the responsible local jurisdiction that identifies the cause and necessary improvements for meeting LOS standards (certain exceptions apply).
- Land Use Analysis – Jurisdictions must analyze the impacts of land use decisions on the transportation system, using a designated methodology, consistent with the CMP Traffic Impact Analysis guidelines. The analysis must also include estimated cost to mitigate associated impacts.
- Modeling and Data Consistency – A jurisdiction utilizing a local area model for traffic impact analysis must conform to the Orange County Sub-Area Modeling guidelines, prepared by OCTA.
- CIP – Jurisdictions must submit an adopted seven-year CIP that includes projects to maintain or improve the LOS on CMP facilities or adjacent facilities.

Submittal Frequency: Odd years – Next submittal is due by June 28, 2019.

City Council/Board of Supervisors approval: Not Required

Verification Method: The CMP checklist, as shown in Appendix C, must be submitted to demonstrate compliance with CMP requirements. If a deficient intersection is identified, the jurisdiction must include a project in their CIP to address the issue or develop a deficiency plan. OCTA will use the M2 CIP prepared by each local jurisdiction as the default CMP CIP rather than require a separate submittal. Projects intended to address CMP deficiencies should be clearly identified in the project description within the CIP. Appendix C is available for download at <https://www.octa.net/M2Eligibility>.

2.4 Expenditure Report

The expenditure report is a detailed financial report that tracks financial activity for M2 and other improvement revenue sources. Each jurisdiction must adopt an annual Expenditure Report to account for M2 funds, developer/traffic impact fees, and funds expended by the jurisdiction that satisfy the MOE requirements. This report is used to validate eligible uses of funds and to report actual MOE expenditures.

- Report required within six months of jurisdiction's end of fiscal year.
- Report to include all Net Revenue, fund balances, and interest earned. Negative interest is not an allowable expense. If interest earnings are negative, an explanation should be included to explain why.
- Reported expenditures shall be identified by activity type (i.e. construction, maintenance/operations, administration indirect and/or overhead) and funding source for each M2 program and/or project.

Submittal Frequency: Annual – within 6 months of the end of the fiscal year. The deadline is December 31 for jurisdictions following a state fiscal year (July-June) and March 31 of the subsequent calendar year for jurisdictions following a federal fiscal year (October-September) (i.e. Huntington Beach). Beginning July 1, 2018, the City of Huntington Beach is transitioning from a federal fiscal year to a July-June fiscal year.

City Council/Board of Supervisors approval: Required

Verification Method: The expenditure report signed by the jurisdiction's Finance Director and City council/Board of Supervisors resolution attesting to the adoption is required. The expenditure report template, instructions, and resolution are provided in Appendix G. Appendix G is available for download at <https://www.octa.net/M2Eligibility>.

2.5 Local Signal Synchronization Plan (LSSP)

The LSSP⁴ is a three-year plan identifying traffic signal synchronization, street routes and traffic signals to be improved in eligible jurisdictions. The LSSP shall be consistent with the Regional Traffic Signal Synchronization Master Plan (RTSSMP). The LSSP will outline the costs associated with the identified improvements, funding and phasing of capital, and the operations and maintenance of the street routes and traffic signals. Inter-jurisdictional planning of traffic signal synchronization is also a component of the LSSP. Local jurisdictions must update LSSPs every three years and include a performance assessment which compares the information in the current report to prior cycle activities.

Submittal Frequency: Every 3 years - Next LSSP update submittal is due by June 30, 2020.

City Council/Board of Supervisors approval: Required

Verification Method: Local jurisdictions must ensure that their LSSP is in conformance with the RTSSMP. LSSPs must be updated and adopted every three years starting June 30, 2014. At a minimum, a Public Works Director must sign the LSSP Consistency Review Checklist. A separate document prepared by OCTA, "Guidelines for the Preparation of Local Signal Synchronization Plans," provides additional detail for agency submittal and is available for download at <https://www.octa.net/M2Eligibility>.

⁴ A local match reduction of ten percent (10%) is provided for competitive grant applications submitted through the Regional Capacity Program (Project O) if the local jurisdiction has adopted a LSSP consistent with the RTSSMP.

2.6 Maintenance of Effort (MOE)

The MOE Certification is a financial reporting document, which provides annual certification of planned/budgeted maintenance, construction and administrative indirect/other transportation related expenditures and the comparison to the annual MOE Benchmark Requirements for the fiscal year. Each jurisdiction must provide annual certification to OCTA that the MOE requirements of Section 6 of the Ordinance have been satisfied. MOE applies to transportation-related discretionary expenditures such as General Funds by local agencies for maintenance, construction, and other categories.

MOE Certification Process

M2 funds may be used to supplement, not replace, existing local revenues being used for transportation improvements and programs. A local jurisdiction cannot redirect monies currently being used for transportation purposes to other uses and replace the redirected funds with M2 revenues.

Each jurisdiction is required to maintain a minimum level of local streets and roads expenditures to conform to the MOE requirement. The original minimum level of expenditures was based upon an average of General Fund expenditures for local street maintenance and construction over the period from Fiscal Year 1985-86 through Fiscal Year 1989-90. The expenditure information was obtained from the Orange County Transportation Commission's (OCTC's) Annual Report data collection sheets. The established benchmark was reported in constant dollars and was not adjusted for inflation. Annexation of land into an existing jurisdiction does not affect the MOE.

Per the Ordinance, the MOE benchmark must be adjusted in 2014 and every three years thereafter based upon Caltrans' Construction Cost Index (CCI) for the preceding three-years. The CCI-based adjustment cannot exceed growth rate in General Fund revenues during the update period. The current MOE benchmark is reflected in Exhibit 2. The next MOE benchmark adjustment will be effective July 1, 2020.

Submittal Frequency: Annual - Next MOE submittal is due June 29, 2018.

City Council/Board of Supervisors approval: Not Required

Verification Method: An MOE reporting form must be completed, signed by the jurisdiction's finance director and submitted on an annual basis. The form is included in the Eligibility Guidelines as Appendix I and is available for download at <https://www.octa.net/M2Eligibility>.

In addition, excerpts from the jurisdiction's annual budget showing referenced MOE expenditures and dedication of General Funds should be included in the annual submittal to substantiate planned relevant discretionary fund (General Funds) expenditures.

Any California State Constitution Article XIX eligible expenditure may be "counted" in a local jurisdiction's annual calculation of MOE if the activity is supported (funded) by a local jurisdiction's general fund. This is the same definition used for Gas Tax expenditures. The California State Controller also provides useful information on Article XIX and Streets and Highways Code eligible expenditures. These guidelines do not replace statutory or legal authority, but explain the general information found in California Constitution Article XIX and the Streets and Highways Code.

Exhibit 2: MOE Benchmark by Local Jurisdiction

Local Jurisdiction	MOE Benchmark
Aliso Viejo	\$ 462,004
Anaheim	\$ 10,058,292
Brea	\$ 719,028
Buena Park	\$ 3,743,072
Costa Mesa	\$ 7,383,205
Cypress	\$ 3,117,765
Dana Point	\$ 1,313,011
Fountain Valley	\$ 1,342,115
Fullerton	\$ 3,785,870
Garden Grove	\$ 3,378,344
Huntington Beach	\$ 5,607,203
Irvine	\$ 7,050,145
La Habra	\$ 1,529,313
La Palma	\$ 173,004
Laguna Beach	\$ 1,549,454
Laguna Hills	\$ 310,467
Laguna Niguel	\$ 908,566
Laguna Woods	\$ 89,705
Lake Forest	\$ 194,440
Los Alamitos	\$ 162,506
Mission Viejo	\$ 2,538,900
Newport Beach	\$ 10,871,763
Orange	\$ 2,917,858
Placentia	\$ 660,496
Rancho Santa Margarita	\$ 390,747
San Clemente	\$ 1,135,209
San Juan Capistrano	\$ 422,472
Santa Ana	\$ 7,755,107
Seal Beach	\$ 551,208
Stanton	\$ 245,213
Tustin	\$ 1,455,691
Villa Park	\$ 321,697
Westminster	\$ 1,548,761
Yorba Linda	\$ 2,279,688
Annual Total Orange County	\$ 85,972,319

2.7 Mitigation Fee Program (MFP)

The MFP is a locally established fee program, which assesses fees used to mitigate effects of new development on transportation infrastructure. Appropriate mitigation measures, including payment of fees, construction of improvements, or any combination thereof, will be determined through an established and documented process by each jurisdiction.

Each eligible jurisdiction must assess traffic impacts of new development and require new development to pay a fair share of necessary transportation improvements attributable to the new development. To insure eligibility, each jurisdiction must have a clearly defined mitigation program.

Submittal Frequency: Odd years - Next MFP submittal is due by June 28, 2019.⁵

City Council/Board of Supervisors approval: Required

Verification Method: The eligibility submittal should include a copy of the nexus study improvement list, a current fee schedule or the process methodology, and the City Council/Board of Supervisors resolution approving the MFP. Where mitigation measures, including fair share contributions and construction of direct impact improvements are used in lieu of an AB1600 compliant Nexus Study fee program, each jurisdiction shall provide a council resolution adopting the mitigation policy.

At such time that a jurisdiction updates their mitigation program and/or nexus study, they must submit their updated program and revised fee schedule or process methodology for the following review cycle. In addition, a MFP resolution must be submitted biennially to reaffirm that council concurs with the existing MFP. It is the local jurisdiction's responsibility to ensure fee programs and mitigation measures are updated periodically and meet the infrastructure needs of their community.

2.8 No Supplanting of Developer Commitments

Eligible jurisdictions must ensure that M2 funding will not be used to supplant existing or future development funding commitments for transportation projects. Development must be required to continue paying their fair share for new transportation improvements that are necessary because of the new traffic their project(s) create.

- Development must continue to pay their fair share for needed infrastructure improvements and transportation projects
- Net revenues must not supplant development funding or contributions which have been previously committed to transportation projects through payment of fees in a defined program, fair share contribution, Community Facilities District (CFD) financing, or other dedicated contribution to a specific transportation improvement

Submittal Frequency: Annual - Next submittal is due by June 29, 2018.

City Council/Board of Supervisors approval: Not Required

Verification Method: Each jurisdiction must document within the Eligibility Checklist (Appendix D) that there has been no supplanting of developer commitments for transportation projects as outlined in the Ordinance. Appendix D is available for download at <https://www.octa.net/M2Eligibility>.

⁵ Jurisdictions must submit their updated program and revised fee schedule or process methodology when the jurisdiction updates their mitigation program and/or nexus study on an even year. Annual cost adjustments should be reported but do not constitute an "update" on the Eligibility Checklist (Appendix D).

2.9 Pavement Management Plan (PMP)

A PMP⁶ is a plan to manage the preservation, rehabilitation, and maintenance of paved roads by analyzing pavement life cycles, assessing overall system performance costs, and determining alternative strategies and costs necessary to improve paved roads. MicroPaver or StreetSaver will be used for countywide consistency. The software must be consistent with ASTM Standard D6433-11.

Each jurisdiction must biennially adopt and update a PMP consistent with the specific requirements outlined in the Ordinance, and issue, using a common format ([Appendix F](#)) approved by OCTA, a report regarding the status of road pavement conditions and implementation of the PMP including, but not limited to, the following elements:

- The current status of pavement roads
- A seven-year plan for road maintenance and rehabilitation, including projects, funding, and unfunded backlog of pavement needs
- Projected pavement conditions resulting from improvements
- Alternative strategies and estimated costs to improve road pavement conditions

The Countywide PMP Guidelines have been prepared by OCTA to assist local jurisdictions with the PMP submittal. Local jurisdictions should refer to the guidelines for additional PMP submittal criteria. The Countywide PMP Guidelines can be downloaded from OCTA's Eligibility webpage: <https://www.octa.net/M2Eligibility>.

Submittal Frequency: Biennial – 21 local jurisdictions submit PMP updates in even years (i.e. June 29, 2018) and 14 local jurisdictions submit PMP updates in odd years (i.e. June 28, 2019). Refer to Exhibit 3 to determine the local jurisdiction's required PMP submittal schedule.

City Council/Board of Supervisors approval: Required

Verification Method: To establish eligibility, each jurisdiction must complete and submit the adopted PMP ~~Submittal Template and Certification~~ (Appendix F). The adoption must be approved by the City Council/Board of Supervisors as a staff report recommendation or through a resolution. A sample resolution is provided in Appendix E. The PMP certification form included in the template must be signed by the Public Works Director or City Engineer. These appendices are available for download at <https://www.octa.net/M2Eligibility>.

The Executive Summary should include a brief overview of their PMP highlighting issues that have developed between review cycles and provide additional information regarding the projects funded through the program. At a minimum, the Executive Summary should include Pavement Condition Index (PCI) reports, Projected PCI, and Alternative Funding Levels.

⁶ RCP includes an incentive for successful PMP implementation. A local match reduction of ten percent (10%) is provided for competitive grant applications submitted through the Regional Capacity Program (Project O) if the jurisdiction either has measurable improvement of paved road conditions during the previous reporting period as determined through the countywide pavement management rating standards, or has road pavement conditions during the previous reporting period which are within the highest twenty percent (20%) of the scale for road pavement conditions in conformance with the Ordinance, defined as a PCI of 75 or higher, otherwise defined as "good condition".

Exhibit 3: Submittal Schedule for Periodic Components

Local Jurisdiction	Updated PMP	CMP	MPAH Consistency	MFP ⁷	Project Final Reports	LSSP
Aliso Viejo	Even Year	Odd Years (Next submittal is due by June 28, 2019)	Odd Years (Next submittal is due by June 28, 2019)	Odd Years (Next submittal is due by June 28, 2019)	Within 6 months of project completion	Every 3 years (Next submittal is due June 30, 2020)
Anaheim	Odd Year					
Brea	Odd Year					
Buena Park	Even Year					
Costa Mesa	Even Year					
County of Orange	Odd Year					
Cypress	Odd Year					
Dana Point	Odd Year					
Fountain Valley	Even Year					
Fullerton	Even Year					
Garden Grove	Even Year					
Huntington Beach	Even Year					
Irvine	Odd Year					
Laguna Beach	Even Year					
Laguna Hills	Even Year					
Laguna Niguel	Even Year					
Laguna Woods	Even Year					
Lake Forest	Odd Year					
La Habra	Odd Year					
La Palma	Even Year					
Los Alamitos	Odd Year					
Mission Viejo	Even Year					
Newport Beach	Odd Year					
Orange	Even Year					
Placentia	Even Year					
Rancho Santa Margarita	Even Year					
San Clemente	Odd Year					
San Juan Capistrano	Odd Year					
Santa Ana	Even Year					
Seal Beach	Even Year					
Stanton	Odd Year					
Tustin	Odd Year					
Villa Park	Even Year					
Westminster	Even Year					
Yorba Linda	Even Year					

⁷ Jurisdictions must submit their updated program and revised fee schedule or process methodology when the jurisdiction updates their mitigation program and/or nexus study regardless of allocated submittal schedule.

2.10 Project Final Report

Each jurisdiction must provide OCTA a Project Final Report within six months following completion of a project funded with Net Revenues. Final report formats follow the template used by the CTFP. The CTFP Guidelines define the term "project phase completion" as the date all final third-party contractor invoices have been paid and any pending litigation has been adjudicated either for the engineering phase or for the right-of-way phase, and all liens/claims have been settled for the construction phase. The date of project phase completion will begin the 180-day requirement for the submission of a project final report as required by the Ordinance.

City Council/Board of Supervisors approval: Not Required

Verification Method: To establish eligibility, a jurisdiction must submit a copy of the CTFP Project Final Report for each project utilizing Net Revenues. Each Final Report must be individually submitted to OCTA within six months of the completion of a project funded by Net Revenues, regardless of the eligibility review cycle. For the purposes of reporting non-project work (~~administration indirect and/or overhead~~, maintenance, repair, and other non-project related costs) funded by LFS funds, the annual Expenditure Report shall satisfy reporting requirements. If LFS funds are used for capital projects, the local jurisdiction shall also include a list of those funds and/or other M2 funds in the Project Final Report.

2.11 Time Limit for Use of Net Revenues

The timely expenditure of funds is a policy which must be adopted by each local jurisdiction to ensure Net Revenues are expended and accounted for within 3 years. The local jurisdiction must certify that the receipt and use of all M2 funds received will adhere to the time limits for use as outlined in the Ordinance.

Competitive Programs

- Jurisdictions must agree that Net Revenues for RCP projects and/or RTSSP projects shall be expended or encumbered by the end of the fiscal year for which Net Revenues are programmed. Refer to the CTFP Guidelines for additional information regarding expenditure deadlines and extension requests.

Local Fair Share (LFS)

- Net Revenues received by local jurisdictions through the LFS program shall be expended or encumbered within three years. An extension may be granted but is limited to a total of five years from the date of receipt of funds. OCTA uses the check date as the date of receipt of funds. Requests for extension must be submitted as part of the semi-annual review process prior to the end of the third year from the date of receipt of funds. Requests for extension must include a plan of expenditure.
- Expired funds including interest earned and related revenues must be returned to OCTA. These funds shall be returned for redistribution within the same source program.
- Use of LFS revenues for bonding (including debt service) shall be limited to 25% of the jurisdiction's annual LFS revenues as defined in Article XIX Motor Vehicle Revenues of the California Constitution unless the Board approves an exception to this policy on a case-by-case basis.

Interest Derived from Net Revenues

- Interest from any M2 competitive funding program and LFS must be held in separate accounts.
- Local M2 interest proceeds must be spent by the local jurisdiction on transportation activities consistent with LFS eligible transportation activities.
- Interest revenues must be expended within 3 years of receipt.
- Interest may be accumulated for substantive projects where necessary, with prior OCTA approval, provided that the account balance does not exceed aggregate LFS payments received in the preceding three (3) years of reporting period.
- All interest accumulated at the conclusion of M2 is to be expended within three years of the program sunset date (March 31, 2041).

Submittal Frequency: Annual. Next submittal is due by June 29, 2018.

City Council/Board of Supervisors approval: Required if an extension is requested.

Verification Method: Each jurisdiction must document within the Eligibility Checklist (Appendix D) confirmation that the jurisdiction complies with the timely use of Net Revenues throughout the year as outlined in the Ordinance. Net Revenue and Interest balances are reported on the annual Expenditure Report.

2.12 Traffic Forums

Traffic Forums are working group sessions that include local jurisdictions and OCTA. Traffic forums provide a venue for local jurisdictions to discuss general traffic and transportation issues, traffic circulation between participating jurisdictions, the coordination of specific projects, and the overall RTSSP. Each jurisdiction must participate in Traffic Forums on an annual basis to ensure eligibility.

Submittal Frequency: Annual. Next submittal is due by June 29, 2018.

City Council/Board of Supervisors approval: Not Required

Verification Method: Each jurisdiction must document within the Eligibility Checklist (Appendix D) evidence of its annual participation in a Traffic Forum.

2.13 Transit/Non-motorized Transportation in General Plan

As part of the eligible jurisdiction's land use section of the General Plan, the jurisdiction must consider land use planning strategies that accommodate transit and non-motorized transportation. Multi-modal options are vital to a comprehensive transportation network. General Plans should include policies and language that demonstrate a thoughtful approach toward land use planning that encourages and facilitates mobility options.

Submittal Frequency: Annual. Next submittal is due by June 29, 2018.

City Council/Board of Supervisors approval: Not Required

Verification Method: Each jurisdiction must document within the Eligibility Checklist (Appendix D) that it considers, as part of the land use section of the General Plan, land use planning strategies that accommodate transit and non-motorized transportation. A letter outlining the approach to land use planning strategies or policies that accommodate transit and non-motorized transportation should be provided with supporting General Plan excerpts. Policy summaries that directly tie land use planning to alternative modes are required.

These may include:

- Pedestrian friendly neighborhoods
- Transit Oriented Development (TOD)
- Transportation Demand Management (TDM) programs
- Mixed-use development

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Chapter 3 - Eligibility Determination

3.1 Submittal Review Process

The Eligibility submittal process has two distinct phases.

First Phase

In the first phase, local jurisdictions submit the eligibility checklist, CIP, MOE and land use planning strategies considered in the General Plan on an annual basis. In addition, the PMP, CMP, MFP, and adoption of the Circulation Element for MPAH consistency are due on a biennial basis. The LSSP is due every three years. The periodic submittal schedule of the eligibility requirements is included in Exhibit 3. The applicable eligibility components for a given year must be submitted to OCTA by June 30 (except the expenditure report).

To assist in the initiation of the eligibility process, OCTA hosts eligibility workshops attended by local jurisdictions to prepare for the June 30 submittals. The workshops outline any changes and provide instructions as to the requirements of the current fiscal year's eligibility. Eligibility package development begins for most local jurisdictions in April and concludes with submittal to OCTA by the June 30 deadline each year.

Second Phase

The second phase includes the submittal of the Expenditure Report, which is due six months following the end of the local jurisdiction's fiscal year per the Ordinance. The City of Huntington Beach follows a federal fiscal year (October 1 to September 30) and that jurisdiction's expenditure report is due by March 31 of each year. All other local jurisdictions must submit their expenditure reports annually by December 31. [Beginning July 1, 2018, the City of Huntington Beach is transitioning from a federal fiscal year to a July-June fiscal year.](#) OCTA staff typically holds a workshop in July/August to go over the eligibility requirements for submitting an expenditure report that is compliant with the Ordinance. The OCTA Finance department reviews expenditure reports.

3.2 Approval Process

Annual eligibility determinations are based upon satisfactory submittal of the required documentation of eligibility outlined in the Ordinance and further described in Chapter 2 of these guidelines. OCTA and/or its representatives perform an administrative review of the data to determine eligibility compliance for M2 funds. Once all eligibility submittals have been received as satisfactory and complete, the applicable submittals must be prepared for review and approval by the Taxpayer Oversight Committee (TOC).

TOC

M2 established the TOC to provide an enhanced level of accountability for expenditure of Net Revenues under the Ordinance. The TOC is an independent citizens' committee established for overseeing compliance with the Ordinance and ensuring that safeguards are in place to protect the integrity of the overall program. TOC responsibilities include:

- Approval of any amendment to the Ordinance proposed by OCTA which changes the funding categories, programs or discrete projects identified for improvements in the Funding Plan.
- Review of select documentation establishing annual eligibility by a jurisdiction including a jurisdiction's CMP, MFP, Expenditure Report, LSSP, and PMP.

- Verification that the OCTA is proceeding in accordance with the M2 Plan and is meeting the performance standards outlined in the Ordinance.

The TOC designates the Annual Eligibility Review (AER) subcommittee to review five of the thirteen eligibility requirements listed in the Ordinance. The AER subcommittee reviews the CMP, MFP, Expenditure Report, LSSP, and PMP for each local jurisdiction on an annual basis. The AER subcommittee recommends eligibility determination to the TOC.

In addition, OCTA staff will review items that do not directly require TOC approval and confirm compliance. After TOC and OCTA review all eligibility requirements, OCTA staff will prepare eligibility recommendations for the OCTA Board of Directors (Board). The OCTA Regional Planning and Highways Committee reviews the item prior to being considered by the full Board. The Board will make final determination as to whether or not a local jurisdiction remains eligible for M2 funding on an annual basis.

Chapter 4 – Failure to Meet Eligibility Requirements

4.1 Non-Compliance Consequences

M2 extends a legacy of successful public funding investment in transportation throughout Orange County. The eligibility process includes a review of required compliance components to ensure that programs and funding guidelines are met as defined by Ordinance. Article XIX of the California Constitution, provides guidance regarding the use of tax revenues for transportation purposes, and provides a useful definition of eligible transportation planning/implementation activities.

OCTA routinely conducts an audit of local jurisdictions' annual eligibility materials and financial records. Full cooperation is expected to complete the process in a timely manner. A finding of non-compliance may be made if either of the following conditions exists:

- Use of M2 funding for non-transportation or non-eligible activities, or
- Failure to meet eligibility requirements

If a determination is made that a local jurisdiction has used M2 funds for ineligible purposes, misspent funds must be fully repaid and the jurisdiction will be deemed ineligible to receive Net Revenues for a period of five (5) years. A finding of ineligibility is determined by the Board. Failure to adhere to eligibility compliance components may result in suspension of funds until satisfactory compliance is achieved.

4.2 Appeals Process

Eligibility review and determination is a multi-step process, which relies upon an objective review of information by OCTA staff, the Technical Steering Committee (TSC), the Technical Advisory Committee (TAC), and the TOC with final determination made by the Board. An appeal of findings may be filed with the Board for re-consideration.

4.3 Re-establishing MPAH Eligibility

If a Circulation Element is found to be inconsistent with the MPAH and a local jurisdiction is determined ineligible for M2 funds, the local jurisdiction may re-establish eligibility by requesting to undertake a cooperative study with OCTA. The study will be designed to do the following:

- Ascertain the regional transportation system needs
- Make provisions to meet those needs in the local jurisdiction's General Plan
- Re-establish consistency with the MPAH

Any changes to a local jurisdiction's General Plan or the MPAH shall be mutually acceptable to the jurisdiction and OCTA. Until such a study has been completed and an agreement reached on the proposed amendment, the jurisdiction shall be ineligible to apply for and/or receive M2 competitive funds.

4.4 For Additional Information

The Eligibility Guidelines have been developed to assist local jurisdictions located throughout Orange County to understand and continue to implement all eligibility requirements to receive M2 funding. The Guidelines provide general summary information regarding all eligibility requirements as well as a comprehensive summary of all responsibilities and actions for which a local jurisdiction must follow to continue their eligibility.

Please contact the following OCTA staff when seeking additional information or clarification regarding any of the Eligibility Guidelines:

May Hout

Senior Transportation Funding Analyst

(714) 560-5905

MHout@octa.net

Or

Joe Alcock

Section Manager

(714) 560-5372

JAlcock@octa.net

Appendices:

Appendix A: Ordinance

The Ordinance can be found on the Eligibility Website:
<https://www.octa.net/M2Eligibility>

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Appendix B: Eligibility for New Cities

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Eligibility for New Cities

Eligibility for Fair Share Funds - New Cities

At the time of incorporation, a new city may adopt current practices previously established by the County of Orange, which have already established eligibility under the current M2. As new cities mature, they will adopt their own general plan and growth strategies.

To provide for this transition period, the OCTA Board of Directors (Board) has previously adopted the following new city eligibility process for Fair Share funds:

- A new city may, at its discretion, adopt the approved PMP of the predecessor governing body as its own, providing these policies are fully enforced.
- Prior to incorporation, the proposed new city must work with OCTA and the Local Agency Formation Commission (LAFCO) to identify the variables used in the LFS funds calculation (population, taxable sales, and MPAH mileage). Preliminary data must be identified prior to the date of incorporation.
- The new city will begin accruing LFS funds as of the date of incorporation.
- OCTA will reserve the accrued funds for the new city, pending the determination of eligibility by the Board within one year of the date of incorporation.
- For the new city to receive the reserved accrued funds, OCTA must receive all necessary elements of the eligibility package, complete the necessary review and approval of the package, and the Board must determine the new city eligible to receive M2 funds within one year of the date of incorporation. OCTA recommends the city submit its eligibility package within six months of incorporation to allow sufficient time for OCTA review and approval processes.
- Upon determination of eligibility by the Board, the new city will receive its first LFS payment including the reserved accrued funds, on the first regular payment cycle following the eligibility determination.
- The first LFS payment will be adjusted to reflect final calculation (population, taxable sales, and MPAH miles) as determined through the new city eligibility process.
- In the event a new city is determined to be ineligible to receive LFS funds by the Board, the reserved accrued funds and interest on the funds, shall be distributed to the eligible local jurisdictions on a pro-rata basis, until such time that the new city attains eligibility.
- Such new city will begin to accrue funds as of the first day of the first regular accrual period following its determination of eligibility by the Board and receive its first LFS payment on the corresponding regular payment cycle.

Eligibility for Competitive Funds-New Cities

In addition to the new city eligibility process for LFS funds, the Board has adopted the following process for eligibility for competitive funds:

- A new city may apply for competitive funding upon the date of incorporation, however, may not be awarded competitive funding until the new city has been determined eligible to receive LFS funds by Board, as described above.
- A new city must include an adopted PMP that is consistent with countywide pavement condition assessment standards (Arterial Highway Rehabilitation Program), a General Plan Circulation Element consistent with the MPAH, and a City Council resolution attesting that no unilateral reduction in lanes have been made on any MPAH arterials in its eligibility package for review and approval by the Board.

- Applications for competitive funding by new cities will be considered until such time in the process of the competitive funding program that projects are ranked for award. If the new city has not been determined eligible by the Board by the time projects are ranked for award, any application by the new city for competitive funding will be withdrawn from further consideration. OCTA staff will work with the new city to revise the schedule specific to its time of incorporation in relation to the current competitive funding program process.

New Cities – MOE

M2 requires the development of a method to apply the MOE to new cities without five years of streets and roads data, including cities incorporated during the thirty years the tax is in effect. New cities unable to meet this requirement may use the appeals process to establish a benchmark number that more accurately reflects network needs. A phase-in period of two years has been established for new cities to achieve the approved MOE expenditure requirement.

The approved method uses the following formula to calculate the MOE for new cities:

$$\frac{\text{Total MOE benchmark for the county}}{\text{Total county population}} = \text{Per capita expenditure}$$

$$\text{Per capita expenditure X city population} = \text{MOE benchmark for the city}$$

Appeals Process

New cities may appeal the formula benchmark determination above where there is a dispute regarding the city population. OCTA shall use the most recent Census or figures from the State of California Department of Finance. Appeals will be submitted first to the TAC and then to the Board for final determination.

Appendix C: Congestion Management Program Checklist

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APPENDIX C

Congestion Management Program (CMP)

Jurisdiction: _____

CMP Monitoring Checklist: Level of Service (LOS)				
CMP Checklist		YES	NO	N/A
1.	Check "Yes" if either of the following apply:	<input type="checkbox"/>	<input type="checkbox"/>	
	<ul style="list-style-type: none"> • There are no CMP intersections in your jurisdiction. • Factoring out statutorily-exempt activities¹, 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. <ul style="list-style-type: none"> • _____ • _____ • _____ 			<input type="checkbox"/>
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)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	a. If not, has a deficiency plan been developed for each intersection that will be operating below the CMP LOS standards?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Additional Comments:				

¹The 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.



APPENDIX C

Congestion Management Program (CMP)

CMP Monitoring Checklist: Deficiency Plans				
CMP Checklist		YES	NO	N/A
1.	Check "Yes" if either of the following apply: <ul style="list-style-type: none"> There are no CMP intersections in your jurisdiction. Factoring out statutorily-exempt activities², all CMP Highway System (CMPHS) intersections within your jurisdiction are operating at LOS E (or the baseline level, if worse than E) or better. 	<input type="checkbox"/>	<input type="checkbox"/>	
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. <ul style="list-style-type: none"> _____ _____ _____ 			<input type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5.	Does the deficiency plan fulfill the following statutory requirements? :			
	a. Include an analysis of the causes of the deficiency?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	b. Include a list of improvements necessary to maintain minimum LOS standards on the CMPHS and the estimated costs of the improvements?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	i. Do the improvements, programs, or actions meet the criteria established by South Coast Air Quality Management District (SCAQMD) (see the CMP Preparation Manual)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

²The 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.



APPENDIX C

Congestion Management Program (CMP)

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?	<input type="checkbox"/>	<input type="checkbox"/>		
	a. If not, have you submitted the revised TIA approach and methodology to OCTA for review and approval?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
2.	Did any development projects require a CMP TIA during this CMP cycle? ³	<input type="checkbox"/>	<input type="checkbox"/>		
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). • _____ • _____ • _____				<input type="checkbox"/>
	a. Were mitigation measures and costs identified for each and included in your seven-year CIP?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	b. If any impacted links & intersections were outside your jurisdiction, did your jurisdiction coordinate with other jurisdictions to develop a mitigation strategy?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
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/cmppremanual.pdf)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Additional Comments:					

³Exemptions 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.

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Appendix D: Eligibility Checklist

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APPENDIX D

Eligibility Checklist

Jurisdiction:	
----------------------	--

Capital Improvement Program (CIP)		YES	NO
1.	Did you submit your draft <u>or adopted</u> Measure M2 (M2) seven-year CIP to OCTA by June 30?	<input type="checkbox"/>	<input type="checkbox"/>
	a. Did you utilize the required OCTA CIP database?	<input type="checkbox"/>	<input type="checkbox"/>
	b. Have you indicated what percentage of funding will come from each source for each of included projects required to demonstrate compliance with signal synchronization, pavement maintenance and environmental clean-up the projects commitments?	<input type="checkbox"/>	<input type="checkbox"/>
	c. Are there any non-transportation related projects included in your M2 CIP? Have you listed projects in current year dollars?	<input type="checkbox"/>	<input type="checkbox"/>
	d. Did you include all projects that are partially, fully, or potentially funded by M2 Net Revenues?	<input type="checkbox"/>	<input type="checkbox"/>
	e. The City Council/Board of Supervisors approval date* to adopt the final 7-Year CIP is: _____ *Must be prior to July 31		
Maintenance of Effort (MOE)		YES	NO
2.	Did you submit the MOE certification form (Appendix I) to OCTA by June 30?	<input type="checkbox"/>	<input type="checkbox"/>
	a. Did you provide supporting budget documentation?	<input type="checkbox"/>	<input type="checkbox"/>
	b. Has the MOE Reporting form been signed by the Finance Director or appropriate designee?	<input type="checkbox"/>	<input type="checkbox"/>
Pavement Management Program (PMP)		YES	N/A
3.	Are you required to submit a PMP update to OCTA for this eligibility cycle? If you are not required to submit a PMP update, check N/A. Refer to Exhibit 3 for PMP submittal schedule.	<input type="checkbox"/>	<input type="checkbox"/>
	a. If yes, did you use the current PMP Submittal Template Certification form (Appendix F)?	<input type="checkbox"/>	<input type="checkbox"/>
	b. If yes, is the adopted PMP consistent with the OCTA Countywide Pavement Management Program?	<input type="checkbox"/>	<input type="checkbox"/>
4.	If you answered "N/A" to question 3, did you submit a PMP Update to OCTA through the previous eligibility cycle by June 30?	<input type="checkbox"/>	<input type="checkbox"/>
Resolution of Master Plan of Arterial Highways (MPAH) Consistency		YES	N/A
5.	Did you submit a resolution demonstrating consistency with the MPAH?	<input type="checkbox"/>	<input type="checkbox"/>
	a. Have you enclosed a figure representing your most current circulation element?	<input type="checkbox"/>	<input type="checkbox"/>
6.	If the requirement is not due as part of the current cycle, has there been an update to the circulation element since the last report period? If yes, include a copy of the latest circulation element.	<input type="checkbox"/>	<input type="checkbox"/>
Local Signal Synchronization Plan (LSSP)		YES	N/A
7.	Did you adopt and submit an update to the LSSP as part of the current cycle?	<input type="checkbox"/>	<input type="checkbox"/>
	a. Is your LSSP consistent with the Regional Traffic Signal Synchronization Master Plan?	<input type="checkbox"/>	<input type="checkbox"/>



APPENDIX D

Eligibility Checklist

Time Limits for Use of Net Revenues		YES	NO
8.	Has your jurisdiction complied with the three-year time limit for the use of Net Revenues over the last year per the requirements outlined in the Ordinance?	<input type="checkbox"/>	<input type="checkbox"/>
	a. If no, has a time extension been requested through the semi-annual review process for funds subject to expiration?	<input type="checkbox"/>	<input type="checkbox"/>
Supplanting of Developer Commitments		YES	NO
9.	Has your jurisdiction ensured they have not supplanted developer commitments for transportation projects and funding with M2 funds?	<input type="checkbox"/>	<input type="checkbox"/>
Mitigation Fee Program (MFP)		YES	N/A
10.	Does your jurisdiction currently have a defined development impact MFP in place?	<input type="checkbox"/>	<input type="checkbox"/>
<u>11.</u>	<u>Has an update to the MFP occurred since the last reporting period?</u>	<input type="checkbox"/>	<input type="checkbox"/>
12.	<u>If yes to 11, has your jurisdiction submitted a copy of the current MFP <u>or City Council/Board of Supervisors approved policy?</u></u>	<input type="checkbox"/>	<input type="checkbox"/>
	a. Have you included a copy of your current impact fee schedule; or	<input type="checkbox"/>	<input type="checkbox"/>
	b. Have you provided OCTA with a copy of your mitigation fee nexus study; or	<input type="checkbox"/>	<input type="checkbox"/>
	c. Have you provided OCTA with a copy of your City Council/Board of Supervisors resolution approving the MFP?	<input type="checkbox"/>	<input type="checkbox"/>
Planning Strategies		YES	NO
13.	Does your jurisdiction consider as part of its General Plan, land use planning strategies that accommodate transit and non-motorized transportation?	<input type="checkbox"/>	<input type="checkbox"/>
14.	Have you provided a letter identifying land use planning strategies that accommodate transit and non-motorized transportation consideration in the General Plan?	<input type="checkbox"/>	<input type="checkbox"/>
Traffic Forums		YES	NO
15.	Did representatives of your jurisdiction participate in the regional traffic forum(s)?	<input type="checkbox"/>	<input type="checkbox"/>
	a. If you answered yes, provide date of attendance: _____		
Congestion Management Program (CMP)		YES	N/A
16.	Has your jurisdiction completed the required CMP checklist? (Appendix C)	<input type="checkbox"/>	<input type="checkbox"/>

Name (Print)

Signature

Date

Appendix E: Sample PMP Resolution

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[SAMPLE RESOLUTION FOR PAVEMENT MANAGEMENT PLAN ADOPTION]

A RESOLUTION OF THE CITY COUNCIL/BOARD OF SUPERVISORS OF THE CITY/COUNTY OF _____ CONCERNING THE STATUS AND UPDATE OF THE PAVEMENT MANAGEMENT PLAN FOR THE MEASURE M2 (M2) PROGRAM

WHEREAS, the local jurisdiction is required to meet eligibility requirements and submit eligibility verification packages to Orange County Transportation Authority (OCTA) in order to remain eligible to receive M2 funds.

WHEREAS, the local jurisdiction is required to adopt and update a Pavement Management Plan (PMP), using the required format, regarding the status of road pavement conditions and implementation of the PMP on a biennial basis; and

WHEREAS, the local jurisdiction is required to provide a plan that manages the preservation, rehabilitation, and maintenance of paved roads by analyzing pavement life cycles, assessing overall system performance costs, and determining alternative strategies and costs necessary to improve paved roads.

NOW, THEREFORE, BE IT RESOLVED that the City Council/Board of Supervisors for the City/County of _____ does hereby inform OCTA that:

- a) The PMP is in conformance with the PMP Submittal Template provided in the Countywide Pavement Management Plan Guidelines.
- b) The City/County hereby adopts a PMP and has provided an updated PMP report, using the required format, to OCTA.
- c) The Public Works Director, City Engineer or designee is authorized to sign the PMP certification form.

PASSED, APPROVED, AND ADOPTED THIS [Insert Day] day of [Insert Month], [Insert Year].

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Appendix F: PMP Submittal Template

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Agency

Pavement Management Plan

Prepared by: [Author name]
Submitted to OCTA:[Date]



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I. Pavement Management Plan Certification

The City/County of *Type Here* certifies that it has a Pavement Management Plan in conformance with the criteria stated in the Orange County Transportation Authority Ordinance No. 3. This ordinance requires that a Pavement Management Plan be in place and maintained to qualify for allocation of revenues generated from renewed Measure M2.

The plan was developed by *Type here** using *Type here*, a pavement management system, confirming to American Society of Testing and Materials (ASTM) Standard D6433, and contains, at a minimum, the following elements:

- Inventory of MPAH and local routes reviewed and updated biennially. The last update of the inventory was completed on *Month, Year* for Arterial (MPAH) streets and *Month, Month* for local streets.
- Assessment of pavement condition for all routes in the system, updated biennially. The last field review of pavement condition was completed on *Month, Year*.
- Percentage of all sections of pavement needing:
 - Preventative Maintenance: *Type here%*
 - Rehabilitation: *Type here%*
 - Reconstruction: *Type here%*
- Budget needs for Preventative Maintenance, Rehabilitation, and/or Reconstruction of deficient sections of pavement for:
 - Current biennial period \$*Type here*
 - Following biennial period \$*Type here*
- Funds budgeted or available for Preventative Maintenance, Rehabilitation, and/or Reconstruction:
 - Current biennial period \$*Type here*
 - Following biennial period \$*Type here*
- Backlog by year of unfunded pavement rehabilitation, restoration, and reconstruction needs.
- The Pavement Management Plan is consistent with countywide pavement condition assessment standards as described in the OCTA Countywide Pavement Management Plan Guidelines adopted by the OCTA Board of Directors.

*An electronic copy of the Pavement Management Plan (with Micro Paver or StreetSaver compatible files) has been, or will be, submitted with the certification statement.

A copy of this certification is being provided to the Orange County Transportation Authority.

Submitted by:

Click here to enter text.
Name (Print)

Click here to enter text.
Jurisdiction

Signed

Click here to enter a date.
Date

Click here to enter text.
Title



II. Executive Summary

Click here to enter text.



III. Background (Optional)

Click here to enter text.



IV. Current Pavement Conditions (PCI)

Current Network PCI	Current MPAH PCI	Current Local PCI
Click here to enter	Click here to enter	Click here to enter

V. Projected Pavement Conditions (PCI)

Should be by projected PCI by year under existing or expected funding levels for next seven fiscal years (“Today” is before June 30).

Fiscal Year	Current Funding	Entire Network PCI	MPAH	Local
Today	Click here to enter			
2018-19	Click here to enter			
2019-20	Click here to enter			
2020-21	Click here to enter			
2021-22	Click here to enter			
2022-23	Click here to enter			
2023-24	Click here to enter			
2024-25	Click here to enter			



VI. Alternative Funding Levels

Maintain Existing Average Network PCI

Fiscal Year	Maintain Funding	Entire Network PCI	MPAH	Local
Today	Click here to enter			
2018-19	Click here to enter			
2019-20	Click here to enter			
2020-21	Click here to enter			
2021-22	Click here to enter			
2022-23	Click here to enter			
2023-24	Click here to enter			
2024-25	Click here to enter			

Improve Average Network PCI

Fiscal Year	Current Funding	Entire Network PCI	MPAH	Local
Today	Click here to enter			
2018-19	Click here to enter			
2019-20	Click here to enter			
2020-21	Click here to enter			
2021-22	Click here to enter			
2022-23	Click here to enter			
2023-24	Click here to enter			
2024-25	Click here to enter			



VII. Current and Projected Backlog by Year of Pavement Maintenance Needs

Fiscal Year	Current Funding Backlog	Maintain PCI Backlog	Increase PCI Backlog
Current	Click here to enter	Click here to enter	Click here to enter
2018-19	Click here to enter	Click here to enter	Click here to enter
2019-20	Click here to enter	Click here to enter	Click here to enter
2020-21	Click here to enter	Click here to enter	Click here to enter
2021-22	Click here to enter	Click here to enter	Click here to enter
2022-23	Click here to enter	Click here to enter	Click here to enter
2023-24	Click here to enter	Click here to enter	Click here to enter
2024-25	Click here to enter	Click here to enter	Click here to enter

VIII. Centerline Mileage

Entire Pavement Network	MPAH	Local Roads
Click here to enter	Click here to enter	Click here to enter



IX. Percentage of Network in Each of Five Condition Categories Based on Centerline Miles

Condition Category	PCI Range	Network	Percent Area of Total Pavement	Area of Pavement (sf)	Percent Centerline Mileage of Network	Centerline Mileage of Network
Very Good	86-100	MPAH	Click here to enter%	Click here to enter	Click here to enter%	Click here to enter
		Local	Click here to enter%	Click here to enter		Click here to enter
Good	75-85	MPAH	Click here to enter%	Click here to enter	Click here to enter%	Click here to enter
		Local	Click here to enter%	Click here to enter		Click here to enter
Fair	60-74	MPAH	Click here to enter%	Click here to enter	Click here to enter%	Click here to enter
		Local	Click here to enter%	Click here to enter		Click here to enter
Poor	41-59	MPAH	Click here to enter%	Click here to enter	Click here to enter%	Click here to enter
		Local	Click here to enter%	Click here to enter		Click here to enter
Very Poor	0-40	MPAH	Click here to enter%	Click here to enter	Click here to enter%	Click here to enter
		Local	Click here to enter%	Click here to enter		Click here to enter



X. Reduction in Local Match

A local agency match reduction of 10% of the eligible cost for projects submitted for consideration of funding through the Comprehensive Transportation Funding Programs (CTFP) call for projects is available if the local agency either:

- a. Shows measurable improvement of paved road conditions during the previous reporting period defined as an overall weighted (by area) average system improvement of one Pavement Condition Index (PCI) point with no reduction in the overall weighted (by area) average PCI in the Master Plan of Arterial Highways (MPAH) or local street categories;

or

- b. Have road pavement conditions during the previous reporting period, within the highest 20% of the scale for road pavement conditions in conformance with OCTA Ordinance No. 3, defined as a PCI of 75 or higher, otherwise defined as in "good condition".

If applicable, please use the space below to justify the local agency's eligibility for a reduction in Local Match based on the statement above.

[Click here to enter text.](#)



XI. Appendix A – Seven-Year Road Maintenance and Rehabilitation Plan Based on Current *or* Expected Funding Level

The seven-year plan for road maintenance and rehabilitation should be based on current and projected budget. Street sections selected for treatment should be identified here. Specific data to be submitted should follow the format below:

MPAH								
	Limits of Work							
Street Name	From	To	Length of Segment	Width of Segment	Pavement Area	Type of Treatment	Cost of Treatment	Year of Treatment

LOCAL								
	Limits of Work							
Street Name	From	To	Length of Segment	Width of Segment	Pavement Area	Type of Treatment	Cost of Treatment	Year of Treatment

Please attach the seven-year road maintenance and rehabilitation plan, following the above template, after this sheet. The plan should be labeled Appendix A.



XII. Appendix B – Complete Listing of Current Street Conditions

A complete listing of current pavement conditions should be included in this report. Specific data to be submitted should follow the format below:

MPAH						
Street Name	From	To	Width of Segment	Area	Current PCI	Most Recent Inspection Date

LOCAL						
Street Name	From	To	Width of Segment	Area	Current PCI	Most Recent Inspection Date

Please attach the complete street listing, following the above template, after this sheet. The pages should be labeled Appendix B.



XIII. Appendix C – Quality Assurance/Quality Control Plan

Introduction

When performing data collection in any field, the need for quality control is paramount as it is essential for accurate planning, analysis and design. This is particularly true for collecting pavement distress data for a pavement management system.

The Quality Assurance/Quality Control (QA/QC) Plan establishes minimum quality standards for performance and procedures for updates of the pavement management system.

If applicable, utilize the space below to include information on the agency’s QA/QC policies:

Click here to enter text.

Objectives

This document constitutes a formal QA/QC Plan for the City/County. It was prepared on *Select date* and last revised on *Select date*.

Specifically, it is intended for the *Year Applicable* Pavement Management Plan Update. The focus is on the collection of network-level pavement distress data (defined by National Cooperative Highway Research Program (NCHRP) Synthesis 401 Quality Management of Pavement Data Collection, as “Network-level data collection involves collection of large quantities of pavement condition data, which is often converted to individual condition indices or aggregated into composite condition indices.”)

This document also addresses the QA/QC plan requirements of the Orange County Transportation Authority (OCTA)’s “Countywide Pavement Management Plan Guidelines” (section 2.4), adopted in May 2010.

Structure of QA/QC Plan

The following components are addressed in this QA/QC Plan:

- Condition survey procedures used
- Accuracy required for data collection
- Inspector qualifications and experience
- Safety



Condition Survey Procedures

The governing document in performing condition surveys for the *Enter agency name* is ASTM D6433 “Standard Practice for Roads and Parking Lots Pavement Condition Index (PCI) Surveys.” Both asphalt concrete (AC) and Portland cement concrete (PCC) pavements are included in this protocol. The following distresses are collected for each pavement type.

Asphalt Concrete AC Pavements

1. Alligator (fatigue) cracking
2. Bleeding
3. Block cracking
4. Bumps and sags
5. Corrugation
6. Depression
7. Edge cracking
8. Joint reflection cracking
9. Lane/Shoulder drop off
10. Longitudinal & Transverse cracking
11. Patching and utility cut patching
12. Polished aggregate
13. Potholes
14. Railroad crossing
15. Rutting
16. Shoving
17. Slippage cracking
18. Swell
19. Weathering
20. Raveling

Portland Cement Concrete (Jointed)

1. Blowup/buckling
2. Corner breaks
3. Divided slab
4. Durability (“D”) cracking
5. Faulting
6. Joint seal damage
7. Lane/shoulder drop off
8. Linear cracking
9. Patching (large) and utility cuts
10. Patching (small)
11. Polished aggregate
12. Popouts
13. Pumping
14. Punchout
15. Railroad crossing
16. Scaling, map cracking and crazing
17. Shrinkage cracks
18. Spalling (corner)
19. Spalling (joint)

Any exceptions to the above procedures are discussed before any surveys are performed. They are documented in the paragraphs below.

[Note to agency: these are usually related to distresses or situations that are not covered in the manuals. Examples include roller check marks or edge cracking on streets with no curbs and gutters. Others include the raveling of surface seals or the use of open-graded asphalt concrete mixes where the surface appears to have large voids present. Any modifications must be documented and included in this document. Photos are extremely helpful.]

All surveys are performed as *Indicate type of surveys – walking, windshield, semi-automated etc. surveys, and a minimum 10% sampling rate is utilized. Field crews are typically composed of [Click here to enter field crew information](#) (Typically a one-person crew on residential streets and some collectors, and up to two-person crews for major arterials, depending on traffic volumes and speeds. Edit as appropriate).* The safety of field personnel is paramount in all instances.



The sample unit selected must be representative of the entire pavement section. This assumes that the section is homogenous; if it is not homogeneous, then the section must be split according to the criteria agreed upon by the agency. Typically, the criteria used are:

- Pavement condition
- Construction age, if known
- Maintenance history, if known
- Traffic volumes (or functional classification as a surrogate)
- Surface types (e.g. asphalt concrete or Portland cement concrete)
- Geometric elements (e.g. widths)

Any modifications to the section inventory data are documented in the pavement management report.

A sample unit must be between $2,500 \pm 1,000$ square feet in conformance with ASTM D6433 protocols. Typical sample unit dimensions are 100 feet long by the width of the street. Streets that are wider than 40 feet wide will have shorter lengths (generally 50 feet) or if they are divided by a raised median, separate sample units will be taken in each direction.

Any pavement areas that are not representative of the section will be noted and surveyed as an additional sample unit.

Accuracy Required for Data Collection

The accuracy required for data collection has two components, both of which are further described in the following paragraphs.

- Re-inspections
- PCI comparisons with past surveys

Random and Systematic Re-Inspections

Random Re-inspections

Random re-inspections will include a representative selection across the following categories:

- Functional classes (i.e. MPAH, locals);
- Surface types (e.g. asphalt concrete or Portland cement concrete);
- Pavement conditions (e.g. good, fair, poor);
- Inspectors;
- Geographical areas, if applicable.

Systematic Re-inspections

For systematic re-inspections, this could be due to noticed trends such as specific treatment types (e.g. open-graded mixes), a specific inspector or geographical area. In such cases, more than 5% will be re-inspected.



Acceptability Criteria

At the time of re-inspection, the actual distresses will be re-inspected and verified, and any corrections made, if necessary. Distress types and severities must be the same and re-measured quantities within ±10% of the original measured quantity.

If corrections are required on more than 10% of the re-inspected sample unit, then an additional 5% will be re-inspected. This will continue until more than 95% of the re-inspected sections meet the acceptability criteria.

PCI Comparison with Past Surveys

As another level of quality control, the new PCIs are compared with the previous PCIs. If they differ by more than ±10 PCI points, these sections are automatically flagged for further investigation.

If PCI Increases 10 points

The section is investigated to see if a maintenance and rehabilitation event has occurred since the last survey, but has not been recorded. Typically, it may include activities such as:

- Crack sealing activities – changes medium or high severity cracking to low severity
- Patching activities – alligator cracking that has been removed and patched, so that the resultant PCI is increased.
- Surface seals
- Overlay
- Others

Therefore, an up to date maintenance and rehabilitation history file in the pavement management database is desirable, both for historical accuracy as well as to provide additional quality control.

If PCI decreases 10 points

The section is checked to see if the average deterioration rate (usually 3 to 4 points per year) is exceeded. If the drop in PCI is within range of what is acceptable, no further action is required. If the drop is more than the acceptable range, a re-inspection will be performed. The default performance curves in the pavement management software form the basis for what is acceptable.

Inspector’s Qualifications and Experience

The [Enter agency here](#) inspectors have attended formal training on pavement condition distress surveys. This training was conducted prior to performing any work using the ASTM D6433 protocols, consistent with OCTA’s requirements.

Inspector Name	Date of ASTM D6433 Training	Training Conducted By:
Click here to enter	Click here to enter	Click here to enter
Click here to enter	Click here to enter	Click here to enter
Click here to enter	Click here to enter	Click here to enter
Click here to enter	Click here to enter	Click here to enter

Resumes of the technicians utilized on this project are included as an attachment.



Safety Procedures

The *Enter agency here* administers a health and safety program in compliance with the Cal Occupational Safety and Health Administration (OSHA) Title VIII, Section 3203. The program is documented in *Enter document name here*.

Generally, the safety procedures include (Edit as applicable to agency):

- Inspectors to wear Class 2 or 3 safety vest at all times;
- Flashing beacon on all vehicles utilized for surveys; and
- Stopped vehicles to be parked at locations away from moving traffic (e.g. nearby parking, shoulders, etc.).
- *Enter safety protocol here*

On streets where there is a high volume of traffic or high speeds, additional measures may be necessary, such as:

- Surveys to occur during off-peak periods or on weekends;
- Additional inspector to watch out for traffic; and
- Traffic flaggers in extreme cases.

Attachment – Appendix C: Resumes of Field Inspectors

---End of QA/QC Plan---



XIV. Appendix D – Pavement Management Data Files

The Pavement Management data files shall be submitted to OCTA in spreadsheet format. This must include the following information:

- Street name and limits for all public streets
- Street identifiers (Branch ID, Section ID)
- Direction (if applicable)
- Beginning and ending of each section
- Length, widths, and true areas
- Functional Classification (MPAH, Local)
- Number of travel lanes
- PCI and date of inspection
- Type of recommended treatment
- Cost of recommended treatment

The Pavement Management data files are attached here as a CD, or included as Appendix D

XV. Appendix E – GIS Maps – Current Conditions (Optional)

If included, attach and label Appendix E.

Appendix G: M2 Expenditure Report Template, Instructions & Resolution

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Measure M2 Expenditure Report Template

Schedule 1: Summary Statement of Beginning and Ending Balances

Lines 1 – 12: Balances at Beginning of Fiscal Year

Report all fund balances and interest intended for transportation purposes at the beginning of the fiscal year. These balances should be classified by funding source as illustrated in the table below. To provide for continuity of reporting, the beginning balances of any restricted funds must agree with the ending balances of such funds as shown in the prior year's report.

Project	Description
A-M	Freeway Environmental Mitigation
O	Regional Capacity Program (RCP)
P	Regional Traffic Signal Synchronization Program (RTSSP)
Q	Local Fair Share
R	High Frequency Metrolink Service
S	Transit Extensions to Metrolink
T	Convert Metrolink Station(s) to Regional Gateways that connect Orange County with High-Speed Rail Systems
U	Senior Mobility Program or Senior Non-Emergency Medical Program
V	Community Based Transit/Circulators
W	Safe Transit Stops
X	Environmental Cleanup Program (Water Quality)
Other	Please provide description for other categories

Line 13: Balances at Beginning of Fiscal Year - TOTAL

Sum of Lines 1 – 12 in the "Amount" and "Interest" columns

Line 14: Monies Made Available During Fiscal Year

Report total available monies (revenues) from Schedule 2, Line 13 in the "Amount" and "Interest" columns

Line 15: Total Monies Available

Sum of Lines 13 - 14 in the "Amount" and "Interest" columns

Line 16: Expenditures During Fiscal Year

Report total available monies (revenues) from Schedule 2, Line 26 in the "Amount" and "Interest" columns

Lines 17 - 28: Balances at End of Fiscal Year

Report by funding source all fund balances and interest for transportation purposes at the end of the fiscal year. To provide for continuity of reporting, the beginning balances of the fund sources in next year's report must agree with the ending balances of such funds as shown in this year's report (or otherwise reconciled).

**M2 Expenditure Report
Fiscal Year Ended June 30, 20____
Beginning and Ending Balances**

Description	Line No.	Amount	Interest
Balances at Beginning of Fiscal Year			
A-M Freeway Environmental Mitigation	1		
O Regional Capacity Program (RCP)	2		
P Regional Traffic Signal Synchronization Program (RTSSP)	3		
Q Local Fair Share	4		
R High Frequency Metrolink Service	5		
S Transit Extensions to Metrolink	6		
T Convert Metrolink Station(s) to Regional Gateways that connect Orange County with High-Speed Rail Systems	7		
U Senior Mobility Program or Senior Non-Emergency Medical Program	8		
V Community Based Transit/Circulators	9		
W Safe Transit Stops	10		
X Environmental Cleanup Program (Water Quality)	11		
Other*	12		
Balances at Beginning of the Fiscal Year (Sum Lines 1 to 12)	13		
Monies Made Available During Fiscal Year	14		
Total Monies Available (Sum Lines 13 & 14)	15		
Expenditures During Fiscal Year	16		
Balances at End of Fiscal Year			
A-M Freeway Environmental Mitigation	17		
O Regional Capacity Program (RCP)	18		
P Regional Traffic Signal Synchronization Program (RTSSP)	19		
Q Local Fair Share	20		
R High Frequency Metrolink Service	21		
S Transit Extensions to Metrolink	22		
T Convert Metrolink Station(s) to Regional Gateways that connect Orange County with High-Speed Rail Systems	23		
U Senior Mobility Program or Senior Non-Emergency Medical Program	24		
V Community Based Transit/Circulators	25		
W Safe Transit Stops	26		
X Environmental Cleanup Program (Water Quality)	27		
Other*	28		

* Please provide a specific description

Measure M2 Expenditure Report

Schedule 2: Summary Statement of Sources and Uses

Lines 1 - 12: Report the Following Revenue Sources and Interest on the Appropriate Line

Project	Description
A-M	Freeway Environmental Mitigation
O	Regional Capacity Program (RCP)
P	Regional Traffic Signal Synchronization Program (RTSSP)
Q	Local Fair Share
R	High Frequency Metrolink Service
S	Transit Extensions to Metrolink
T	Convert Metrolink Station(s) to Regional Gateways that connect Orange County with High-Speed Rail Systems
U	Senior Mobility Program or Senior Non-Emergency Medical Program
V	Community Based Transit/Circulators
W	Safe Transit Stops
X	Environmental Cleanup Program (Water Quality)
Other	Please provide description for other categories

Line 13: Total Revenues

Sum of Lines 1 - 12 (should match Total in Schedule 1, Line 14 in the "Amount" and "Interest" columns)

Lines 14 - 25: Report the Following Expenditures on the Appropriate Line

Project	Description
A-M	Freeway Environmental Mitigation
O	Regional Capacity Program (RCP)
P	Regional Traffic Signal Synchronization Program (RTSSP)
Q	Local Fair Share
R	High Frequency Metrolink Service
S	Transit Extensions to Metrolink
T	Convert Metrolink Station(s) to Regional Gateways that connect Orange County with High-Speed Rail Systems
U	Senior Mobility Program or Senior Non-Emergency Medical Program
V	Community Based Transit/Circulators
W	Safe Transit Stops
X	Environmental Cleanup Program (Water Quality)
Other	Please provide description for other categories

Line 26: Total Expenditures

Sum of Lines 14 - 25 (Should match Total in Schedule 1, Line 16 in the "Amount" and "Interest" columns)

Line 27: Total Balance

Subtract Line 26 from Line 13 in the "Amount" and "Interest" columns

City/County of: _____

Schedule 2

**M2 Expenditure Report
Fiscal Year Ended June 30, 20____
Sources and Uses**

	Description	Line No.	Amount	Interest
	Revenues:			
A-M	Freeway Environmental Mitigation	1		
O	Regional Capacity Program (RCP)	2		
P	Regional Traffic Signal Synchronization Program (RTSSP)	3		
Q	Local Fair Share	4		
R	High Frequency Metrolink Service	5		
S	Transit Extensions to Metrolink	6		
T	Convert Metrolink Station(s) to Regional Gateways that connect Orange County with High-Speed Rail Systems	7		
U	Senior Mobility Program or Senior Non-Emergency Medical Program	8		
V	Community Based Transit/Circulators	9		
W	Safe Transit Stops	10		
X	Environmental Cleanup Program (Water Quality)	11		
	Other*	12		
	TOTAL REVENUES: (Sum Lines 1 to 12)	13	\$	\$
	Expenditures:			
A-M	Freeway Environmental Mitigation	14		
O	Regional Capacity Program	15		
P	Regional Traffic Signal Synchronization Program	16		
Q	Local Fair Share	17		
R	High Frequency Metrolink Service	18		
S	Transit Extensions to Metrolink	19		
T	Convert Metrolink Station(s) to Regional Gateways that connect Orange County with High-Speed Rail Systems	20		
U	Senior Mobility Program or Senior Non-Emergency Medical Program	21		
V	Community Based Transit/Circulators	22		
W	Safe Transit Stops	23		
X	Environmental Cleanup Program (Water Quality)	24		
	Other*	25		
	TOTAL EXPENDITURES: (Sum Lines 14 to 25)	26	\$	\$
	TOTAL BALANCE (Subtract line 26 from 13)	27	\$	\$

* Please provide a specific description

Measure M2 Expenditure Report Template Instructions

Schedule 3: Summary Statement of Detailed Use of Funds

Line 1: ~~Administration (Indirect and/or Overhead)~~

This line covers ~~transportation-related~~ local agency costs that cannot be readily identified to a specific project ~~identified with a project and are not included as direct charges~~. The costs listed in this line item represent an equitable share of expenditures for ~~the supervision and management of streets and roads~~ activities not directly allocated to right-of-way, construction, or other categories. Allocations must be based on a reasonable, documented methodology.

This includes, but is not limited to: ~~salaries of project management and support staff.~~

Payroll

General accounting/finance

Personnel

Departmental accounts/finance

Purchasing/Procurement

Facilities

Advertising

Data processing

Legal costs

Top management

General government

Bids

Lines 2 - 7: Construction

Construction expenditures include the following:

- Projects developing new streets, bridges, lighting facilities, storm drains, etc., in locations that formerly had no such facilities, or projects departing to such an extent from existing alignment and grade that no material salvage value is realized from the old facilities.
- Additions and betterments to the street system and its rights-of-way, including grade separations and urban extensions.
- Any work that materially increases the service life of the original project.
- Resurfacing to a thickness greater than one inch.
- Resurfacing to a thickness less than one inch if the project has been certified by a lead agency as construction.
- Construction of traffic islands and other traffic safety devices.
- Transit facilities including, but not limited to, bus stops, shelters, and maintenance facilities.
- Streetscape including original landscaping, tree planting, and similar work.
- Acquisition and installation of street lighting facilities, traffic signals, and/or street signs (only when such signs are installed in connection with developing new streets).
- Planning, environmental, or design related to construction.
- Salaries and expenses of employees in connection with construction (direct costs).

Line 8: Total Construction

Sum of Lines 2 - 7

Line 9: Right-of-Way Acquisition

Right-of-way expenditures include the following:

- The acquisition of land or interest for use as a right-of-way in connection with the city's street system; the amount reported should include the cost of acquisition of any improvements situated on the real property at the date of its acquisition by the city.
- The cost of removing, demolishing, moving, resetting, and altering buildings or other structures that obstruct the right-of-way.

- The court costs of condemnation proceedings.
- Title searches and reports.
- Salaries and expenses of employees and right-of-way agents in connection with the acquisition of rights-of-way (direct costs).
- Severance damage to property sustained due to the city's street projects.
- All other costs of acquiring rights-of-way free and clear of all physical obstructions and legal encumbrances.

Line 10: Total Construction and Right-of-Way

Sum of Lines 8-9

Line 11 - 15: Maintenance / Operations

Maintenance expenditures include the following:

- The preservation and keeping of rights-of-way, street structures, and facilities in the safe and usable condition, to which they have been improved or constructed, but not reconstruction or other improvements.
- General utility services such as roadside planting, tree trimming, street cleaning, snow removal, and general weed control.
- Repairs or other work necessitated by damage to street structures or facilities resulting from storms, slides, settlements, or other causes unless it has been determined by the city engineer that such work is properly classified as construction.
- Maintenance of traffic signal equipment, coordination and timing on the city streets, as well as the city's share of such expenditures covering traffic signals situated at intersections of city streets and state highways within the incorporated area of the city.
- Salaries and expenses of employees in connection with maintenance and/or operations (direct costs).

Line 16: Total Maintenance

Sum of Lines 11 - 15

Line 17: Other

Please provide description for other categories. For example: transit, Senior Mobility Program, water quality, transit operations such as vehicle leases and other related operating expenses, etc.

Line 18: Grand Totals

Sum of Lines 1, 10, 16, and 17

City/County of: _____

Schedule 3

**M2 Expenditure Report
Fiscal Year Ended June 30, 20____
Streets and Roads Detailed Use of Funds**

Type of Expenditure	Line Item	MOE ²	Developer / Impact Fee ⁺	O	O Interest	P	P Interest	Q	Q Interest	X	X Interest	Other M2 ³	Other M2 Interest	Other*	TOTAL
Administration (Indirect and/or Overhead)	1														\$
Construction & Right-of-Way															
New Street Construction	2														\$
Street Reconstruction	3														\$
Signals, Safety Devices, & Street Lights	4														\$
Pedestrian Ways & Bike paths	5														\$
Storm Drains	6														\$
Storm Damage	7														\$
Total Construction¹	8														\$
Right of Way Acquisition	9														\$
Total Construction & Right-of-Way	10														\$
Maintenance															
Patching	11														\$
Overlay & Sealing	12														\$
Street Lights & Traffic Signals	13														\$
Storm Damage	14														\$
Other Street Purpose Maintenance	15														\$
Total Maintenance¹	16														\$
Other	17														\$
GRAND TOTALS (Sum Lines 1, 10, 16, 17)	18	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$

¹ Includes direct charges for staff time

² Local funds used to satisfy maintenance of effort (MOE) requirements

³ Other M2 includes A-M, R, S, T, U, V, and W

+ Transportation related only

* Please provide a specific description

Measure M2 Expenditure Report Template Instructions

Schedule 4: Summary Statement of Local Fair Share Project List

List the project titles and brief description (maximum of two sentences) for all projects that utilized any portion of Measure M2 (M2) Local Fair Share funding. Please include the total amount of **M2 Local Fair Share** funds only that were expended.

City/County of: _____

Signature Page

**M2 Expenditure Report
Fiscal Year Ended June 30, 20____**

I certify that the interest earned on Net Revenues allocated pursuant to the Ordinance shall be expended only for those purposes for which the Net Revenues were allocated and all the information attached herein is true and accurate to the best of my knowledge:

Director of Finance (Print Name)

Date

Signature

[EXPENDITURE REPORT RESOLUTION]

A RESOLUTION OF THE CITY COUNCIL/BOARD OF SUPERVISORS OF THE CITY/COUNTY OF _____ CONCERNING THE MEASURE M2 (M2) EXPENDITURE REPORT FOR THE CITY/COUNTY OF _____.

WHEREAS, local jurisdictions are required to meet eligibility requirements and submit eligibility verification packages to Orange County Transportation Authority (OCTA) in order to remain eligible to receive M2 funds.

WHEREAS, local jurisdictions are required to adopt an annual Expenditure Report as part one of the eligibility requirements.

WHEREAS, local jurisdictions are required ~~to adopt an annual Expenditure Report~~ to account for Net Revenues, developer/traffic impact fees, and funds expended by the local jurisdiction in the Expenditure Report that satisfy the Maintenance of Effort requirements; and

WHEREAS, the Expenditure Report shall include all Net Revenue fund balances, interest earned and expenditures identified by type and program or project; and

WHEREAS, the Expenditure Report must be adopted and submitted to the OCTA each year within six months of the end of the local jurisdiction’s fiscal year to be eligible to receive Net Revenues as part of M2.

NOW, THEREFORE, BE IT RESOLVED that the City Council/Board of Supervisors for the City/County of _____ does hereby inform OCTA that:

- a) The Expenditure Report is in conformance with the template provided in the Measure M2 Eligibility Guidelines and accounts for Net Revenues including interest earned, expenditures during the fiscal year and balances at the end of fiscal year.
- b) The M2 Expenditure Report is hereby adopted by the City/County of _____.
- c) The City/County of _____ Finance Director is hereby authorized to sign and submit the M2 Expenditure Report to OCTA for the fiscal year ending _____.

PASSED, APPROVED, AND ADOPTED THIS [Insert Day] day of [Insert Month], [Insert Year].

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Appendix H: Arterial Highway Mileage Change Report

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Appendix I: Maintenance of Effort Reporting Form

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APPENDIX I

Maintenance of Effort (MOE) Reporting Form

Jurisdiction: _____

Type of GENERAL FUND Transportation Expenditures:

Please attach supporting budget documentation for each line item listed below.

MAINTENANCE	Total Expenditure
Subtotal Maintenance	\$

CONSTRUCTION	Total Expenditure
Subtotal Construction	\$

<u>INDIRECT ADMINISTRATIVE/OTHER</u>	Total Expenditure
Subtotal <u>Indirect Administration/Other</u>	\$

Total General Fund Transportation Expenditures	\$
(Less Total MOE Exclusions ¹)	\$
MOE Expenditures	\$
MOE Benchmark Requirement	\$
(Shortfall)/Surplus	\$

Certification:

I hereby certify that the City/County of _____ has budgeted and will meet the Maintenance of Effort (MOE) requirement for Fiscal Year _____.

Finance Director Signature

Finance Director
(Print Name)

Date

¹Funding sources include Measure M, federal, state, redevelopment, and bond financing.

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Appendix J: Acronyms

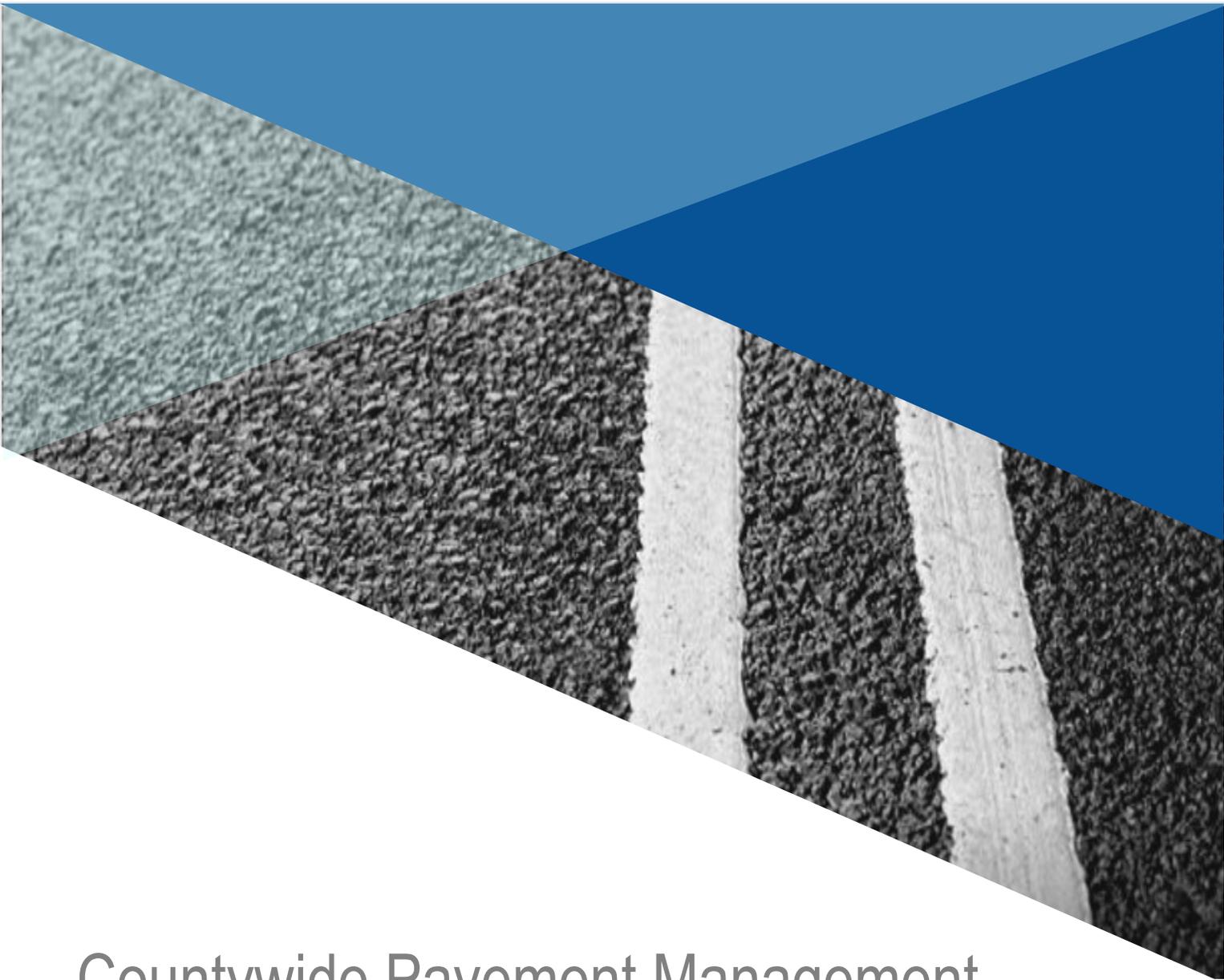
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APPENDIX J

Acronyms

Acronym	Description
AHRP	Arterial Highway Rehabilitation Program
CCI	Construction Cost Index
CFD	Community Facilities District
CIP	Capital Improvement Program
CMP	Congestion Management Program
CTFP	Comprehensive Transportation Funding Programs
ECP	Environmental Cleanup Program (Project X)
LAFCO	Local Agency Formation Commission
LOS	Level of Service
LSSP	Local Signal Synchronization Plan
MOE	Maintenance of Effort
MPAH	Master Plan of Arterial Highways
OCTA	Orange County Transportation Authority
OCTC	Orange County Transportation Commission
PCI	Pavement Condition Index
PMP	Pavement Management Plan
RCP	Regional Capacity Program (Project O)
RTSSMP	Regional Traffic Signal Synchronization Master Plan (Project P)
SCAQMD	South Coast Air Quality Management District
TAC	Technical Advisory Committee
TDM	Traffic Demand Management
TOC	Taxpayer Oversight Committee
TOD	Transit Oriented Development
TSC	Technical Steering Committee



Countywide Pavement Management

Plan Guidelines

April 2018





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Chapter 1 – Introduction

On November 6, 1990, the voters in Orange County approved a ½-cent sales tax for transportation improvements known as Measure M. This sales tax includes funding for streets and roads that is available to local agencies through both a formula distribution and a competitive process. On November 6, 2006, voters approved a renewal of Measure M to continue the ½-cent sales tax for thirty years, beginning in 2011.

Background

The primary goal of these guidelines is to ensure consistent field data collection and reporting procedures so that countywide funding allocations can be based on agency comparable pavement conditions.

Given that all agencies are using uniform data collection procedures, OCTA can answer typical questions such as:

- What is the average countywide condition of local streets and roads? For individual streets? For Arterial Highways?
- Which streets have a higher priority and need to be funded first?
- How much does it cost to bring them up to an acceptable condition?
- How much will it cost to maintain them in an acceptable condition over the next seven years or more?
- What are the impacts on pavement condition at the existing funding levels?

Training is provided, periodically, by OCTA to maintain consistency in data collection procedures and assist local agencies in the use of pavement management software.

The key is to ensure a reliable, consistent, and uniform approach to data collection.



Eligibility Requirements

One of the eligibility requirements included in Measure M2 (M2) specifies that each local jurisdiction must adopt and update a Pavement Management Plan (PMP) every two years. All agencies must use a common format as part of the countywide pavement management effort conforming to American Society for Testing and Materials (ASTM) Standard D6433. In 2010, the Orange County Transportation Authority (OCTA) adopted MicroPaver as the countywide standard PMP software and all agencies participating in M2 were required to adopt this software for consistency in reporting pavement management conditions. In 2011, all local agencies submitted PMPs that were in conformance with the requirements in the PMP Guidelines. Local agencies may now also utilize StreetSaver, since it is in conformance with ASTM Standard D6433. The PMP must include:

- The current status of road pavement conditions;
- A seven-year plan for road maintenance and rehabilitation (including projects, funding, and any unfunded backlog of pavement needs);
- The projected pavement condition resulting from the maintenance and rehabilitation plan; and
- Alternative strategies and costs necessary to improve road pavement conditions.

Local Match Reduction

In addition to the above requirements, a local agency match reduction of 10% of the eligible cost for projects submitted for consideration of funding through the Comprehensive Transportation Funding Programs (CTFP) call for projects is available if the local jurisdiction either:

- a. Shows measurable improvement of paved road conditions during the previous reporting period defined as an overall weighted (by area) average system improvement of one Pavement Condition Index (PCI) point with no reduction in the overall weighted (by area) average PCI in the Master Plan of Arterial Highways (MPAH) or local street categories;

or

- b. Road pavement conditions during the previous reporting period within the highest 20% of the scale for road pavement conditions in conformance with OCTA Ordinance No. 3, defined as a PCI of 75 or higher, otherwise defined as in "good condition".



Chapter 2 – Pavement Management Plan Guidelines

These guidelines and procedures are necessary for Orange County agencies to implement and update their PMPs with respect to conducting condition surveys. This is required to certify conformance with the criteria stated in OCTA’s Ordinance No. 3. This ordinance requires that a PMP be in place and maintained to qualify for an allocation of net revenues generated from M2. A copy of Ordinance No. 3 is available from OCTA. PMP Certification is part of the submittal required for each agency (see Appendix A).

The pavement management guidelines are discussed under the following categories:

1. Condition Survey Protocols
2. Inspection Frequency
3. Countywide Assessment Standards
4. Quality Assurance/Quality Control (QA/QC) Plan
5. Re-inspections
6. Prequalification/Calibration of Inspectors
7. Pavement Management Software Training
8. Pavement Management Data Files

Condition Survey Protocols

In 1998, OCTA adopted condition survey protocols that required the collection of certain surface distresses as a minimum for both asphalt concrete and Portland cement concrete pavements. These distresses were common to the variety of pavement management systems then in use by Orange County local agencies. Based on the usage of a common county-wide software, it is now possible to include all of the distresses in ASTM Standard D6433 “Standard Practice for Roads and Parking Lots Pavement Condition Index Surveys” in these Guidelines. These surface distresses are as follows:

Asphalt Concrete (AC)

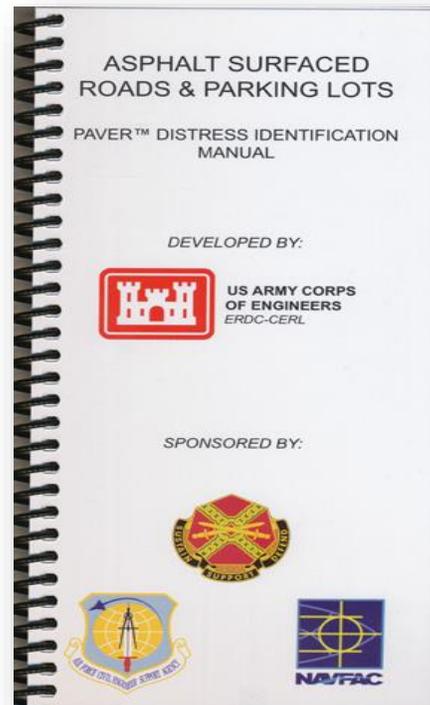
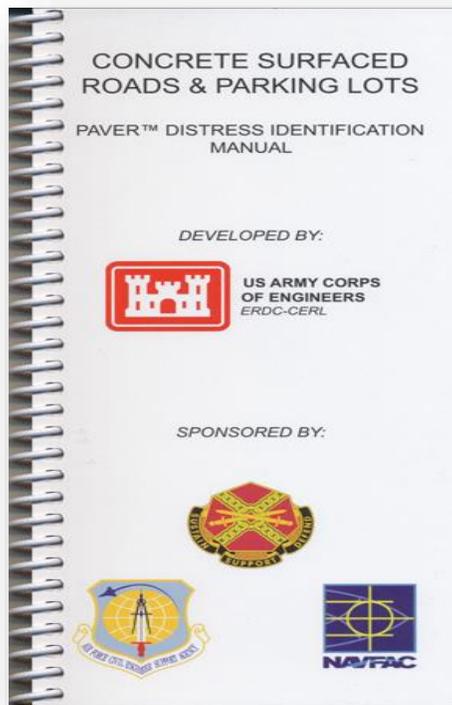
1. Alligator or Fatigue Cracking
2. Bleeding
3. Block Cracking
4. Bumps and Sags
5. Corrugation
6. Depression
7. Edge Cracking
8. Joint Reflection Cracking
9. Lane/ Shoulder Drop-off
10. Longitudinal Cracking
11. Patching and Utility Cut Patching
12. Polished Aggregate
13. Potholes
14. Railroad Crossing
15. Rutting
16. Shoving
17. Slippage Cracking
18. Swell
19. Raveling
20. Weathering (Surface Wear)

Portland Cement Concrete (PCC)

1. Blowup/ Buckling
2. Corner Break
3. Divided Slab
4. Durability (“D”) Cracking
5. Faulting
6. Joint Seal Damage
7. Lane/ Shoulder Drop-Off
8. Linear Cracking
9. Patching, Large And Utility Cuts
10. Patching, Small
11. Polished Aggregate
12. Popouts
13. Pumping
14. Punchout
15. Railroad Crossing
16. Scaling
17. Shrinkage Cracks
18. Spalling, Corner
19. Spalling, Joint

The distress definitions, severity levels, and measurement methods are based on criteria described in Pavement Management for Airports, Roads and Parking Lots¹. This reference has been formalized as ASTM Standard D6433². ASTM's copyright does not allow for electronic distribution or copying of this standard. However, a link to purchase the standard is included in the footnote. OCTA's guidelines follow ASTM D6433, with a few minor exceptions.

In addition, field manuals are available from the American Public Works Association (APWA)^{3,4}. The field manuals include photographs of distress types and detailed descriptions and definitions, and are intended for the field inspector. All personnel involved with inspection or performing condition surveys must have read and understood these manuals.



Note that both ASTM D6433 and these field manuals contain 20 distresses and 19 distresses for AC and PCC pavements, respectively. These distresses are now required for data collection.

OCTA allows windshield, walking, and calibrated automated surveys. It is recommended that windshield surveys be supplemented with walking surveys.

¹ Shahin, M.Y. *Pavement Management for Airports, Roads and Parking Lots*, Chapman & Hall, 1994.

² ASTM D6433 – *Standard Practice for Roads and Parking Lots Pavement Condition Index Surveys*. A copy may be purchased at <http://www.astm.org/Standards/D6433.htm>.

³ *Paver Distress Identification Manual: Asphalt-Surfaced Roads and Parking Lots*, U.S. Army Corps of Engineers, Construction Engineering Research Laboratories, June 2009. To purchase, go to www.apwa.net.

⁴ *Paver Concrete Distress Identification Manual: Concrete Surfaced Roads and Parking Lots*, U.S. Army Corps of Engineers, Construction Engineering Research Laboratories, June 2009. To purchase go to www.apwa.net.

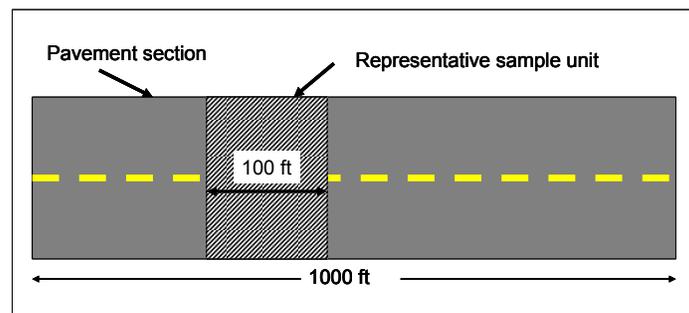
In a windshield survey, the inspector travels in a vehicle at slow speeds (5 to 10 mph) and observes the pavement condition from within the vehicle. The entire length of the pavement section is driven and observed. A driver is required for safety reasons, with the inspector/recorder in the passenger side of the vehicle. The inspector should have a list of street sections to be surveyed and a planned route.

The entire pavement section is surveyed, and the distress data are estimated and recorded. In situations where the distresses need closer examination, or where there are difficulties in observation, the inspector should stop the vehicle and walk the pavement section to verify the distresses observed from the vehicle.

All field data collection procedures should conform to the local agency's safety practices and should be included in the QA/QC Plan (see Appendix A).

When walking surveys are used, the following procedure should be followed:

1. Each pavement section must be inspected using sample units. Individual sample units should be representative of the pavement section conditions and may be marked or identified to allow easy location for quality control purposes. Paint marks along the edge or sketches with locations connected to physical pavement features are acceptable. The figure below illustrates the definition of a pavement section and a representative sample unit.



2. The area of AC sample units should be 2500 ± 1500 square feet, and for PCC sample units, this should be 20 ± 8 slabs. The total inspected area or slabs for a pavement section must be at least 10% of the total pavement section area or slabs. This is an exception to the procedure described in ASTM D6433.

For example, a pavement section 950 feet long and 32 feet wide must have at least one sample unit (typically 100 feet long x 32 feet wide = 3200 sf). Longer sections will require multiple sample units.

3. Additional sample units are to be inspected only when non-representative distresses are observed. Typically, these will be distresses that are localized in nature and not representative of the entire pavement section e.g. high severity alligator cracking found near bus pads, rutting in intersections, distresses due to landscape watering/ponding etc.
4. Conduct the distress inspection by walking on the pavement shoulder or sidewalk adjacent to the sample unit being surveyed, measuring the quantity of each severity level of every distress type present, and recording the data. Each distress must correspond in type and severity to that described in the Paver Distress Identification Manuals.



5. A copy of the recorded distress data should be provided on a weekly basis to the responsible agency personnel for quality assurance.

It should be noted that windshield surveys, while reasonably fast and inexpensive, do have shortcomings. Chief among these are that low severity distresses are difficult to identify in this procedure, and consequently, the PCI may be significantly higher than it ought to be. A pavement may therefore be selected for a slurry seal when a thin overlay is more appropriate or for a thin overlay when a thick overlay is more appropriate. This may result in treatments that are not cost-effective.

When certain pavements are a high priority (usually those with high traffic volumes or other distinctive features) for a local agency, walking surveys are preferred to ensure that all pertinent distresses are captured, although windshield surveys are the minimum standard. For residential or local streets, windshield surveys are acceptable.

When automated or semi-automated surveys are used, the following procedure should be followed.

The Local Agency should:

- Establish a series of test sites
- Determine the distress data on those sites using a walking survey
- Compare the data from the automated equipment with the walking survey data.

It is desirable for the PCI values from the automated survey to be within plus or minus 5 PCI points of the values obtained from the walking survey. However, plus or minus 10 PCI points is generally considered acceptable. Any site with a difference greater than 10 PCI points should be carefully rechecked to determine the cause for the discrepancy. The agency must then make a judgement whether the automated data is acceptable.

OCTA's role is limited to the evaluation of the distress data submitted by the agencies and does not include a verification or evaluation of the automated equipment or procedure used by the agency submitting the automated survey.

Inspection Frequency

All streets identified on the MPAH must be surveyed at least once every two years. All local streets must be surveyed at least once every six years. This is a requirement of OCTA's PMP certification program.



Countywide Assessment Standards

In 1998, OCTA adopted the countywide pavement condition assessment standards for treatments as shown in Table 2.1.

Table 2.1 Pavement Condition Assessment Standards

Pavement Quality	PCI Thresholds	Funded Treatment
Very Good	86-100	None
Good	75-85	Surface seal*
Fair	60-74	Thin overlay
Poor	41-59	Thick overlay
Very Poor	0-40	Reconstruction

* Not eligible for CTFP competitive funding program

Note that Table 2.1 does NOT preclude other treatments that a local agency may choose to select or use. Indeed, there have been many new pavement technologies and techniques introduced since 1998 that a local agency should consider for preventive maintenance, and which may be funded under the M2 Fair Share program. **The treatments in Table 2.1 are intended to identify the types of treatments that OCTA will fund under the competitive grant program only.**

Quality Assurance/Quality Control (QA/QC) Plan

A QA/QC plan must be prepared by all agencies. The purpose of the QA/QC plan is to ensure that all procedures used to collect distress data comply with OCTA’s guidelines and result in the delivery of a quality data product. The QA/QC plan should also provide for corrective actions when deficiencies are encountered. As a minimum, the following components must be included:

- a. Description of condition survey procedures (distress types, severities) or reference to the relevant documents in Chapter 3. All procedures, changes or modifications should be well documented in the QA/QC plan so that future updates will be consistent. In particular, unique situations are especially important and their documentation should be included.
- b. How data will be collected (windshield, walking, automated or combination of methods).
- c. Accuracy required for data collection.
- d. Description of how data will be checked for accuracy by agency e.g. re-inspections.
- e. Schedule for when data will be submitted to local agency staff.
- f. Experience of inspectors including past training on condition surveys or calibration procedures.
- g. Field data collection safety procedures.

Any findings that may compromise data integrity and consistency should be discussed and



corrected. Examples of these include differences in survey methods from the last update (e.g. changing from windshield to walking surveys), collecting additional distress types and unique situations that may not lend themselves to existing condition survey procedures (e.g. gap-graded mixes, edge cracking with unpaved shoulders).

Prior to performing any work, local jurisdictions must review the QA/QC plan with inspection personnel.

A copy of the QA/QC plan must be submitted to OCTA together with the PMP certification.

Re-inspections

As part of any QA/QC process, it is essential to re-inspect portions of the network with different personnel than those performing the condition surveys. Re-inspections should be performed within one month of the original date of collection as pavement data will change with time, and during the winter, may change very rapidly.

The data to be re-inspected should include distress types, severities and quantities collected during the survey. At least 5% of the pavement sections should be re-inspected.

The selected sections for re-inspections should be representative of the local agency's network. This should include sections from:

- All functional classifications (i.e. MPAH and residential/local)
- All surface types (i.e. AC and PCC)
- Entire range of pavement conditions (i.e. good, fair, poor)
- All significant changes in PCI (i.e. sections with more than ± 10 PCI points a year with no plausible explanations should be targeted for re-inspections)
- All inspectors
- Different geographical areas

Acceptability Criteria

In general, inspectors should identify distress types accurately 95% of the time. Linear measurements should be considered accurate when they are within $\pm 10\%$ if re-measured, and area measurements should be considered accurate when they are within $\pm 20\%$ if re-measured.

For the data to be acceptable, 90% of the re-inspected sections must be within ± 10 PCI points.

If the results of the re-inspections do not meet the above criteria, all inspections should be immediately halted and any differences should be identified and discussed. Corrective actions should be taken immediately. The local jurisdiction should then perform re-inspections of an additional 5% of the pavement sections.

Prequalification/Calibration of Inspectors

Prequalification or calibration of inspectors ensures that proper procedures are followed and that the results obtained are within acceptable variability ranges. This will be implemented by OCTA staff.

Briefly, the procedures to prequalify or calibrate inspectors are as follows:

- a. OCTA will select approximately 20 pavement sections to be used as control or test sites. Collectively, the control sites should exhibit common distress types and levels of severity that will be encountered in the pavement network and should be across all functional classes, pavement age, surface type, pavement condition and distresses.
- b. Inspect the sections manually (walking survey) using at least two different experienced inspectors and the established survey protocols (Appendix A and ASTM D6433), including any modifications. This will establish the baseline PCI for each control section.
- c. The candidate inspectors should then survey the same pavement sections within one month of the control surveys established in Step (b). The data for the sections should be collected and submitted to OCTA as soon as they are completed.
- d. OCTA will calculate the PCIs based on the survey data collected by inspectors.
- e. Compare the control PCI data with survey results by candidate inspectors. Identify the differences and areas of ~~consistency improvement~~ variability.

Acceptability Criteria

The criteria for acceptability are:

- a. $nRMSE \leq 1.04$ where:

$$nRMSE = \sqrt{\frac{\sum_{i=1}^n \left(\frac{RPCI_i - BPCI_i}{SD_{PCI}} \right)^2}{n}}$$

Where:

nRMSE = Normalized root mean square error or deviation

RPCI_i = Reported PCI for control section i

BPCI_i = Baseline PCI for control section i

n = Number of control sections

and

$$SD_{PCI} = \frac{100 - BPCI}{3.6}$$

- b. Inspectors that obtain nRMSE values higher than 1.04 will be allowed to re-inspect and re-submit PCI values for three control sections. OCTA will indicate the three control sections where the inspectors showed the highest deviations from the baseline survey. Re-inspections are allowed only once. The normalized root mean square error (nRMSE) will be recalculated and the criteria described at point (a) applied.

- c. All inspections must be performed independently by each inspector.
- d. Inspectors will be individually prequalified
- e. At least one inspector of a consultant firm or local agency staff must be prequalified for a submitted Pavement Management Plan to be considered compliant with these Guidelines.

Pavement Management Software Training

Local agencies may utilize either MicroPAVER or StreetSaver® software for their PMPs, as long as they conform to ASTM D6433 and these guidelines. At least one representative of the local jurisdiction must be familiar with the PMP software utilized, and have attended one training class. In the case of MicroPAVER, training classes are conducted regularly. The American Public Works Association (APWA) conducts “hands-on” MicroPAVER training classes for a fee, at least once a year (see www.apwa.net for more information). Web-based training programs on specific modules are also available for a fee and broadcast schedules are periodically posted on the APWA website.

The Metropolitan Transportation Commission (MTC) provides free training classes on their StreetSaver® software program as well as field condition surveys. Typically, two field training classes are conducted annually; one in Northern California and one in Southern California (see www.mtcpms.org for more information). There are enough similarities between StreetSaver’s and MicroPAVER’s condition surveys that this training class will benefit any inspector new to the process.

OCTA offers limited software and field training focusing on those items to be included in the biennial PMP submittals. This training is sufficient to satisfy the training requirement of these Guidelines.

Pavement Management Data Files

The Pavement Management data files shall be submitted to OCTA in spreadsheet format. This must include the following information:

- Street name and limits for all public streets
- Street identifiers (Branch ID, Section ID)
- Direction (if applicable)
- Beginning and ending of each section
- Length, widths and true areas
- Functional Classification (MPAH, local)
- Number of travel lanes
- PCI and date of inspection
- Type of recommended treatment
- Cost of recommended treatment

Public alleys formally accepted as part of the local agency’s street system may be included in the PMP submittal at the local agency’s option. Public parking lots and private streets shall not be included in this submittal.



Chapter 3 – Agency Submittals

Local agencies must submit to OCTA the following as part of the biennial certification:

1. PMP Agency Submittal ~~Checklist Template~~ (See Appendix A)
2. PMP certification (see ~~Appendix B Page A-5~~)
3. QA/QC plan (see ~~Appendix C Model QA/QC Plan Pages A-15 – A-19~~)
4. Pavement management data files in a form useable by OCTA (see ~~Section Page 2-8~~)
5. PMP “hard copies” which include the following:
 - a. Average (weighted by area) PCI as of June 30 of the submittal year for:
 - i. Entire pavement network
 - ii. MPAH roadways
 - iii. Local streets
 - b. Projected PCI under existing funding levels, by year, over the next seven years for:
 - i. Entire pavement network
 - ii. MPAH roadways
 - iii. Local streets
 - c. Seven-year plan for road maintenance and rehabilitation based on current and projected budget, identifying street sections selected for treatment. Specific data to be submitted are:
 - i. Street name
 - ii. Limits of work
 - iii. Lengths, widths
 - iv. Pavement areas
 1. Each street
 2. Total area for local streets
 3. Total area for MPAH roadways
 4. Total area for entire public streets network
 - v. Functional classification (i.e. MPAH or local street)
 - vi. PCI and most recent date of inspection
 - vii. Type of treatment
 - viii. Cost of treatment
 - ix. Year of treatment
 - d. Alternative funding levels required to:
 - i. Maintain existing average network PCI
 - ii. To improve average network PCI
 - e. Backlog by year of unfunded pavement rehabilitation, restoration, and reconstruction needs.
 - f. Centerline mileage for MPAH, local streets, and total network.
 - g. Percentage of total network in each of the five condition categories based on centerline miles.
6. In order to be eligible for the local match reduction of 10%, the local jurisdiction must either:
 - a. Show measurable improvement of paved road conditions during the previous reporting period defined as an overall weighted (by area) average system improvement of one PCI point with no reduction in the overall weighted (by area) average PCI in the MPAH or local street categories;

or
 - b. Have road pavement conditions for the overall network during the previous reporting period within the highest 20% of the scale for road pavement conditions in conformance with OCTA Ordinance No. 3, defined as a PCI of 75 or higher.



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Appendix A – Pavement Management Plan Submittal Template

The following template shall be used to submit the required Pavement Management Plan to OCTA. The Word document is available for download at octa.net/Eligibility.



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Agency

Pavement Management Plan

Prepared by: [Author Name]

Submitted to OCTA:[Date]



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I. Pavement Management Plan Certification

The City/County of Type Here certifies that it has a Pavement Management Plan in conformance with the criteria stated in the Orange County Transportation Authority Ordinance No. 3. This ordinance requires that a Pavement Management Plan be in place and maintained to qualify for allocation of revenues generated from renewed Measure M2.

The plan was developed by Type here* using Type here, a pavement management system, conforming to American Society of Testing and Materials (ASTM) Standard D6433, and contains, at a minimum, the following elements:

- Inventory of MPAH and local routes reviewed and updated biennially. The last update of the inventory was completed on Month, Year for Arterial (MPAH) streets and Month, Month for local streets.
• Assessment of pavement condition for all routes in the system, updated biennially. The last field review of pavement condition was completed on Month, Year.
• Percentage of all sections of pavement needing:
o Preventative Maintenance: Type here%
o Rehabilitation: Type here%
o Reconstruction: Type here%
• Budget needs for Preventative Maintenance, Rehabilitation, and/or Reconstruction of deficient sections of pavement for:
o Current biennial period \$Type here
o Following biennial period \$Type here
• Funds budgeted or available for Preventative Maintenance, Rehabilitation, and/or Reconstruction:
o Current biennial period \$Type here
o Following biennial period \$Type here
• Backlog by year of unfunded pavement rehabilitation, restoration, and reconstruction needs.
• The Pavement Management Plan is consistent with countywide pavement condition assessment standards as described in the OCTA Countywide Pavement Management Plan Guidelines adopted by the OCTA Board of Directors.

*An electronic copy of the Pavement Management Plan (with Micro Paver or StreetSaver compatible files) has been, or will be, submitted with the certification statement.

A copy of this certification is being provided to the Orange County Transportation Authority.

Submitted by:

Click here to enter text.
Name (Print)

Click here to enter text.
Jurisdiction

Signed

Click here to enter a date.
Date

Click here to enter text.
Title (Public Works Director and/or City Engineer)



II. Executive Summary

Click here to enter text.



III. Background (Optional)

Click here to enter text.



IV. Current Pavement Conditions (PCI)

Current Network PCI	Current MPAH PCI	Current Local PCI
Click here to enter	Click here to enter	Click here to enter

V. Projected Pavement Conditions (PCI)

Should be by projected PCI by year under existing or expected funding levels for next seven fiscal years (“Today” is before June 30).

Fiscal Year	Current Funding	Entire Network PCI	MPAH	Local
Today	Click here to enter			
2018-19	Click here to enter			
2019-20	Click here to enter			
2020-21	Click here to enter			
2021-22	Click here to enter			
2022-23	Click here to enter			
2023-24	Click here to enter			
2024-25	Click here to enter			



VI. Alternative Funding Levels

Maintain Existing Average Network PCI

Fiscal Year	Maintain Funding	Entire Network PCI	MPAH	Local
Today	Click here to enter			
2018-19	Click here to enter			
2019-20	Click here to enter			
2020-21	Click here to enter			
2021-22	Click here to enter			
2022-23	Click here to enter			
2023-24	Click here to enter			
2024-25	Click here to enter			

Improve Average Network PCI

Fiscal Year	Current Funding	Entire Network PCI	MPAH	Local
Today	Click here to enter			
2018-19	Click here to enter			
2019-20	Click here to enter			
2020-21	Click here to enter			
2021-22	Click here to enter			
2022-23	Click here to enter			
2023-24	Click here to enter			
2024-25	Click here to enter			



VII. Current and Projected Backlog by Year of Pavement Maintenance Needs

Fiscal Year	Current Funding Backlog	Maintain PCI Backlog	Increase PCI Backlog
Current	Click here to enter	Click here to enter	Click here to enter
2018-19	Click here to enter	Click here to enter	Click here to enter
2019-20	Click here to enter	Click here to enter	Click here to enter
2020-21	Click here to enter	Click here to enter	Click here to enter
2021-22	Click here to enter	Click here to enter	Click here to enter
2022-23	Click here to enter	Click here to enter	Click here to enter
2023-24	Click here to enter	Click here to enter	Click here to enter
2024-25	Click here to enter	Click here to enter	Click here to enter

VIII. Centerline Mileage

Entire Pavement Network	MPAH	Local Roads
Click here to enter	Click here to enter	Click here to enter



IX. Percentage of Network in Each of Five Condition Categories Based on Centerline Miles

Condition Category	PCI Range	Network	Percent Area of Total Pavement	Area of Pavement (sf)	Percent Centerline Mileage of Network	Centerline Mileage of Network
Very Good	86-100	MPAH	Click here to enter%	Click here to enter	Click here to enter%	Click here to enter
		Local	Click here to enter%	Click here to enter		Click here to enter
Good	75-85	MPAH	Click here to enter%	Click here to enter	Click here to enter%	Click here to enter
		Local	Click here to enter%	Click here to enter		Click here to enter
Fair	60-74	MPAH	Click here to enter%	Click here to enter	Click here to enter%	Click here to enter
		Local	Click here to enter%	Click here to enter		Click here to enter
Poor	41-59	MPAH	Click here to enter%	Click here to enter	Click here to enter%	Click here to enter
		Local	Click here to enter%	Click here to enter		Click here to enter
Very Poor	0-40	MPAH	Click here to enter%	Click here to enter	Click here to enter%	Click here to enter
		Local	Click here to enter%	Click here to enter		Click here to enter



X. Reduction in Local Match

A local agency match reduction of 10% of the eligible cost for projects submitted for consideration of funding through the Comprehensive Transportation Funding Programs (CTFP) call for projects is available if the local agency either:

- a. Shows measurable improvement of paved road conditions during the previous reporting period defined as an overall weighted (by area) average system improvement of one Pavement Condition Index (PCI) point with no reduction in the overall weighted (by area) average PCI in the Master Plan of Arterial Highways (MPAH) or local street categories;

or

- b. Have road pavement conditions during the previous reporting period, within the highest 20% of the scale for road pavement conditions in conformance with OCTA Ordinance No. 3, defined as a PCI of 75 or higher, otherwise defined as in “good condition”.

If applicable, please use the space below to justify the local agency’s eligibility for a reduction in Local Match based on the statement above.

[Click here to enter text.](#)



XI. Appendix A – Seven-Year Road Maintenance and Rehabilitation Plan Based on Current or Expected Funding Level

The seven-year plan for road maintenance and rehabilitation should be based on current and projected budget. Street sections selected for treatment should be identified here. Specific data to be submitted should follow the format below:

MPAH								
	Limits of Work							
Street Name	From	To	Length of Segment	Width of Segment	Pavement Area	Type of Treatment	Cost of Treatment	Year of Treatment

LOCAL								
	Limits of Work							
Street Name	From	To	Length of Segment	Width of Segment	Pavement Area	Type of Treatment	Cost of Treatment	Year of Treatment

Please attach the seven-year road maintenance and rehabilitation plan, following the above template, after this sheet. The plan should be labeled Appendix A.



XII. Appendix B – Complete Listing of Current Street Conditions

A complete listing of current pavement conditions should be included in this report. Specific data to be submitted should follow the format below:

MPAH						
Street Name	From	To	Width of Segment	Area	Current PCI	Most Recent Inspection Date

LOCAL						
Street Name	From	To	Width of Segment	Area	Current PCI	Most Recent Inspection Date

Please attach the complete street listing, following the above template, after this sheet. The pages should be labeled Appendix B.

XIII. Appendix C – Quality Assurance/Quality Control Plan

Introduction

When performing data collection in any field, the need for quality control is paramount as it is essential for accurate planning, analysis and design. This is particularly true for collecting pavement distress data for a pavement management system.

The Quality Assurance/Quality Control (QA/QC) Plan establishes minimum quality standards for performance and procedures for updates of the pavement management system.

If applicable, utilize the space below to include information on the agency’s QA/QC policies:

[Click here to enter text.](#)

Objectives

This document constitutes a formal QA/QC Plan for the City/County. It was prepared on Select date and last revised on Select date.

Specifically, it is intended for the Year Applicable Pavement Management Plan Update. The focus is on the collection of network-level pavement distress data (defined by National Cooperative Highway Research Program (NCHRP) Synthesis 401 Quality Management of Pavement Data Collection, as “Network-level data collection involves collection of large quantities of pavement condition data, which is often converted to individual condition indices or aggregated into composite condition indices.”)

This document also addresses the QA/QC plan requirements of the Orange County Transportation Authority (OCTA)’s “Countywide Pavement Management Plan Guidelines” (section 2.4), originally adopted in May 2010.

Structure of QA/QC Plan

The following components are addressed in this QA/QC Plan:

- Condition survey procedures used
- Accuracy required for data collection
- Inspector qualifications and experience
- Safety



Condition Survey Procedures

The governing document in performing condition surveys for the Enter agency name is ASTM D6433 “Standard Practice for Roads and Parking Lots Pavement Condition Index (PCI) Surveys.” Both asphalt concrete (AC) and Portland cement concrete (PCC) pavements are included in this protocol. The following distresses are collected for each pavement type.

Asphalt Concrete AC Pavements

1. Alligator (fatigue) cracking
2. Bleeding
3. Block cracking
4. Bumps and sags
5. Corrugation
6. Depression
7. Edge cracking
8. Joint reflection cracking
9. Lane/Shoulder drop off
10. Longitudinal & Transverse cracking
11. Patching and utility cut patching
12. Polished aggregate
13. Potholes
14. Railroad crossing
15. Rutting
16. Shoving
17. Slippage cracking
18. Swell
19. Weathering
20. Raveling

Portland Cement Concrete (Jointed)

1. Blowup/buckling
2. Corner breaks
3. Divided slab
4. Durability (“D”) cracking
5. Faulting
6. Joint seal damage
7. Lane/shoulder drop off
8. Linear cracking
9. Patching (large) and utility cuts
10. Patching (small)
11. Polished aggregate
12. Popouts
13. Pumping
14. Punchout
15. Railroad crossing
16. Scaling, map cracking and crazing
17. Shrinkage cracks
18. Spalling (corner)
19. Spalling (joint)

Any exceptions to the above procedures are discussed before any surveys are performed. These are documented in the paragraphs below.

[Note to agency: these are usually related to distresses or situations that are not covered in the manuals. Examples include roller check marks or edge cracking on streets with no curbs and gutters. Others include the raveling of surface seals or the use of open-graded asphalt concrete mixes where the surface appears to have large voids present. Any modifications must be documented and included in this document. Photos are extremely helpful.]

All surveys are performed as Indicate type of surveys – walking, windshield, semi-automated etc. surveys, and a minimum 10% sampling rate is utilized. Field crews are typically composed of Click here to enter field crew information (Typically a one-person crew on residential streets and some collectors, and up to two-person crews for major arterials, depending on traffic volumes and speeds. Edit as appropriate). The safety of field personnel is paramount in all instances.

The sample unit selected must be representative of the entire pavement section. This assumes that the section is homogenous; if it is not homogeneous, then the section must be split according to the criteria agreed upon by the agency. Typically, the criteria used are:

- Pavement condition
- Construction age, if known
- Maintenance history, if known
- Traffic volumes (or functional classification as a surrogate)
- Surface types (e.g. asphalt concrete or Portland cement concrete)
- Geometric elements (e.g. widths)

Any modifications to the section inventory data are documented in the pavement management report. A sample unit must be between $2,500 \pm 1,000$ square feet in conformance with ASTM D6433 protocols. Typical sample unit dimensions are 100 feet long by the width of the street. Streets that are wider than 40 feet wide will have shorter lengths (generally 50 feet) or if they are divided by a raised median, separate sample units will be taken in each direction.

Any pavement areas that are not representative of the section will be noted and surveyed as an additional sample unit.

Accuracy Required for Data Collection

The accuracy required for data collection has two components, both of which are further described in the following paragraphs.

- Re-inspections
- PCI comparisons with past surveys

Random and Systematic Re-Inspections

Random Re-inspections

Random re-inspections will include a representative selection across the following categories:

- Functional classes (i.e. MPAH, locals);
- Surface types (e.g. asphalt concrete or Portland cement concrete);
- Pavement conditions (e.g. good, fair, poor);
- Inspectors;
- Geographical areas, if applicable.

Systematic Re-inspections

For systematic re-inspections, this could be due to noticed trends such as specific treatment types (e.g. open-graded mixes), a specific inspector or geographical area. In such cases, more than 5% will be re-inspected.



Acceptability Criteria

At the time of re-inspection, the actual distresses will be re-inspected and verified, and any corrections made, if necessary. Distress types and severities must be the same and re-measured quantities within $\pm 10\%$ of the original measured quantity.

If corrections are required on more than 10% of the re-inspected sample unit, then an additional 5% will be re-inspected. This will continue until more than 95% of the re-inspected sections meet the acceptability criteria.

PCI Comparison with Past Surveys

As another level of quality control, the new PCIs are compared with the previous PCIs. If they differ by more than ± 10 PCI points, these sections are automatically flagged for further investigation.

If PCI Increases 10 points

The section is investigated to see if a maintenance and rehabilitation event has occurred since the last survey, but has not been recorded. Typically, it may include activities such as:

- Crack sealing activities – changes medium or high severity cracking to low severity
- Patching activities – alligator cracking that has been removed and patched, so that the resultant PCI is increased.
- Surface seals
- Overlay
- Others

Therefore, an up to date maintenance and rehabilitation history file in the pavement management database is desirable, both for historical accuracy as well as to provide additional quality control.

If PCI decreases 10 points

The section is checked to see if the average deterioration rate (usually 3 to 4 points per year) is exceeded. If the drop in PCI is within range of what is acceptable, no further action is required. If the drop is more than the acceptable range, a re-inspection will be performed. The default performance curves in the pavement management software form the basis for what is acceptable.



Inspector’s Qualifications and Experience

The Enter agency here inspectors have attended formal training on pavement condition distress surveys. This training was conducted prior to performing any work using the ASTM D6433 protocols, consistent with OCTA’s requirements.

Inspector Name	Date of ASTM D6433 Training	Training Conducted By:
Click here to enter	Click here to enter	Click here to enter
Click here to enter	Click here to enter	Click here to enter

Resumes of the technicians utilized on this project are included as an attachment.

Safety Procedures

The Enter agency here administers a health and safety program in compliance with the Cal Occupational Safety and Health Administration (OSHA) Title VIII, Section 3203. The program is documented in Enter document name here.

Generally, the safety procedures include (Edit as applicable to agency):

- Inspectors to wear a Class 2 or 3 safety vest at all times;
- Flashing beacon on all vehicles utilized for surveys; and
- Stopped vehicles to be parked at locations away from moving traffic (e.g. nearby parking, shoulders, etc.).
- Enter safety protocol here.

On streets where there is a high volume of traffic or high speeds, additional measures may be necessary, such as:

- Surveys to occur during off-peak periods or on weekends;
- Additional inspector to watch out for traffic; and
- Traffic flaggers in extreme cases.

Attachment – Appendix C: Resumes of Field Inspectors

---End of QA/QC Plan---



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XIV. Appendix D – Pavement Management Data Files

The Pavement Management data files shall be submitted to OCTA in spreadsheet format. This must include the following information:

- Street name and limits for all public streets
- Street identifiers (Branch ID, Section ID)
- Direction (if applicable)
- Beginning and ending of each section
- Length, widths, and true areas
- Functional Classification (MPAH, Local)
- Number of travel lanes
- PCI and date of inspection
- Type of recommended treatment
- Cost of recommended treatment

The Pavement Management data files are attached here as a CD, or included as Appendix D



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XV. Appendix E – GIS Maps – Current Conditions (Optional)

If included, attach and label Appendix E.



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Appendix B – Prequalified Pavement Inspection Consultants and Local Agencies

March 23, 2016 – Expires June 30, 2018

1. Bucknam Infrastructure Group
2. City of Cypress
3. Civil Source, Inc.
4. Dynatest
5. Fugro
6. GIE
7. NCE
8. Onward Engineering
9. City of Orange

April 21, 2017 – Expires June 30, 2019

1. Adhara Systems, Inc.
 - Jeff Vu
 - William Duong
2. Fugro Roadware, Inc. (Automated)
 - Shi Chang
 - Thomas Burchett
3. GMU
 - Armando Roa
 - Ashley Varni
4. Harris & Associates
 - Marissa Baclig
 - Mike DeVila
 - Paul Muse
 - Vijay Pulijal
5. IMS
 - Alan Sadowsky
 - David Butler
6. Marker Geospatial (Automated)
 - John Zimmer
 - Ken Huisaran
7. NCE
 - David Na
 - Jacob Rajnowski
8. Twining
 - Adrian Moreno
 - Amir Ghavjbazoo
 - David Hanna Ford
 - Paul Soltis
9. Vanderhawk
 - Mat Huff

February 15, 2018 – Expires June 30, 2020

1. Bucknam Infrastructure Group
2. Dynatest

* Firms prequalified at least one representative in both cycles
(x) Number of inspectors prequalified



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Appendix C – Recommendations for Pavement Inspectors

Since 2011, OCTA has completed prequalification studies which involved more than 30 inspectors and over 60 different pavement control sections. From one prequalification cycle to the next, OCTA made an effort to streamline and improve the process by learning from the observations made during each prequalification cycle. Following are recommendations for inspectors interested in participating in the prequalification program:

General

- Inspectors should have in their possession the latest edition of the Paver pocket guides for easy reference to distress definitions and severity levels during field surveys.
- It is important to accurately measure crack width in order to correctly identify the severity of distress.
- It is strongly advised that inspectors have a second person watch for traffic while they are conducting the surveys. Visually approximating quantities of distress and severities will most certainly result in inaccurate estimates of the PCI.

PCC Pavements

- There are a limited number of concrete pavements in Orange County. The majority of these pavements are old and in some instances the slabs are more than 50 feet long. According to ASTM D6433, slabs longer than 9m (29.5 feet) must be divided into imaginary joints that are considered to be in perfect condition.
- Missing joint seal on concrete pavement is recorded as high severity joint seal damage for the entire length of joints affected. Most PCC pavements in the county completely lack joint sealant.
- When surveying a PCC section, it is very important to make sketch of the slabs being evaluated. Without the sketch, it will be very difficult to correctly count and report distress.

Asphalt Concrete Pavements

- Several types of distress may occur in the same area. With few exceptions, all types of distress have to be recorded: e.g. raveling and alligator cracking.
- Measurements of rutting require the use of a straight edge of minimum 6 feet length. Repeated measurements are required to correctly identify the areas of rutting and severity levels. This type of measurement requires the help of a second person to watch for traffic. Remember that OCTA does not provide traffic control.

Surface Treatments

- ASTM D6433 does not include distresses specific to surface treatment such as slurry seals or chip seals. Inspectors should use their best judgment to evaluate the condition of the original asphalt concrete surface underneath the surface treatment.



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April 2, 2018

To: Regional Planning and Highways Committee
From: Darrell E. Johnson, Chief Executive Officer 
Subject: 2018 State Transportation Improvement Program Update

Overview

On March 21, 2018, the California Transportation Commission approved the final 2018 State Transportation Improvement Program, which includes several changes to the Orange County Transportation Authority's State Transportation Improvement Program submittal. An update on the changes is provided.

Recommendations

- A. Authorize the use of up to \$7.372 million in Surface Transportation Block Grant funds for the Interstate 5 improvements from Interstate 405 to State Route 55.
- B. Authorize an exchange of Measure M2 funds between three segments of the Interstate 5 Improvement Project.
 - Decrease Measure M2 funds by \$11 million for the Interstate 5 improvements from Alicia Parkway to El Toro Road,
 - Increase Measure M2 funds by \$9.1 million for Interstate 5 improvements from State Route 73 to Oso Parkway, and
 - Add Measure M2 funds for \$1.9 million for the Interstate 5 improvements from State Route 73 to El Toro Road Landscaping.
- C. Direct staff to work with the California Transportation Commission to deliver projects based on the existing project schedules.
- D. Authorize staff to process all necessary amendments to the Federal Transportation Improvement Program and execute or amend all necessary agreements to facilitate the above actions.

Background

The State Transportation Improvement Program (STIP) is a major source of funding for transportation improvements throughout the State of California. Every two years, state 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 five-year STIP, which is submitted to the California Transportation Commission (CTC) for approval and adoption. The CTC provided OCTA with an initial target of \$236.707 million for programming between fiscal years (FY) 2018-19 and FY 2023-24. Based on Board of Directors (Board) action from September 11, 2017, OCTA submitted a request for \$267.873 million in STIP funding to support seven Measure M2 (M2) projects and OCTA planning activities. This request was approximately \$31.166 million over Orange County's STIP share target and included a request to advance funding from future STIP cycles to fulfil OCTA early project delivery goals.

Discussion

The CTC approved the 2018 STIP on March 21, 2018, which decreased OCTA's STIP request from \$267.873 million to \$260.501 million. However, CTC's recommendation exceeded the Orange County programming target of \$236.707 million by \$23.794 million.

Project	2018 STIP (\$ millions)	STIP Year
I-5 Improvements from SR-73 to Oso Parkway (Segment 1)	\$73.735	2018-19
I-5 Improvements from Alicia Parkway to El Toro Road (Segment 3)	\$69.911	2022-23
I-5 Improvements from SR-73 to El Toro Road Landscaping	\$6.000	2022-23
I-5 Improvements from I-405 to SR-55	\$12.628	2022-23
SR-55 OC Central Corridor Improvements from I-405 to I-5	\$80.000	2021-22
SR-57 Truck Climbing Lane Phase 1 – Lambert Road Interchange Improvements	\$9.000	2018-19
SR-57 Truck Climbing Lane Phase 2 – Lambert Road to the Los Angeles County Line	\$4.000	2020-21
Planning, Programming, and Monitoring Activities	\$5.177	Varies
Total:	\$260.501	

I-5 – Interstate 5
 SR-73 – State Route 73
 I-405 – Interstate 405
 SR-55 – State Route 55
 SR-57 – State Route 57

This is the first STIP cycle in more than ten years which allowed advancement of future STIP cycle funds to be used for preconstruction activities, enabled due to passage of SB 1 (Chapter 5, Statutes of 2017).

OCTA's request for STIP funding was based on project delivery time lines that exceeded CTC funding targets derived from funding availability. With respect to the I-5 Widening Project between SR-73 and El Toro Road, OCTA was successful in receiving most of the funding requested for the earliest project phase, the I-5 Improvement Project from SR-73 to Oso Parkway (Segment 1), but had to reduce STIP funding by \$11 million to stay within the CTC funding limits in the early years. This adjustment requires a transfer of local funds from Alicia Parkway to El Toro Road (Segment 3) to Segment 1 and programming a portion of the STIP funds for the future landscaping project which occurs later.

STIP funding for the I-5 Improvement Project from Alicia Parkway to El Toro Road (Segment 3), and the SR-55 Orange County Central Corridor improvements from I-405 to I-5, is being provided in the last two years of the STIP, which is later than requested. Staff will work with CTC to find methods to keep these projects on schedule, including use of a statutory process where OCTA implements the project with local funds and is reimbursed by the state.

As part of the 2018 STIP process, OCTA pursued funding for the design phase of the I-5 Project from I-405 to SR-55. This is an M2 project that to date has been funded through the environmental phase as part of the Next 10 Plan. However, given congestion considerations and project readiness status, staff nominated this project to receive design funding since it aligned with STIP funding availability windows and positioned OCTA to avoid future cost escalation exposures. This project is nearing final approval, with final environmental clearance expected in November 2018. OCTA requested \$20 million for the design phase work and received \$12.628 million. Staff is recommending the use of \$7.372 million in federal Surface Transportation Block Grant Program funds. This is consistent with the Board-adopted Capital Programming Policies which directs these funds to support Next 10 projects.

Lastly, OCTA was also successful in advancing the funding schedule for the SR-57 Truck Climbing Lane Phase 1 – Lambert Road Interchange Project. This advancement was critical to better position this project for consideration of SB 1, Trade Corridor Enhancement Program funds.

Funding and programming adjustments, along with other minor adjustments, are detailed in Attachment A. The CTC project listing, including total funding by project, is listed in Attachment B, and the initial OCTA STIP submittal is provided in Attachment C. Project descriptions are provided in Attachment D.

A Capital Funding Program detailing the changes to projects is provided as Attachment E.

Summary

The CTC approved changes to OCTA's 2018 STIP, which results in the need for additional funding for the I-5 improvements from I-405 to SR-55, and the exchange of M2 funds between project segments for the I-5 Widening Project, between SR-73 and El Toro Road.

Attachments

- A. Individual Changes to Projects Submitted for the 2018 STIP
- B. 2018 STIP CTC Approved Projects
- C. 2018 STIP OCTA Submitted Projects
- D. 2018 State Transportation Improvement Program, Project Descriptions
- E. Capital Funding Program Report

Prepared by:



Ben Ku
Section Manager, Formula Funding Programs
(714) 560-5473

Approved by:



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

ATTACHMENT A**Individual Changes to Projects Submitted for the 2018 STIP**

Approved 2018 STIP	STIP Requested (\$million)	STIP Approved (\$million)	Change
I-5 Improvements from SR-73 to Oso Parkway (Segment 1)	\$90.735	\$73.735	Decrease STIP request by \$17 million. \$6 million was programmed for landscaping and the remaining \$11 million was programmed for the I-5 improvements from Alicia Parkway to El Toro Road.
I-5 Improvements from Alicia Parkway to El Toro Road (Segment 3)	\$58.911	\$69.911	Increase STIP request by \$11 million from the I-5 Improvements from SR-73 to Oso Parkway. Funding delayed from FY 2019-20 to FY 2022-23.
I-5 Improvements from SR-73 to El Toro Road (Replacement Planting/Landscaping)	\$0	\$6	New project. \$6 million in STIP from I-5 improvements from SR-73 to Oso Parkway and \$1.9 million in Measure M2 from I-5 improvements from Alicia Parkway to El Toro Road.
I-5 Improvements Project from I-405 to SR-55	\$20	\$12.628	Decrease STIP request by \$7.372 million due to STIP financial constraints.
SR-55 Orange County Central Corridor Improvement Project from I-405 to I-5	\$80	\$80	Funding delayed from FY 2020-21 to FY 2021-22.
SR-57 Truck Climbing Lane Phase I – Lambert Road Interchange Improvements	\$9	\$9	Funding was programmed for construction and advanced from FY 2019-20 to FY 18-19.
SR-57 Truck Climbing Lane Phase II – Lambert Road to County Line	\$4.050	\$4.050	Funding advanced from FY 2022-23 to FY 2020-21.
Planning, Programming and Monitoring	\$5.177	\$5.177	No change.
TOTAL	\$267.873	\$260.501	

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

This project is being separated from the I-5 improvements from SR-73 to Oso Parkway, and the I-5 improvements from Alicia Parkway to El Toro Road projects, which are part of Project C in Next 10. The funding for this project was previously included as part of the I-5 improvements from SR-73 to Oso Parkway, and I-5 improvements from Alicia Parkway to El Toro Road, and the replacement planting/landscaping is being separated from the two projects.

Individual Changes to Projects Submitted for the 2018 STIP

I-5 Improvements from I-405 to SR-55

The I-5 Improvement Project from I-405 to SR-55 is Project B of Next 10, and was submitted for APDE, which is an advancement of future STIP funds and independent of the STIP funding amounts. The APDE has a separate financial constraint limit which required OCTA's project to be reduced from \$20 million to \$12.628 million in STIP. OCTA staff is requesting approval of an additional \$7.372 million in STBG funding to account for the reduction in STIP funding. This usage of STBG funding is consistent with the Capital Programming Policies update that was approved by the OCTA Board of Directors in May 2017 that prioritized federal funds for Next 10 projects.

SR-55 Orange County Central Corridor Improvement Project from I-405 to I-5 and I-5 Improvements from Alicia Parkway to El Toro Road

These two projects have been delayed from our submittal by the CTC. OCTA staff will work with CTC staff and the California Department of Transportation to seek out methods to maintain the existing schedule. Potential options include a procedure detailed in AB 3090 (Chapter 1243, Statutes of 1992), which would allow OCTA to enter into either one of two types of arrangements under which a local agency pays for the delivery of a STIP project with its own funds in advance of the year in which the project is programmed. These arrangements are typically referred to as an "AB 3090 reimbursement" or an "AB 3090 replacement project". Additionally, staff will be in contact with CTC staff regarding potential STIP capacity that may allow for a STIP advancement.

Acronyms

STIP – State Transportation Improvement Program
I-5 – Interstate 5
SR-73 – State Route 73
FY – Fiscal year
I-405 – Interstate 405
SR-55 – State Route 55
SR-57 – State Route 57
APDE – Advance Project Development Element
OCTA – Orange County Transportation Authority
STBG – Surface Transportation Block Grant
CTC – California Transportation Commission

2018 STIP CTC Approved Projects

2018 STIP Approved (In Thousands)	STIP Funding						Other Funding				Total Project Cost
	2018-19	2019-20	2020-21	2021-22	2022-23	Total STIP	STBG/ CMAQ	STBG/ CMAQ Pending Approval	M2	Other ¹	
I-5 Improvements from SR-73 to Oso Parkway (Segment 1)	73,735					73,735	28,167		68,372	18,242	188,516
I-5 Improvements from Alicia Parkway to El Toro Road (Segment 3)					69,911	69,911	49,897		44,715		164,523
I-5 Improvements from SR-73 to El Toro Road (replacement planting/landscaping)					6,000	6,000			1,900		7,900
SR-55 Orange County Central Corridor Improvement from I-405 to I-5				80,000		80,000	103,805		110,327	116,800	410,932
SR-57 Truck Climbing Lane Phase I - Lambert Road Interchange Improvements	9,000					9,000			6,856	84,144	100,000
PPM	1,481			1,848	1,848	5,177					5,177
STIP Subtotal	84,216	-	-	81,848	77,759	243,823	181,869	-	232,170	219,186	877,048
APDE I-5 Improvements from I-405 to SR-55					12,628	12,628	8,000	7,372	5,000		33,000
APDE SR-57 Truck Climbing Lane Phase II - Lambert Road to County Line			4,050			4,050			250		4,300
Totals	84,216	-	4,050	81,848	90,387	260,501	189,869	7,372	237,420	219,186	914,348

1. Other funds include \$18.242 million in Local Partnership Program, \$46.8 million in State Highway Operations and Protection Program, \$70 million in Solutions for Congested Corridors Program, \$0.924 million in Demonstration funds, \$10.720 in Local City funds, \$65.705 million in Trade Corridors Enhancement Program, and \$6.795 million in Infrastructure for Rebuilding America 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
- I-5 - Interstate 5
- SR-73 - State Route 73
- SR-55 - State Route 55
- I-405 - Interstate 405
- SR-57 - State Route 57
- PPM - Planning, programming, and monitoring
- APDE - Advance Project Development Element

2018 STIP OCTA Submitted Projects

2018 STIP Submitted (In Thousands)	STIP Funding						Other Funding			Total Project Cost
	2018-19	2019-20	2020-21	2021-22	2022-23	Total STIP	STBG/ CMAQ	M2 ¹	Other ²	
I-5 Improvements from SR-73 to Oso Parkway (Segment 1) ^{3,4}	90,735					90,735	28,167	53,372	18,242	190,516
SR-55 Orange County Central Corridor Improvements from I-405 to I-5 ⁵			80,000			80,000	103,805	110,327	116,800	410,932
I-5 Improvements from Alicia Parkway to El Toro Road (Segment 3) ⁵		58,911				58,911	49,897	57,715		166,523
SR-57 Truck Climbing Lane Phase I - Lambert Road Interchange Improvements ³		9,000				9,000		6,500	29,650	45,150
PPM ³	1,481			1,848	1,848	5,177				5,177
STIP Subtotal	92,216	67,911	80,000	1,848	1,848	243,823	181,869	227,914	164,692	818,298
APDE										
I-5 Improvements from I-405 to SR-55 ⁵					20,000	20,000	8,000	5,000		33,000
APDE										
SR-57 Truck Climbing Lane ⁵					4,050	4,050		250		4,300
Totals	92,216	67,911	80,000	1,848	25,898	267,873	189,869	233,164	164,692	855,598

1. M2 for Lambert interchange is approved Comprehensive Transportation Funding Program funding. All other M2 funds are freeway program funds.

2. Other funds include \$18.242 million in Local Partnership Program, \$46.8 million in State Highway Operations and Protection Program, \$75 million in Solutions for Congested Corridors Program, \$0.7 million in Demonstration Funds, \$8.95 in Local City Funds and \$20 million in Trade Corridors Enhancement Program.

3. Carried over or partially carried over from 2016 STIP.

4. \$12.705 million STIP increase.

5. New 2018 STIP project.

Acronyms

STIP - State Transportation Improvement Program

OCTA - Orange County Transportation Authority

STBG - Surface Transportation Block Grant Program

CMAQ - Congestion Mitigation and Air Quality

M2 - Measure M2

I-5 - Interstate 5

SR-73 - State Route 73

SR-55 - State Route 55

I-405 - Interstate 405

SR-57 - State Route 57

PPM - Planning, Programming, and Monitoring

APDE - Advance Project Development Element

**2018 State Transportation Improvement Program
Project Descriptions**

Interstate 5 (I-5) Improvements from State Route 73 (SR-73) to Oso Parkway (Segment 1)

I-5 Improvements will add one general purpose lane in each direction from SR-73 to Oso Parkway, provide operational improvements, and reconstruct the interchange at Avery Parkway. 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.

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

The project will add one general purpose lane on the I-5 in each direction between Alicia Parkway and El Toro Road (approximately 1.7 miles), extend the second high-occupancy vehicle (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.

I-5 Improvements from SR-73 to El Toro Road (Replacement Planting/Landscaping) – New Project

This project will replace planting and install landscaping associated with the I-5 improvements from SR-73 to El Toro Road. This is part of Project C in Next 10.

I-5 Improvements from Interstate 405 (I-405) to State Route (SR-55) – Advance Project Development Element

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.

2018 State Transportation Improvement Program Project Descriptions

SR-55 Orange County Central Corridor Improvement Project I-405 to I-5

This project will add new 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. This project is located in the cities of Irvine, Santa Ana, and Tustin.

Future traffic demand is anticipated to increase traffic volumes to levels which will increase traffic congestion, increase travel delays, and reduce travel speeds. It is anticipated that without additional major capital improvements, the level of service for the majority of the study area in the northbound and southbound directions would be unacceptable during AM and PM peak periods. This is Project F in the Next 10 Plan.

State Route 57 (SR-57) Truck Climbing Lane Phase I – Lambert Road Interchange Improvements

Project work consists of reconfiguration of the northbound ramps, including construction of a loop on-ramp at the southeast quadrant, realignment of the southbound ramps, as well as adding a fourth approach lane along the southbound off-ramp, and widen the south side of Lambert Road to provide dual exclusive eastbound right turn lanes into the southbound on-ramp.

The SR-57 Lambert Road interchange is presently characterized by poor operational performance during peak traffic periods, and operational performance will further deteriorate with increase in anticipated future traffic volumes. The purpose of this project is to provide additional capacity and improve overall operational performance of the interchange. The proposed alternates should help mitigate the current congestion and better accommodate anticipated future traffic increases, thereby minimizing delays and potential safety hazards. Additionally, the corridor experiences a high amount of truck traffic, and these improvements will help improve truck travel speeds.

SR-57 Truck Climbing Lane Phase II – Lambert Road to County Line. Advance Project Development Element

State Transportation Improvement Program funding is proposed for the project approval and environmental document phase of this project that will construct 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.

2018 State Transportation Improvement Program Project Descriptions

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. PPM funds will be used to develop project study reports and provide environmental clearance for projects, thus creating a shelf of projects for the future.

The PPM will support consultants and staff in developing the Long-Range Transportation Plan, 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.



Capital Funding Program Report

Pending Board of Directors (Board) Approval - April 9, 2018

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 1 HOV lane each direction	A	\$39,052			\$33,743			\$5,309	
I-5 (I-405 to SR-55) capacity enhancement ¹	B	\$33,000	\$12,628		\$15,372			\$5,000	
I-5 from SR-73 to El Toro Road Landscaping/Replacement Planting ²	C	\$7,900	\$6,000					\$1,900	
I-5 HOV lane each direction s/o PCH to San Juan Creek Rd.	C	\$70,658		\$20,789	\$11,796			\$38,073	
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 HOV, HOV lanes from s/o Av. Vista Hermosa to s/o PCH	C	\$71,100	\$46,779		\$13,472			\$10,849	
I-5 Widening (Alicia to El Toro) Seg ³	C	\$164,523	\$69,911		\$49,897			\$44,715	
I-5 Widening (Oso to Alicia) Segment 2	C	\$196,167			\$47,631			\$148,536	
I-5 Widening (SR-73 to Oso) Segment 1 ⁴	C	\$188,516	\$91,977		\$28,167			\$68,372	
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 OC Central Corridor Improvements from I-405 to I-5 ⁵	F	\$410,932	\$150,000		\$103,805	\$46,800		\$110,327	
SR-57 Orangewood to Katella	G	\$2,500			\$2,500				
SR-57 Truck Climbing Aux Lane: Lambert -LA County Line ⁶	G	\$4,300	\$4,050					\$250	
SR-91 WB connect existing auxiliary lanes, I-5 to SR-57	H	\$62,977		\$27,227				\$35,750	
SR-91 (SR-57 to SR-55) Operational Improvements	I	\$9,000			\$7,000			\$2,000	
SR-91 WB (SR-55 - Tustin Interchange) Improvements	I	\$46,270	\$18,270	\$14,000				\$14,000	
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 Interchange	M	\$1,200						\$1,200	
SR-57 n/b widening, Katella Avenue to Lincoln Avenue	M1/G	\$34,428		\$24,127				\$10,301	
241/91 Express Lanes (HOT) Connector		\$183,557							\$183,557
SR-74 widening, Calle Entradero-City/County line		\$42,694	\$5,513						\$37,181
SR-74 widening, City/County line to Antonio Parkway		\$40,905	\$10,000		\$5,285				\$25,620
State Highway Project Totals		\$3,619,848	\$543,191	\$93,914	\$402,809	\$59,048		\$1,645,598	\$875,288
State Funding Total		\$637,105							
Federal Funding Total		\$461,857							
Local Funding Total		\$2,520,886							
Total Funding (000's)		\$3,619,848							

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/Route 74 Interchange Landscaping/Replacement Planting	D	\$1,440	\$688			\$752			
I-5/SR-74 Interchange Improvements	D	\$80,300	\$48,683	\$24,109			\$2,500		\$5,008
SR- 57 n/b widening, Katella Avenue to Lincoln Avenue - Landscaping	G	\$4,650		\$4,650					
SR- 57 N/B widening, SR-91 to Yorba Linda Boulevard- Landscaping	G	\$1,070						\$1,070	



Capital Funding Program Report

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
SR-57 n/b widening, Yorba Linda to Lambert Road landscaping	G	\$2,688						\$2,688	
SR-91 eastbound widening, SR-241 to SR-71	J	\$57,611				\$47,888			\$9,723
SR-91 w/b Rte 91/55 - e/o Weir Replacement Planting	J	\$2,898	\$2,898						
SR-91 WB connecting existing auxiliary lanes, I-5 to SR-57- Landscaping	J	\$2,290						\$2,290	
SR-91 Widening, SR-55 to Gypsum Canyon (Weir/SR-241)	J	\$77,510	\$59,573	\$17,937					
SR-57 N/B widening, SR-91 to Yorba Linda Boulevard	M1/G	\$50,659		\$40,925				\$9,734	
SR-57 N/B widening, Yorba Linda to Lambert Road	M1/G	\$52,709		\$41,250				\$11,459	
I-405/SR-22/I-605 HOV Connector - Landscaping		\$4,600						\$4,600	
I-5 at Jamboree off ramp and auxiliary lane		\$8,485	\$8,485						
I-5 S/B AT OSO PKWY EXIT LANE & INTRCHNGE IMPROV		\$22,872	\$22,773						\$99
I-5 San Clemente Avenida Vaquero Soundwall		\$2,754	\$2,754						
I-5 soundwall, at El Camino Real		\$4,995	\$4,995						
I-5, Camino Capistrano Interchange Improvements		\$19,151	\$19,151						
SR-55 Continuous Access HOV restriping environmental		\$1,500							\$1,500
SR-55 southbound aux. lanes, Dyer Rd to MacArthur (env)		\$2,397	\$2,397						
SR-90 Imperial Hwy Enhancement & Mitigation Planting		\$1,669	\$1,669						
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		
I-5at Gene Autry Way (west) - HOV Drop ramps	M1	\$68,199			\$35,644	\$9,883	\$8,601		\$14,071
State Highway Project Totals		\$759,416	\$174,066	\$264,301	\$114,806	\$108,148	\$29,179	\$31,841	\$37,075
State Funding Total		\$438,367							
Federal Funding Total		\$222,954							
Local Funding Total		\$98,095							
Total Funding (000's)		\$759,416							

Board Action:

1. STIP funds decreased from \$20 million to \$12.628 million. STBG increased from \$8 million to \$15.372 million.
2. New 2018 STIP Project.
3. STIP funds increased from \$58.911 million to \$69.111 million. M2 decreased from \$57.715 million to \$44.715 million.
4. STIP funds decreased from \$90.735 million to \$73.735 million. M2 funds increased from \$54.448 million to \$69.448 million.
5. Updated M2 and Other funds to match Solutions for Congested Corridors submittal.
6. No Change.



Capital Funding Program Report

Pending Board Approval - April 9, 2018

Local Road 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
State-Local Partnership Program (SLPP) Formula Grant Call	M1/Q	\$54,445		\$24,945			\$1,280	\$27,249	\$971
Kraemer Boulevard Grade Separation	O	\$63,462	\$1,460	\$15,513	\$22,044			\$22,613	\$1,832
Lakeview Avenue Grade Separation	O	\$107,402		\$26,924	\$35,411	\$9,709		\$24,783	\$10,575
Measure M2 Project O Regional Capacity Program Call for Projects	O	\$254,629		\$22,979				\$231,650	
Orangethorpe Avenue Grade Separation	O	\$108,600		\$34,520	\$38,240	\$18,600		\$14,543	\$2,697
Placentia Grade Separation along SS of Orangethorpe	O	\$64,444	\$6,040	\$27,346				\$27,356	\$3,702
Raymond Avenue Grade Separation	O	\$124,833		\$90,767				\$26,350	\$7,716
SR-57 Truck Climbing Lane Phase I- Lambert Road Interchange Improvement ⁷	O	\$100,000	\$74,705			\$7,719		\$6,856	\$10,720
State College Grade Separation	O	\$96,969		\$34,042	\$27,376	\$13,290		\$11,243	\$11,018
Tustin Ave/Rose Drive Grade Separation	O	\$98,254		\$25,473	\$53,376			\$17,642	\$1,763
M2 Project P Regional Signal Synchronization Program Call	P	\$70,471						\$70,471	
M2 Project Q Fair Share Program (FY 16-17 through FY 21-22)	Q	\$341,947						\$341,947	
Measure M2 Project X Environmental Clean Up	X	\$43,214						\$43,214	
Active Transportation Program - Regional Call		\$47,507	\$92		\$696	\$41,329			\$5,390
ARRA Transportation Enhancements		\$6,833				\$4,049	\$500		\$2,284
Arterial Pavement Management Program		\$50,888			\$19,930				\$30,958
Atlanta Avenue Widening		\$4,160			\$2,278				\$1,882
Bicycle Corridor Improvement Program		\$34,093			\$28,427				\$5,666
Bristol Street Widening		\$44,750							\$44,750
Local Agency American Reinvestment and Recovery Act of 2009 Rehab Projects		\$32,369				\$32,369			
M1 Combined Transportation Funding Program (CTFP)		\$34,000					\$34,000		
SCAG Sustainability Planning Grants		\$720				\$671			\$49
Transportation Enhancement Activities		\$22,172				\$15,628			\$6,544
Del Obispo Widening	M1	\$6,419			\$3,740				\$2,679
Local Road Project Totals		\$1,812,581	\$82,297	\$302,509	\$231,518	\$143,364	\$35,780	\$865,917	\$151,196
State Funding Total		\$384,806							
Federal Funding Total		\$374,882							
Local Funding Total		\$1,052,893							
Total Funding (000's)		\$1,812,581							

Local Road 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
Grand Avenue Widening, 1st Street to 4th Street	O	\$12,537			\$6,708				\$5,829
M2 Fair Share State-Local Partnership Grant Program	Q	\$7,032		\$3,516				\$3,516	
Antonio Parkway Widening		\$32,553			\$15,499				\$17,054
Firestone Boulevard Widening at Artesia Boulevard		\$2,468			\$2,059				\$409
I-5 at La Paz Interchange Improvements	M1	\$8,942			\$2,800		\$1,792		\$4,350



Capital Funding Program Report

Local Road 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
Imperial Highway Smart Streets	M1	\$1,900		\$200			\$200		\$1,500
Traffic Light Synchronization Program (TLSP), County Wide - Proposition 1B	M1	\$8,000		\$4,000			\$4,000		
Local Road Project Totals		\$73,432		\$7,716	\$27,066		\$5,992	\$3,516	\$29,142
State Funding Total		\$7,716							
Federal Funding Total		\$27,066							
Local Funding Total		\$38,650							
Total Funding (000's)		\$73,432							

Acronyms:

- Board - Board of Directors
- 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
- I-5 - Interstate 5
- SR-55 - State Route 55
- SR-57 - State Route 57
- HOV - High-Occupancy Vehicle
- I-405 - Interstate 405
- SR-73 - State Route 73
- S/O - South of
- PCH - Pacific Coast Highway
- Seg - Segment
- SR-91 - State Route 91
- Aux - Auxiliary
- LA - Los Angeles
- W/B - Westbound
- I-605 - Interstate 605
- S/B - Southbound
- SR-133 - State Route 133
- N/B - Northbound
- HOT - High-Occupancy Toll
- SR-241 - State Route 241
- SR-74 - State Route 74
- SR-71 - State Route 71
- E/O - East of
- SR-22 - State Route 22
- SR-90 - State Route 90
- SS - South Side
- FY - Fiscal Year
- ARRA - American Recovery and Reinvestment Act
- SCAG - Southern California Association of Governments

Board Actions:

- 7. Updated to match Trade Corridor Enhancement Program submittal.



April 2, 2018

To: Regional Planning and Highways Committee
From: Darrell E. Johnson, Chief Executive Officer 
Subject: Amendment to the Master Plan of Arterial Highways

Overview

The Orange County Transportation Authority administers the Master Plan of Arterial Highways, including the review and approval of amendments requested by local agencies. The County of Orange has requested an amendment to the Master Plan of Arterial Highways that is recommended for approval. A status update on the active Master Plan of Arterial Highways amendments is also provided.

Recommendations

- A. Approve an amendment to the Master Plan of Arterial Highways for the following:
- Reclassify Esperanza Road, between Imperial Highway and the Fairmont Boulevard Connector, from a major (six-lane, divided) to a primary (four-lane, divided) arterial;
 - Reclassify Fairmont Boulevard Connector, between Esperanza Road and Fairmont Boulevard, from a major (six-lane, divided) to a primary (four-lane, divided) arterial;
 - Reclassify Los Patrones Parkway, between Chiquita Canyon Road to Cow Camp Road, from a primary (four-lane, divided) to secondary (four-lane, undivided) arterial; and
 - Add Los Patrones Parkway, south of Oso Parkway to Chiquita Canyon Road, as a secondary (four-lane, undivided) arterial.

The proposed amendment will become final, contingent upon the Orange County Transportation Authority receiving documentation that the County of Orange and City of Yorba Linda have amended their respective general plans and have complied with the requirements of the California Environmental Quality Act.

If the original proposed Master Plan of Arterial Highways amendment is modified as a result of the California Environmental Quality Act and/or general plan amendments processes, the modified Master Plan of Arterial Highways amendment shall be returned to the Orange County Transportation Authority's Board of Directors for consideration.

- B. Direct the Executive Director of Planning, or his designee, to file a Notice of Exemption from the California Environmental Quality Act in support of the amendment to the Master Plan of Arterial Highways.
- C. Receive and file a status report on active Master Plan of Arterial Highways amendments.

Background

Proposed amendments to the Master Plan of Arterial Highways (MPAH) are submitted to the Orange County Transportation Authority (OCTA) Board of Directors (Board) on a quarterly basis. Details on this proposed MPAH amendment request and a status update on active MPAH amendments are provided below.

Discussion

The County of Orange (County) has submitted letters requesting changes to the MPAH (Attachment A and Attachment B) for the following:

- Reclassify Esperanza Road, between Imperial Highway and the Fairmont Boulevard Connector, from a major (six-lane, divided) to a primary (four-lane, divided) arterial;
- Reclassify Fairmont Boulevard Connector, between Esperanza Road and Fairmont Boulevard, from a major (six-lane, divided) to a primary (four-lane, divided) arterial;
- Reclassify Los Patrones Parkway, between Chiquita Canyon Road to Cow Camp Road, from a primary (four-lane, divided) to secondary (four-lane, undivided) arterial; and
- Add Los Patrones Parkway, south of Oso Parkway to Chiquita Canyon Road, as a secondary (four-lane, undivided) arterial.

The requested amendment is illustrated in Attachment C.

Esperanza Road and Fairmont Boulevard Connector

Esperanza Road and the Fairmont Boulevard Connector are within the jurisdictions of the County and City of Yorba Linda (Yorba Linda). However, the County is serving as the lead agency on this MPAH amendment request. Yorba Linda has indicated their support for the County to serve as lead in the attached letter (Attachment D).

The proposed reclassifications would support the County's efforts to complete the Orange County Loop: 66 miles of regional connections for people to bike, walk, and connect to some of California's most scenic beaches and inland reaches. Approximately 75 percent is already in place, with nearly 46 miles of existing off-street trails along the San Gabriel River, Coyote Creek, Santa Ana River, and the Coastal/Beach Trail. This proposed MPAH amendment would allow the County to reconfigure Esperanza Road and the Fairmont Boulevard Connector to accommodate a protected bikeway within the existing right-of-way. This project would complete a gap connection between the El Cajon Trail and the Santa Ana River Trail.

Current and future (year 2040) traffic volumes along the proposed segments are estimated between 15,000 and 20,000 average daily traffic (ADT). These traffic volumes are within the acceptable level of service for primary (four-lane, divided) arterials, which is typically between 20,000 and 30,000 ADT. Also, with regard to adjacent facilities owned and operated by the City of Anaheim (Anaheim) and the California Department of Transportation (Caltrans), there are no anticipated impacts due to the relatively low traffic volumes. Both Anaheim and Caltrans have provided letters of support for the County's MPAH amendment request (Attachments E and F). As such, the proposed reclassifications are expected to be feasible from a technical and local support perspective.

Los Patrones Parkway

The proposed new roadway, Los Patrones Parkway, is located within Unincorporated Area of Orange County, with the northern terminus adjacent to the City of Rancho Santa Margarita and State Route 241. Los Patrones Parkway has been planned as a secondary arterial to support the Rancho Mission Viejo development. This arterial designation is consistent with various approved environmental documents and legal agreements held by the County.

The roadway is currently under construction and scheduled to open for public use by summer 2018. Los Patrones Parkway is expected to accommodate future volumes estimated to be approximately 30,000 ADT. Roadway design includes enhancements such as a minimum eight-foot median, limited access points, higher design speed, and enhanced intersection designs. These features allow for an operating capacity that is considerably higher than the typical 20,000 ADT for a conventional secondary arterial highway on the MPAH. As such, the proposed addition of Los Patrones Parkway is expected to be feasible.

California Environmental Quality Act

Amendments to the MPAH are not projects subject to the California Environmental Quality Act (CEQA) or, alternatively, are exempt from CEQA review. As such, if the Board approves the recommendations, OCTA will file a Notice of Exemption from CEQA in support of the proposed amendment to the MPAH.

Status Update

There are currently 33 active amendments proposed for the MPAH (Attachment G). Many of these amendment requests are awaiting local action to amend their respective general plans. Others are either under review, are in the cooperative study process, are pending resolution of issues with other agencies, or are awaiting refinement of development plans.

Summary

The County has requested an amendment to the MPAH. Based upon the information provided by the County, the requirements of the MPAH have been satisfied, and Board approval of staff's recommendations is requested. A summary of active MPAH amendments is also provided for the Board review.

Attachments

- A. Letter from Nardy Khan, P.E., P.M.P., Deputy Director, Infrastructure Programs, OC Public Works, to Joe Alcock, Section Manager, Corridor Studies and Long Range Planning, Orange County Transportation Authority, Dated February 27, 2018, Subject: MPAH Amendment Request for Esperanza Road and Fairmont Boulevard Connector
- B. Letter from Nardy Khan, P.E., P.M.P., Deputy Director, Infrastructure Programs, OC Public Works, to Carolyn Mamaradlo, Senior Transportation Analyst, Orange County Transportation Authority, Dated March 13, 2018, Subject: MPAH Amendment Request for Los Patrones Parkway
- C. County of Orange, MPAH Amendment Request
- D. Letter from Brad Fowler, Interim Director of Public Works/City Engineer, City of Yorba Linda, to Nardy Khan, P.E., P.M.P., Deputy Director, Infrastructure Programs, OC Public Works, Dated March 7, 2018, Subject: OC Public Works Led MPAH Amendment Request for Esperanza Road and Fairmont Boulevard
- E. Letter from Rudy Emami, P.E., Public Works Director, City of Anaheim, to Jamie N. Reyes, PE, OC Public Works, Dated March 1, 2018, Subject: Support for the Proposed Amendment to the Master Plan of Arterial Highways for Esperanza Road and Fairmont Connector and Consent to Orange County Public Works to Act as the Lead for the MPAH Amendment Effort
- F. Letter from Marlon Regisford, Branch Chief, Regional-IGR-Transit Planning, District 12, California Department of Transportation, to Ms. Jamie Reyes, Orange County Public Works, Dated February 28, 2018
- G. Status Report on Active Master Plan of Arterial Highways Amendments

Prepared by:



Carolyn Mamaradlo
Senior Transportation Analyst
(714) 560-5748

Approved by:



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



February 27, 2018

Mr. Joe Alcock
Section Manager, Corridor Studies and Long Range Planning
Orange County Transportation Authority
550 S Main Street
Orange, CA 92863-1584

Subject: MPAH Amendment Request for Esperanza Road and Fairmont Boulevard Connector

Dear Mr. Alcock,

OC Public Works (OCPW) is requesting formal initiation of a MPAH Amendment process that includes Esperanza Road and Fairmont Boulevard Connector located within Unincorporated County of Orange and the City of Yorba Linda.

OCPW proposes modifications to the MPAH of the following arterial facilities:

- Reclassification of Esperanza Road, between Imperial Highway and Fairmont Connector, from its current Major Arterial designation to a Primary Arterial; and
- Reclassification of Fairmont Boulevard Connector, between Esperanza Road and Fairmont Boulevard), from its current Major Arterial designation to a Primary Arterial.

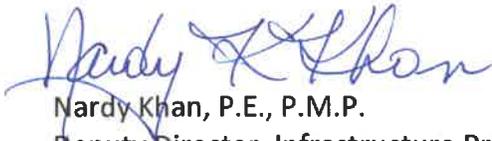
The reclassification would occur to facilitate a County roadway project to reconfigure Esperanza Road and Fairmont Connector to add bicycle facilities. The Esperanza Road Bikeway Improvement Project is identified as Segment H in the Orange County Transportation Authority (OCTA) Bikeway Collaborative Plan.

The project goal is a continuous bikeway facility that will connect the El Cajon Trail to the Santa Ana River Trail. Furthermore, it will complete an additional segment of the 66 mile long Orange County (OC) Loop multi-use trail. It will be available and accessible to a wide range of users and improve bike safety by providing a bike lane as well as separated paved, off-road and on-road bikeways protected from vehicle traffic.

The requested MPAH change for Esperanza Road is primarily within Unincorporated Orange County, with the eastern portion within the City of Yorba Linda. The change for Fairmont Boulevard Connector is entirely within the City of Yorba Linda. Other stakeholders of the Project include the City of Anaheim, Caltrans, and OCTA.

Should you have any questions regarding this request, please contact Jamie Reyes at (714) 647-3903.

Sincerely,



Nardy Khan, P.E., P.M.P.
Deputy Director, Infrastructure Programs
OC Public Works

cc: Carolyn Mamaradlo, OCTA
Fiona Man, OC Public Works/Programming
Jamie Reyes, OC Public Works/Traffic & Design



March 13, 2018

Ms. Carolyn Mamaradlo
Senior Transportation Analyst
Orange County Transportation Authority
550 S Main Street
Orange, CA 92863-1584

Subject: MPAH Amendment Request for Los Patrones Parkway

Dear Ms. Mamaradlo,

OC Public Works (OCPW) is requesting formal initiation of a MPAH Amendment process that includes Los Patrones Parkway (LPP), also known as "F" Street, located primarily within Unincorporated Area of the County of Orange.

OCPW proposes the following modifications to the MPAH:

- Addition of Los Patrones Parkway south of Oso Parkway to Chiquita Canyon Road as a Secondary Arterial; and
- Reclassification of Los Patrones Parkway south of Chiquita Canyon Road to Cow Camp Road from its current Primary Arterial designation to a Secondary Arterial.

The requested MPAH changes are primarily within Unincorporated Area of Orange County, with the northern terminus of LPP adjacent to the City of Rancho Santa Margarita.

LPP was planned and designed as an enhanced capacity Secondary Arterial that can accommodate a higher than typical volume for a 4-lane highway. Some of these enhancements include minimum 8-foot wide median, limited access points, higher design speed, and enhanced intersection design for the signalized intersections at each end of the roadway. These features allow for an operating capacity that is considerably higher than the typical 20,000 ADT for a conventional Secondary Arterial Highway on the MPAH.

Using the Secondary Arterial designation for LPP recognizes the historical origins of the facility from the Ranch Plan EIR:

- **Environmental Impact Report (EIR) 589 for The Ranch Plan, approved November 8, 2004**
“F” Street was first addressed in EIR 589 and considered as an alternative to any delay of implementation or removal of the Foothill Transportation Corridor extension to the south. The “F” Street alternative was recognized in a resolution of the Board of Supervisors on November 8, 2004 as *“a secondary arterial linking Cow Camp Road to the existing SR-241 at Oso Parkway if the Foothill Transportation Corridor is not extended”*.
- **Amendment to the Master Plan of Arterial Highways, approved by OCTA September 27, 2010**
The amendment includes the addition of the Rancho Mission Viejo (RMV) development circulation plan to the MPAH. The amendment request was initiated by the County and proposed to add “F” Street as a secondary (4-lane, undivided) arterial from its east terminus at Cow Camp Road extending northwesterly to connect with the proposed SR-241. The label “F” Street, in this instance, was used for consistency with the nomenclature of the roadways within the (2010) Ranch Circulation Plan, and is inconsistent with the use of the label “F” Street in all other documents summarized herein.
- **Los Patrones Project Report (PR) Traffic Study, dated February 2015**
The traffic study prepared for the PR assumes F Street as a modified Rural Secondary Highway that runs in the north-south direction between its two termination points at Oso Parkway and Cow Camp Road. The project roadway was assumed to have two 12-foot through lanes with 8-foot shoulders, varying median width, and a proposed design speed of 70 mph.

The traffic analysis showed opening day average daily traffic (ADT) volumes of 18,000 south of Oso Parkway and 9,000 north of CCR. The corresponding 2035 forecasted volumes are 39,000 and 24,000, respectively. The key elements of the capacity analysis in the PR traffic study were the signalized intersection at Oso Parkway and Cow Camp Road, and the interchange ramp connections to Chiquita Canyon Drive.

- **“F” Street Addendum to FEIR 584 and 589, administratively approved March 4, 2015**
The purpose of the addendum was to analyze the potential differences between the impacts evaluated in FEIR 584 (for the Southern Subregion Habitat Conservation Plan) and FEIR 589 and those that would be associated with the construction of “F” Street between Cow Camp Road and Oso Parkway. The proposed alignment was modified slightly from the alignment evaluated in EIR 584 and 589. The northerly half of the alignment was shifted to the west and horizontal and vertical curve radii were increased to accommodate higher design speed and provide fewer impacts to sensitive habitat. The Addendum describes that there are no significant impacts resulting from the modified alignment.

The requested designation of LPP as a Secondary Arterial Highway on the MPAH is consistent with its designed operational capacity and anticipated traffic volumes. The County will continue to monitor traffic volumes on LPP on a biennial frequency and will recommend adjustments to the MPAH if future demand exceeds its designed capacity.

Concurrently, OCPW is amending the County's General Plan to be consistent with this MPAH amendment request.

Should you have any questions regarding this request, please contact Jamie Reyes at (714) 647-3903.

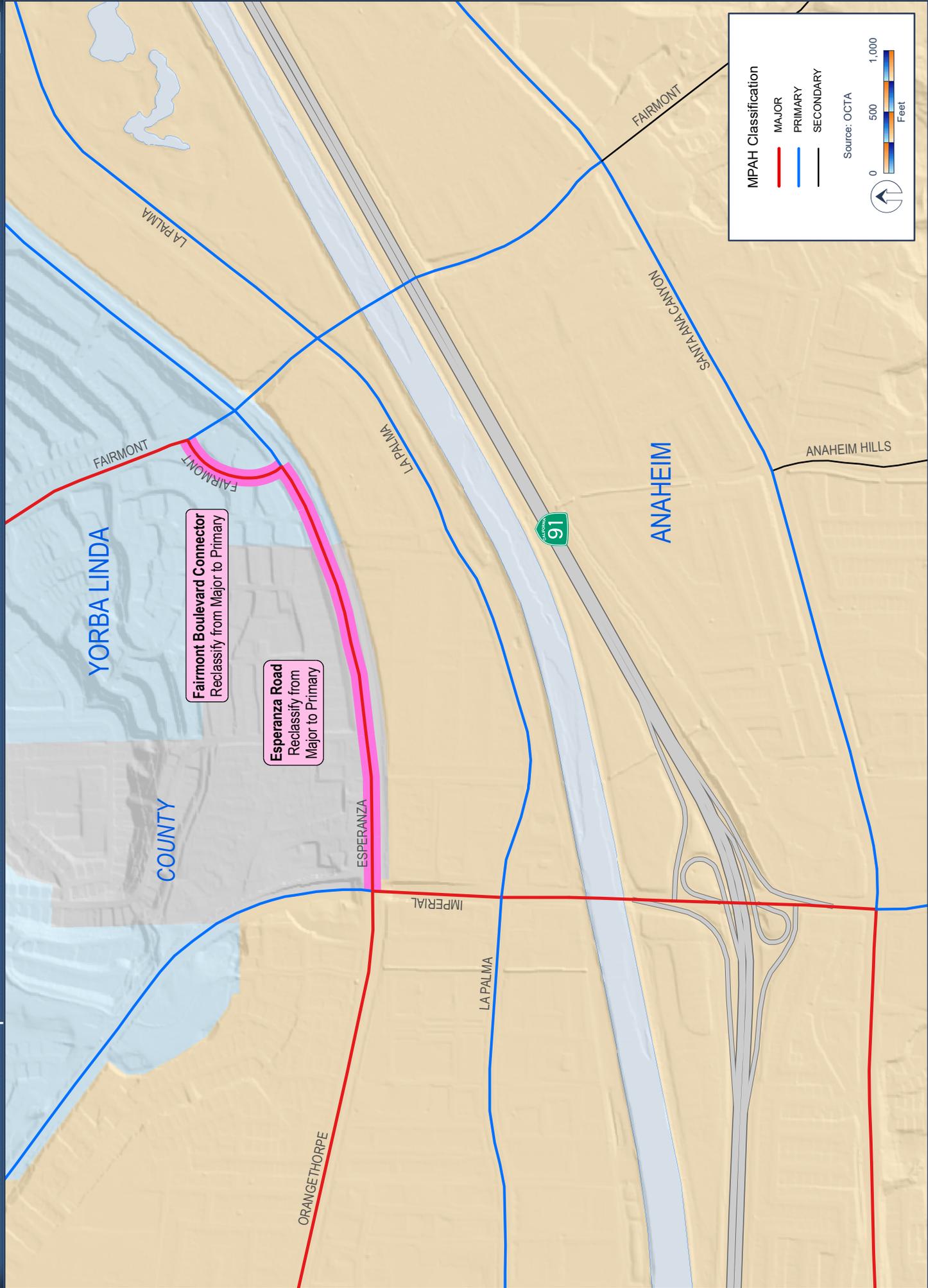
Sincerely,

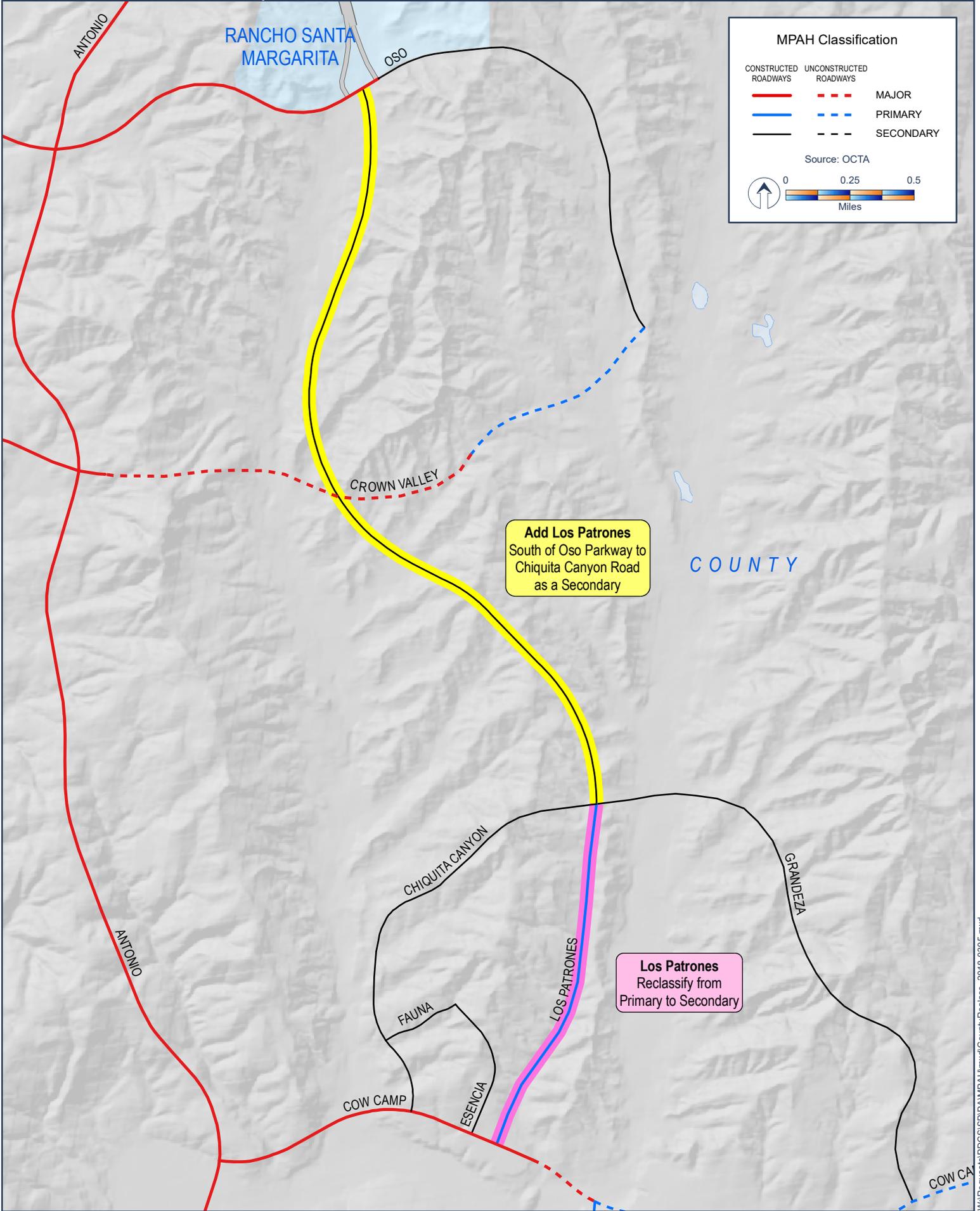


Nardy Khan, P.E., P.M.P.
Deputy Director, Infrastructure Programs
OC Public Works

cc: Kurt Brotcke, Director of Strategic Planning, OCTA
Edward Frondoso, County Traffic Engineer, OCPW
Jamie Reyes, Civil Engineer, OCPW

County of Orange
MPAH Amendment Request





MPAH Classification

CONSTRUCTED ROADWAYS	UNCONSTRUCTED ROADWAYS	
		MAJOR
		PRIMARY
		SECONDARY

Source: OCTA

0 0.25 0.5
Miles

Add Los Patrones
South of Oso Parkway to
Chiquita Canyon Road
as a Secondary

Los Patrones
Reclassify from
Primary to Secondary



CITY OF YORBA LINDA

4845 CASA LOMA AVE
CALIFORNIA 92885-8714

(714)961-7170
FAX (714) 986-1010

ENGINEERING / PUBLIC WORKS

March 7, 2018

Nardy Khan, P.E., P.M.P
Deputy Director, Infrastructure programs
OC Public Works
300 N. Flower Street
Santa Ana, CA 92705

Subject: OC Public Works Led MPAH Amendment Request for Esperanza Road and
Fairmont Boulevard

Dear Mr. Khan,

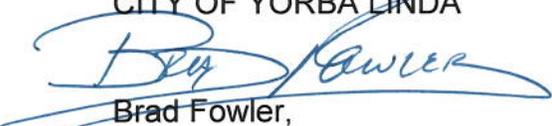
This letter responds to your correspondence dated February 27, 2018 regarding OC Public Works (OCPW) proposal to reclassify the following arterials:

- Esperanza Road, between Imperial Highway and Fairmont Connector, from its current Major Arterial designation to a Primary Arterial: and
- Fairmont Boulevard Connector, between Esperanza Road and Fairmont Boulevard, from its current Major Arterial designation to a Primary Arterial.

The City of Yorba Linda supports your request for OCPW to take the lead in this MPAH Amendment for Orange County Transportation Authority (OCTA) Board approval. We understand that this reclassification would occur in conjunction with a proposed roadway project to reconfigure Esperanza Road and Fairmont Connector to add bicycle facilities. The Esperanza Road Bikeway Improvement Project is identified as Segment H in the OCTA Bikeway Collaborative Plan. Furthermore, it will complete an additional segment of the 66-mile long Orange County (OC) Loop multi-use trail.

Please feel free to contact me at 714-961-7170 should you have any questions.

Sincerely,
CITY OF YORBA LINDA


Brad Fowler,
Interim Director of Public Works/City Engineer

City of Anaheim
DEPARTMENT OF PUBLIC WORKS

March 1, 2018

Jamie N. Reyes, PE
OC Public Works
300 N. Flower St.
Santa Ana, CA 92705

Subject: Support for the Proposed Amendment to Master Plan of Arterial Highways for Esperanza Road and Fairmont Connector and Consent to Orange County Public Works to Act as the Lead for the MPAH Amendment Effort

Dear Ms. Reyes:

The City of Anaheim is pleased to support the Orange County Public Works (OCPW) request to the Orange County Transportation Authority (OCTA) for approval of an amendment to the Master Plan of Arterial Highways. We also agree and support OCPW acting as the lead for this MPAH Amendment effort. This amendment would reclassify Esperanza Road between Imperial Highway and Fairmont Connector, from its current Major Arterial designation to a Primary Arterial. The amendment would also reclassify the Fairmont Boulevard Connector, between Esperanza Road and Fairmont Boulevard, from its current Major Arterial designation to a Primary Arterial. We appreciate this opportunity to comment, as this roadway segment is adjacent to the City of Anaheim.

As indicated in the attached letter from OCPW dated February 27, 2018, the proposed MPAH amendment is requested in conjunction with a proposed roadway project to reconfigure Esperanza Road and Fairmont Connector to add bicycle facilities. The Esperanza Road Bikeway Improvement Project is identified as Segment H in the OCTA Bikeway Collaborative Plan. As indicated in the attached letter, the project goal is a continuous bikeway facility that will connect the El Cajon Trail to the Santa Ana River Trail. This project will complete an additional segment of the 66-mile long Orange County (OC) Loop multi-use trail. It will also be available and comfortable to a wide range of users and improve bike safety by providing a bike lane as well as a separated paved, off-road and on-road bikeway protected from vehicle traffic.

Our staff has reviewed the proposed amendment and supports the change as it is consistent with the vision for the area to complete the OC Loop, which will help provide additional bicycling opportunities and help decrease auto travel.



Amendment to Master Plan of Arterial Highways (Esperanza Road and Fairmont Connector) and Consent to Orange County Public Works to Act as the Lead for the MPAH Amendment

March 1, 2018

Page 2 of 2

Please feel free to contact me at (714) 765-5065 or REmami@anaheim.net with any questions you may have.

Sincerely,



Rudy Emami, P.E.
Public Works Director

Attachments

C: Linda Andal, Interim City Manager
Carlos Castellanos, City Engineer
Project File



February 27, 2018

Mr. David K. Mori, Esq.
Engineering Manager
City of Anaheim
200 S Anaheim Blvd.
Anaheim, CA 92805

Subject: Consent to OC Public Works Led MPAH Amendment Request for Esperanza Road and Fairmont Connector

OC Public Works (OCPW) proposes modifications to the County of Orange Master Plan of Arterial Highways (MPAH) of the following arterial facilities:

- Reclassification of Esperanza Road, between Imperial Highway and Fairmont Connector, from its current Major Arterial designation to a Primary Arterial; and
- Reclassification of Fairmont Boulevard Connector, between Esperanza Road and Fairmont Boulevard, from its current Major Arterial designation to a Primary Arterial.

The reclassification would occur in conjunction with a proposed roadway project to reconfigure Esperanza Road and Fairmont Connector to add bicycle facilities. The Esperanza Road Bikeway Improvement Project is identified as Segment H in the Orange County Transportation Authority (OCTA) Bikeway Collaborative Plan. The project goal is a continuous bikeway facility that will connect the El Cajon Trail to the Santa Ana River Trail. Furthermore, it will complete an additional segment of the 66-mile long Orange County (OC) Loop multi-use trail. It will be available and comfortable to a wide range of users and improve bike safety by providing a bike lane as well as separated paved, off-road and on-road bikeway protected from vehicle traffic.

The County respectfully requests your support in this amendment with OCPW being the lead agency for this effort. Please provide your signed consent letter and return via mail or email no later than **Monday, March 5, 2018** to:

Address: Jamie Reyes
OC Public Works
300 N. Flower Street
Santa Ana, CA 92705

Email: Jamie.Reyes@ocpw.ocgov.com



OCPW will be taking the subject MPAH Amendment Request for OCTA Board approval in April 2018. Your consent, if granted, will be used as support documentation to OCPW's MPAH Amendment Request Letter to OCTA.

Should you have any questions or if your response will be late for any reason, please contact Jamie Reyes at (714) 647-3903.

Sincerely,

A handwritten signature in blue ink that reads "Nardy Khan".

Nardy Khan, P.E., P.M.P.
Deputy Director, Infrastructure Programs
OC Public Works

cc: Edward Frondoso, OC Public Works/OC Infrastructure Programs/Traffic & Design
Jamie Reyes, OC Public Works/OC Infrastructure Programs/Traffic & Design

DEPARTMENT OF TRANSPORTATION

DISTRICT 12
1750 EAST FOURTH STREET, SUITE 100
SANTA ANA, CA 92705
PHONE (657) 328-6267
FAX (657) 328-6510
TTY 711
www.dot.ca.gov



*Making Conservation
a California Way of Life.*

February 28, 2018

Ms. Jamie Reyes
Orange County Public Works
300 N. Flower Street
Santa Ana, CA 92702

File: IGR/CEQA
SR-1, PM 30.98

Dear Ms. Reyes,

Thank you for including the California Department of Transportation (Caltrans) in the review of the proposed Esperanza Road and Fairmont Connector for the Master Plan of Arterial Highways (MPAH). The mission of Caltrans is to provide a safe, sustainable, integrated and efficient transportation system to enhance California's economy and livability.

The proposed project is located in proximity to State Route 91 and includes the following modifications:

- Reclassification of Esperanza Road, between Imperial Highway and Fairmont Boulevard Connector, from its current Major Arterial designation to a Primary Arterial; and
- Reclassification of Fairmont Boulevard Connector, between Esperanza Road and Fairmont Boulevard, from its current Major Arterial designation to a Primary Arterial.

Upon our review, we are satisfied with the bicycle and pedestrian facilities proposed for the project. Therefore, Caltrans has no further comments on the amendment request.

Please continue to keep us informed of this project and any future developments which could potentially impact the State Highway System. If you have any questions, please do not hesitate to contact Joseph Jamoralin at (657) 328-6276 or Joseph.Jamoralin@dot.ca.gov.

Sincerely,

A handwritten signature in cursive script that reads "Marlon Regisford".

MARLON REGISFORD
Branch Chief, Regional-IGR-Transit Planning
District 12

Status Report on Active Master Plan of Arterial Highways Amendments

	City	Street	From	To	Type of Amendment	Status
1	Costa Mesa	Bluff Road	19th Street	Victoria Street	Delete.	On hold pending final consensus on Banning Ranch Circulation Plan.
2	County of Orange	Santiago Canyon Road	SR-241 NB ramp	Live Oak Canyon	Reclassify from primary to collector.	The amendment was conditionally approved by the Board. Waiting for documentation confirming completion of CEQA and general plan change.
3	County of Orange	Jeffrey Road	SR-241	Santiago Canyon Road	Delete.	The amendment was conditionally approved by the Board. Waiting for documentation confirming completion of CEQA and general plan change.
4	County of Orange	Black Star Canyon	Silverado Canyon Road	Orange/Riverside County line	Delete	The amendment was conditionally approved by the Board. Waiting for documentation confirming completion of CEQA and general plan change.
5	County of Orange	Esperanza Road	Imperial Highway (SR-90)	Fairmont Boulevard Connector	Reclassify from major to primary.	This amendment is being presented for Board consideration.
6	County of Orange	Fairmont Boulevard Connector	Esperanza Road	Fairmont Boulevard	Reclassify from major to primary.	This amendment is being presented for Board consideration.
7	County of Orange	Los Patrones	SR-241	Chiquita Canyon Road	Add.	This amendment is being presented for Board consideration.
8	County of Orange	Los Patrones	South of Chiquita Canyon Road	Cow Camp Road	Reclassify from primary to secondary.	This amendment is being presented for Board consideration.
9	Garden Grove	West Street	Garden Grove Boulevard	Orangewood Avenue	Reclassify from secondary to divided collector.	The amendment was conditionally approved by the Board. Waiting for documentation confirming completion of CEQA and general plan change.
10	Garden Grove	Gilbert Street	Chapman Avenue	Katella Avenue	Reclassify from secondary to divided collector.	The amendment was conditionally approved by the Board. Waiting for documentation confirming completion of CEQA and general plan change.
11	Huntington Beach	Delaware Street	Atlanta Avenue	Pacific View Avenue	Delete as a secondary.	The amendment was conditionally approved by the Board. Waiting for documentation confirming completion of CEQA and general plan change.

12	Huntington Beach/ County of Orange	6th Street	Main Street	Lake Street	Reclassify from Secondary to collector.	The amendment was conditionally approved by the Board. Waiting for documentation confirming completion of CEQA and general plan change.
13	Huntington Beach/ County of Orange	Graham Street	South of Slater Avenue	Current Terminus	Delete.	The amendment was conditionally approved by the Board. Waiting for documentation confirming completion of CEQA and general plan change.
14	Huntington Beach/ County of Orange	Talbert Street	West of Springdale Street	Current Terminus	Delete.	The amendment was conditionally approved by the Board. Waiting for documentation confirming completion of CEQA and general plan change.
15	Newport Beach	Bluff Road	17th Street	19th Street	Reclassify from major to primary.	On hold pending final consensus on Banning Ranch Circulation Plan.
16	Newport Beach	17th Street	West of Bluff Road	State Route 1	Delete.	On hold pending final consensus on Banning Ranch Circulation Plan.
17	Newport Beach	15th Street	Placentia Avenue	Bluff Road	Reclassify from a secondary to a primary.	On hold pending final consensus on Banning Ranch Circulation Plan.
18	Newport Beach	15th Street	Bluff Road	17th Street	Delete.	On hold pending final consensus on Banning Ranch Circulation Plan.
19	Placentia	Crowther Avenue	Placentia Avenue	Kraemer Boulevard	Reclassify from secondary to divided collector.	The amendment was conditionally approved by the Board. Waiting for documentation confirming completion of CEQA and general plan change.
20	Placentia	Golden Avenue	Kraemer Boulevard	Eastern City limits	Reclassify from secondary to divided collector.	The amendment was conditionally approved by the Board. Waiting for documentation confirming completion of CEQA and general plan change.
21	San Clemente	N. El Camino Real	Avenida Pico	Camino Capistrano	Reclassify from secondary to collector.	The amendment was conditionally approved by the Board. Waiting for documentation confirming completion of CEQA and general plan change.
22	San Clemente	Camino Del Rio	Camino De Los Mares	Avenida La Pata	Reclassify from secondary to divided collector.	The amendment was conditionally approved by the Board. Waiting for documentation confirming completion of CEQA and general plan change.

23	San Clemente	Camino De Los Mares	Camino Vera Cruz	Camino Del Rio	Reclassify from secondary to divided collector.	The amendment was conditionally approved by the Board. Waiting for documentation confirming completion of CEQA and general plan change.
24	San Juan Capistrano	Ortega Highway	Del Obispo Street	Camino Capistrano	Delete.	The amendment was conditionally approved by the Board. Waiting for documentation confirming completion of CEQA and general plan change.
25	Santa Ana	Fourth Street	French Street	Grand Avenue	Reclassify from secondary to divided collector.	The amendment was conditionally approved by the Board. Waiting for documentation confirming completion of CEQA and general plan change.
26	Santa Ana	Santa Ana Boulevard	Raitt Street	Bristol Street	Reclassify from major to divided collector.	The amendment was conditionally approved by the Board. Waiting for documentation confirming completion of CEQA and general plan change.
27	Santa Ana	Santa Ana Boulevard	Bristol Street	Ross Street	Reclassify from major to divided collector.	The amendment was conditionally approved by the Board. Waiting for documentation confirming completion of CEQA and general plan change.
28	Santa Ana	Santa Ana Boulevard	French Street	Santiago Street	Reclassify from primary to divided collector.	The amendment was conditionally approved by the Board. Waiting for documentation confirming completion of CEQA and general plan change.
29	Santa Ana	Citywide	N/A	N/A	N/A	Coordinating with City of Santa Ana staff on potential changes.
30	Tustin	Main Street	Western limits	Newport Avenue	Reclassify from primary to divided collector.	The amendment was conditionally approved by the Board. Waiting for documentation confirming completion of CEQA and general plan change.
31	Tustin	First Street	Western limits	Newport Avenue	Reclassify from primary to divided collector.	The amendment was conditionally approved by the Board. Waiting for documentation confirming completion of CEQA and general plan change.
32	Westminster	Garden Grove Boulevard	I-405/SR-22 westerly ramps	Edwards Street	Reclassify from secondary to divided collector.	The amendment was conditionally approved by the Board. Waiting for documentation confirming completion of CEQA and general plan change.

33	Westminster	Edwards Street	Garden Grove Boulevard	Trask Avenue	Reclassify from secondary to divided collector.	The amendment was conditionally approved by the Board. Waiting for documentation confirming completion of CEQA and general plan change.
34	Westminster	Trask Avenue	Edwards Street	Hoover Street	Reclassify from secondary to divided collector.	The amendment was conditionally approved by the Board. Waiting for documentation confirming completion of CEQA and general plan change.
35	Westminster	Hoover Street	Trask Avenue	Bolsa Avenue	Reclassify from secondary to divided collector.	The amendment was conditionally approved by the Board. Waiting for documentation confirming completion of CEQA and general plan change.
Memorandum of Understanding	Costa Mesa/ Fountain Valley/ Huntington Beach	Garfield Avenue/ Gisler Avenue Crossing over the Santa Ana River	Santa Ana River Westbank	Santa Ana River Eastbank	Reclassify from secondary to right-of-way reserve status.	The cities of Costa Mesa, Fountain Valley, Huntington Beach, and OCTA entered a Memorandum of Understanding (C-6-0834). Reasonable progress has been made on implementation of 19 of the 25 mitigation measures that were specified. All improvements are required to be completed by 2020, at which time OCTA will revisit the designation of the Garfield Avenue/ Gisler Avenue Bridge.

Acronyms

- SR-241 - State Route 241
- NB - Northbound
- Board - Board of Directors
- CEQA - California Environmental Quality Act
- SR-90 - State Route 90
- N/A - Not Applicable
- I-405 - Interstate 405
- SR-22 - State Route 22
- OCTA - Orange County Transportation Authority



April 2, 2018

To: Regional Planning and Highways Committee
From: Darrell E. Johnson, Chief Executive Officer
Subject: SB 1 (Chapter 5, Statutes of 2017) Programs Update

Overview

SB 1 (Chapter 5, Statutes of 2017), the Road Repair and Accountability Act of 2017, will provide an estimated \$52.5 billion for transportation purposes over the next ten years, with investments targeted towards fix-it-first purposes on local streets and roads, highways, transit operations and maintenance, capital investments, and active transportation. An update on the status and general requirements of key competitive programs are presented for review.

Recommendation

Receive and file as an information item.

Background

SB 1 provides significant supplemental funding to many existing programs and creates several new funding programs. At its core, SB 1 is about maintaining existing state and local transportation infrastructure. In addition, SB 1 provides significant supplemental public transit funding to stem the declining trend in traditional transit funding. SB 1 will nearly double local street and roads funding for each city and county, with an emphasis on projects that improve pavement condition, enhance safety, implement complete street elements, and upgrade traffic control devices.

With respect to transit, SB 1 provides an additional \$18 million in new transit funding per year for Orange County (County). This doubles the amount of transit funding provided to the County when compared to existing State Transit Assistance funding. SB 1 also stabilized the State Transportation Improvement Program, which the Orange County Transportation Authority (OCTA) typically uses for a mix of highway and commuter rail projects. In addition, SB 1 provides competitive funding opportunities for a wide range of transportation projects.

The California Transportation Commission (CTC), the California State Transportation Agency, and the California Department of Transportation (Caltrans) have received applications and project nominations for various competitive and non-competitive capital funding programs, summarized in the table below (also referenced in Attachment A):

Program	Cycle Amount	Applications Due	Program Adoption
2017 Active Transportation Program Augmentation	\$200 million	August 2017	October – December 2017
State Transportation Improvement Program	\$260 million*	December 2017	March 2018
Local Partnership Program (Formula)	\$200 million	December 2017	January 2018
Transit Intercity Rail Capital Program	\$2.4 billion	January 2018	April/May 2018
Local Partnership Program (Competitive)	\$300 million	January 2018	May 2018
Trade Corridor Enhancement Program	\$1.34 billion	January 2018	May 2018
State of Good Repair (Transit)	\$105 million	January 2017	March – May 2018
Solutions for Congested Corridors	\$1.0 billion	February 2018	May 2018
2019 Active Transportation Program	\$440 million	July 2018	January – June 2019

* Approximate OCTA Share of the 2018 STIP

Discussion

In October 2017, the Board of Directors (Board) received a report on the SB 1 competitive programs and a list of potential projects that were being considered for submittal. Overall, OCTA and Caltrans District 12 have submitted over \$480 million in grant applications for SB 1 programs. The table below provides a summary of project submittals that have taken place since the October 2017 informational item. It should be noted that OCTA worked closely with Caltrans District 12 and local agencies to develop the applications.

Submitted Projects	Total Requested
State Transportation Improvement Program¹ (STIP)	
I-5 Widening (SR-73 to Oso Parkway, Segment 1)	\$73.74 million
I-5 Widening (Alicia Parkway to El Toro Road, Segment 3)	\$69.90 million
I-5 Widening from SR-73 to El Toro Road Landscaping	\$6 million
I-5 Widening (I-405 to SR-55 {APDE})	\$12.63 million
SR-55 Orange County Central Corridor Improvements from I-405 to I-5	\$80 million
SR-57 Truck Climbing Lane Phase 1 Lambert Road Interchange	\$9 million
SR-57 Truck Climbing Lane Phase 2 (APDE)	\$4.05 million
Local Partnership Program Formula (LPP-F)	
I-5 Widening (SR-73 to Oso Parkway, Segment 1)	\$18.24 million
Transit Intercity Rail Capital Program (TIRCP)	
Electric Rapid Orange County <ul style="list-style-type: none"> • Bravo! Rapid Bus Traffic Signal Priority • Ten Battery-Electric Buses (Charging Depots and Utility Upgrades) • Solar Canopies at Bus Bases 	\$26.41 million
Local Partnership Program Competitive	
Traffic Signal Synchronization (Katella Avenue, Main Street, Los Alisos, and Garden Grove Boulevard)	\$6.85 million
Trade Corridor Enhancement Program (TCEP) – Caltrans Submittal	
SR-57 Truck Climbing Lane – Phase 1 Lambert Interchange	\$65.66 million
State of Good Repair Formula	
Ten Hydrogen Buses	\$5.61 million
Heating Ventilation Unit Replacement Anaheim Base	\$0.07 million

¹ The 2018 STIP provides approximately \$260 million to OCTA, part of which comes from SB 1.

Solutions to Congested Corridors Program (SCCP)	
Central Orange County Corridor Improvement Project <ul style="list-style-type: none"> • SR-55 Orange County Central Corridor Improvements from I-405 to I-5 – High-Occupancy Vehicle Lanes • Signal synchronization (MacArthur Boulevard/ Talbert Avenue, Warner Avenue, Edinger Avenue) • Bravo! Main Street Rapid Bus Route – Five Hydrogen Buses • 11 Active Transportation Projects (cities of Anaheim, Costa Mesa, Fullerton, Irvine, Santa Ana, Tustin, and the County of Orange) 	\$101.98 million
Total:	\$480.14 million

I-5 – Interstate 5

SR-55 – State Route 55

SR-73 – State Route 73

SR-57 - State Route 57

I-405 – Interstate 405

APDE – Advance Project Development Element

Additional information on each of these funding programs, as well as SB 1 planning grant requests, are provided in Attachment A.

Next Steps

The CTC is expected to approve project awards for four SB 1 programs, LPP-F, TIRCP, TCEP and SCCP at their May 2018 meeting. Staff will return to the Board this summer to accept funding awarded to OCTA-led projects.

Summary

Information regarding the CTC Implementation Plan for SB 1 competitive funding programs and OCTA projects submitted for consideration is provided for Board review and consideration.

Attachment

- A. SB 1 (Chapter 5, Statutes of 2017) – Capital Funding Programs Update

Prepared by:



Adriann Cardoso
Capital Programming Manager
(714) 560-5915

Approved by:



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

SB 1 (Chapter 5, Statutes of 2017) – Capital Funding Programs Update

Active Transportation Program (ATP)

The purpose of the ATP is to encourage increased use of active modes of transportation by achieving the following goals:

- Increase the proportion of trips accomplished by biking and walking,
- Increase safety and mobility for non-motorized users,
- Advance the active transportation efforts of regional agencies to achieve greenhouse gas reduction (GHG) goals,
- Enhance public health,
- Ensure that disadvantaged communities fully share in the benefits of the program,
- Provide a broad spectrum of projects to benefit many types of active transportation users.

Typically, the Orange County Transportation Authority (OCTA) does not apply directly for ATP funds except to request support for regional planning studies. However, Orange County agencies were awarded \$7.93 million for nine projects in the 2017 ATP augmentation. This replaced OCTA-funded federal Congestion Mitigation and Air Quality Improvement Program funds that would have been used for the 2016 Bicycle Corridor Improvement Program (BCIP) call for projects (call), freeing up capacity to provide funds to three additional BCIP projects.

The 2018 ATP is expected to be released in May 2018. Applications are due July 2018. The projects will be awarded next year.

State Transportation Improvement Program (STIP)

As described in the 2018 STIP Update staff report, on the April 2, 2018 Regional, Planning and Highways agenda, and the April 9, 2018 Board of Directors agenda, the 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, including SB 1 revenues generated through what was previously called the price-based excise tax. This is a formula program for OCTA and the referenced staff report describes the program in detail.

Local Partnership Program (LPP)

The LPP provides funding to reward existing self-help counties and agencies that have passed transportation fee programs. It is also intended to incentivize aspiring agencies to achieve the voter thresholds required to impose local sales tax and other fees for transportation. OCTA relied on Measure M to apply for this program.

The Interstate 5 (I-5) improvements from State Route 73 to Oso Parkway Project was submitted on December 15, 2017, for \$18.24 million in LPP Formula funds.

SB 1 (Chapter 5, Statutes of 2017) – Capital Funding Programs Update

On January 31, 2018, the California Transportation Commission (CTC) approved a program of projects that included the I-5 project. The use of these funds for this project was included in the September 2017 item on the proposed STIP plan and is reflected in the accompanying 2018 STIP item.

OCTA submitted an application for Traffic Signal Synchronization on four corridors requesting \$6.85 million in LPP competitive funds on January 30, 2018. The application will support projects that were submitted by local agencies for consideration of funding to OCTA for Measure M2 signal synchronization funds. If approved, the funds would support OCTA-led projects in the cities of Anaheim, Garden Grove, Irvine, and Mission Viejo.

Awards will be announced on May 16, 2018. There were 91 projects submitted for consideration of funding, totaling \$901 million in statewide requests. There is \$300 million available through this call.

Transit and Intercity Rail Capital Program (TIRCP)

The TIRCP provides funding for transformative capital improvements that modernize intercity, commuter, and urban rail systems, bus transit systems with a goal to reduce GHG emissions, vehicle miles traveled, and congestion.

Orange County submitted one project, the Electric Rapid Orange County Project, which requested \$26.41 million to support the purchase of battery electric buses, rapid bus signal priority, and the installation of solar panels at the bus bases. Awards are expected to be announced by the California State Transportation Agency in May 2018.

Trade Corridor Enhancement Program (TCEP)

The State Route 57 Truck Climbing Lane Phase I – Lambert Road Interchange Project was submitted on January 30, 2018 for \$65.66 million in total TCEP funds. The application was closely coordinated with the City of Brea and the California Department of Transportation (Caltrans). The TCEP is divided into a regional share and a state share. Caltrans partnered with the City of Brea and submitted \$38.6 million for the state share. OCTA worked with the Southern California Association of Governments and is supporting Caltrans' request for \$27.06 million for the regional share.

The CTC is expected to provide the list of approved projects on May 16, 2018. There were 43 projects submitted for consideration of funding. The total funding requested is \$1.96 billion. The funding amount available through this call is \$1.34 billion.

Solutions for Congested Corridors Program (SCCP)

The purpose of the SCCP is to provide funding to achieve a balanced set of transportation, environmental, and community access improvements to reduce congestion throughout the state.

SB 1 (Chapter 5, Statutes of 2017) – Capital Funding Programs Update

OCTA, in partnership with Caltrans, combined four project types into the Orange County Central Corridor Improvement Project and requested a total of \$101.98 million in SCCP competitive funds on February 16, 2018. OCTA and Caltrans together requested a state (\$35 million) and local (\$35 million) share of the program for the high-occupancy vehicle lanes for the State Route 55 Orange County Central Corridor Improvement Project from Interstate 405 to I-5, signal synchronization on MacArthur Boulevard, Warner Avenue, and Edinger Avenue for \$12 million, five hydrogen buses for Bravo! Main Street for \$4.33 million, and active transportation projects in the cities of Anaheim, Costa Mesa, Fullerton, Irvine, Santa Ana, Tustin, and the County of Orange for \$15.65 million.

The CTC is expected to provide the list of approved projects on May 16, 2018. The CTC made \$1 billion available from the SCCP in this cycle. There were 34 projects submitted for consideration of funding, totaling \$2.54 billion.

In the establishment of this program, the statute identified five corridors around the state as examples of corridors and corridor planning that should be mirrored, and as corridors that need funding for improvements. While they were not clearly prioritized, they were identified as good examples of the types of projects that should be funded.

State of Good Repair (SGR)

The SGR program is a transit capital program funded from the new SB 1 Transportation Improvement Fee on vehicle registration. For fiscal year (FY) 2017-18, the SGR formula program is estimated to provide \$105 million statewide.

On January 31, 2018, OCTA submitted a request for its share of funding, \$5.67 million, for the purchase of ten zero-emission hydrogen fuel cell buses and heating-ventilation unit replacements. These projects were approved by Caltrans, and OCTA expects to start receiving funds in May 2018. This is a formula program, so OCTA expects to receive its full share of funding.

Other Non-Capital SB 1 Competitive Programs

Caltrans Transportation Planning Grants provide funding for transportation planning studies with consideration of sustainability, preservation, mobility, safety, innovation, economy, health, and equality.

OCTA submitted three projects for \$1.279 million for the FY 2018-19 call. Recommendations for the FY 2018-19 call will be announced in May 2018. The FY 2019-20 call is expected to be released in August 2018. Applications for the FY 2019-20 call are due October 19, 2018.



April 2, 2018

To: Regional Planning and Highways Committee
From: Darrell E. Johnson, Chief Executive Officer
Subject: Interstate 405 Improvement Project Update

A handwritten signature in blue ink, appearing to read "Darrell E. Johnson", is written over the "From:" line of the header.

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 (OC 405). OCTA executed the DB contract with OC 405 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 OC 405. NTP No. 2 was a full NTP for all activities, including construction.

Discussion

A number of activities are ongoing as the final design continues and construction has been initiated. The final design is approximately 60 percent complete overall. The final baseline schedule, a detailed schedule of design and construction activities, is nearing completion.

Construction

OCTA held a groundbreaking ceremony on January 26, 2018, with more than 600 attendees, to commemorate the start of construction. The event was made possible by the generosity of more than 30 project partners. OC 405 began construction on March 6, 2018. Initial construction activities will continue over the next few months, including 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. More significant construction activities, such as paving operations and bridge demolition activities, are anticipated to begin in the fall.

Right-of-Way (ROW) Acquisition

Construction of the Project will impact 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 is identified as a full acquisition at the owner's request. The total number of impacted properties is less than the 305 previously reported as design changes have eliminated impacts to certain properties. The real property requirements for the partial acquisitions are comprised of a combination of fee acquisitions, permanent easements, temporary construction easements (TCE), 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 needed, the following summarizes the status of the ROW acquisition:

- 275 notices of decision to appraise sent
- 220 offers presented
- 167 agreements reached (76 percent of offers presented)
- 30 resolutions of necessity approved

Utility Relocations

There are currently 105 utilities that require relocation as part of the Project. OCTA is coordinating with the 22 impacted utility companies to identify issues and work to resolve them. There are several utility relocation challenges that staff continues to focus on as utilities are a shared risk between OCTA and OC 405.

Tolling Procurements

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 will be working closely with the design-builder to deliver fully functional express lanes upon opening in 2023.

Staff recently initiated the development of a request for proposals for the back office support and customer service center contract for both the 405 and 91 Express Lanes, and plans to seek Board approval for its release in fall 2018.

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 recently submitted the first TIFIA reimbursement requisition for \$165 million to the USDOT Build America Bureau and Federal Highway Administration. OCTA anticipates receiving the first reimbursement by April 16, 2018. As of the end of February, OCTA has expended over \$300 million on the Project.

Public Outreach

The weekend of February 16 to February 18, 2018, staff hosted a booth at two Orange County Tet Festivals, one at Mile Square Park, as well as one at the Orange County Fairgrounds. Multi-lingual staff provided Project information and encouraged festival attendees to sign up to receive email, text, and phone alerts during construction. Information was made available in both English and Vietnamese, and more than 400 attendees signed up to receive more information at the two events.

Project open houses will be scheduled in the coming months in multiple cities to share general Project information, the anticipated bridge construction schedule, and other Project details. Door hangers with open house information will be distributed to residents and businesses near the Project area. In

addition, staff will utilize targeted online and social media advertisements, Chamber of Commerce and corridor city websites, as well as other communication mediums to invite the public to attend. Prior to bridge work commencing later this year, staff will host neighborhood meetings in residential areas immediately adjacent to bridge reconstruction. These meetings are a grassroots community outreach approach and encourage residents to ask questions about the Project over coffee and donuts.

OCTA continually strives to keep pace with technology and to be innovative in its public outreach tactics. Staff developed an interactive map for the Project website which includes closure and detour information to help guide the traveling public during construction, as well as provide general facts on bridges and intersections along the 16-mile stretch. The interactive map is connected to Waze, the popular, free navigation app, with real-time traffic information. Staff is working with Waze to incorporate the Project's closures and detours into the system proactively. This is the first OCTA freeway construction project to utilize this tool, and a demonstration will be available at the upcoming Project open houses.

A Project mobile app is also in development. The free app will provide up-to-date Project information such as schedule, closures and detours, milestones, and overall benefits. It will also allow the user to view the interactive map, interesting photos and videos from the field, contact the outreach team, as well as experience the configurations and aesthetics of the bridges in every angle via a virtual reality component. This app is another innovative first for an OCTA freeway construction project.

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 continues and construction has been initiated. Currently, final design, right-of-way acquisition, public outreach, and other activities are in process to continue the construction phase of the Interstate 405 Improvement Project between State Route 73 and Interstate 605.

Attachment

None.

Prepared by:



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

Approved by:



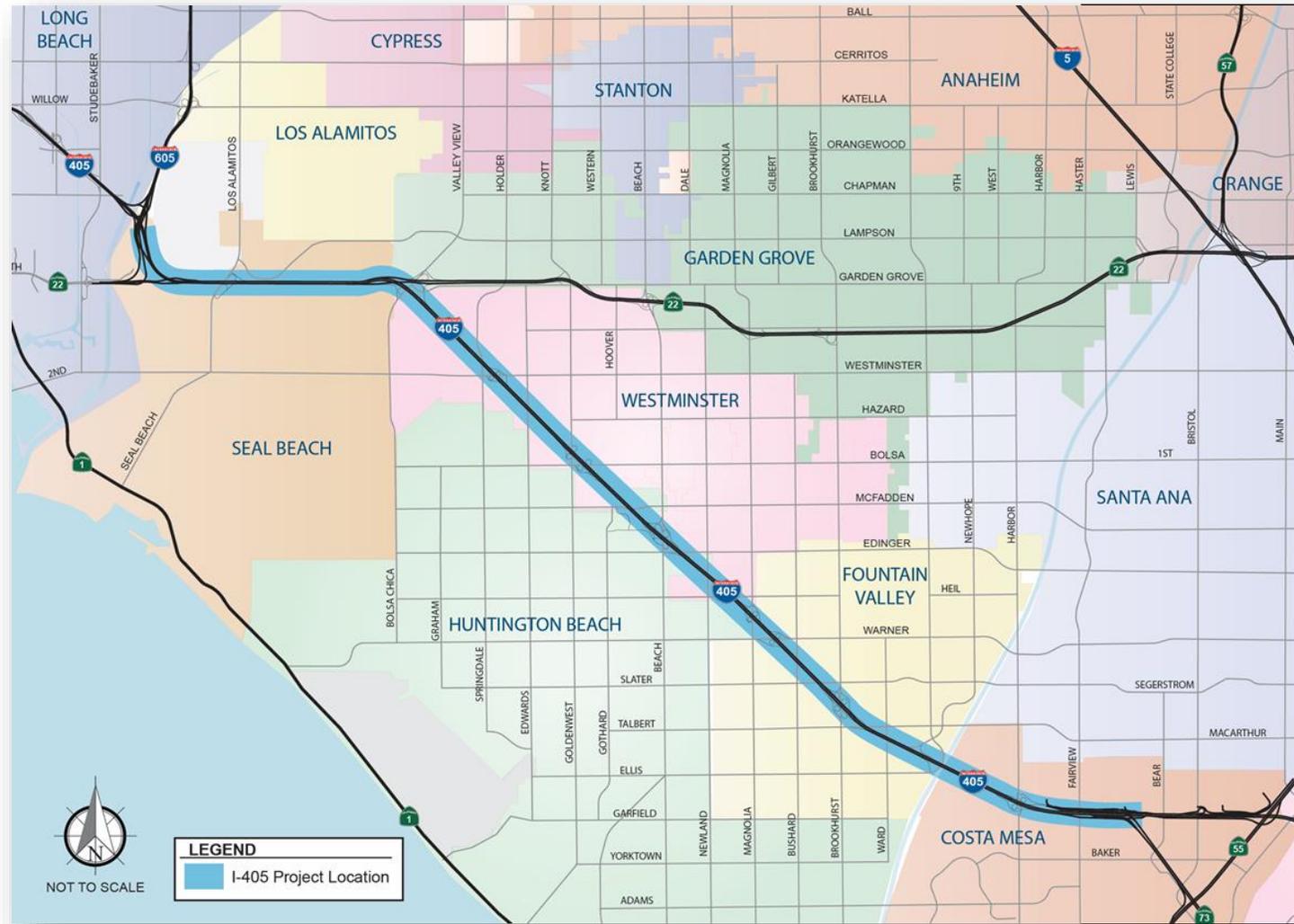
James G. Beil, P.E.
Executive Director, Capital Programs
(714) 560-5646



Interstate 405 Improvement Project Update

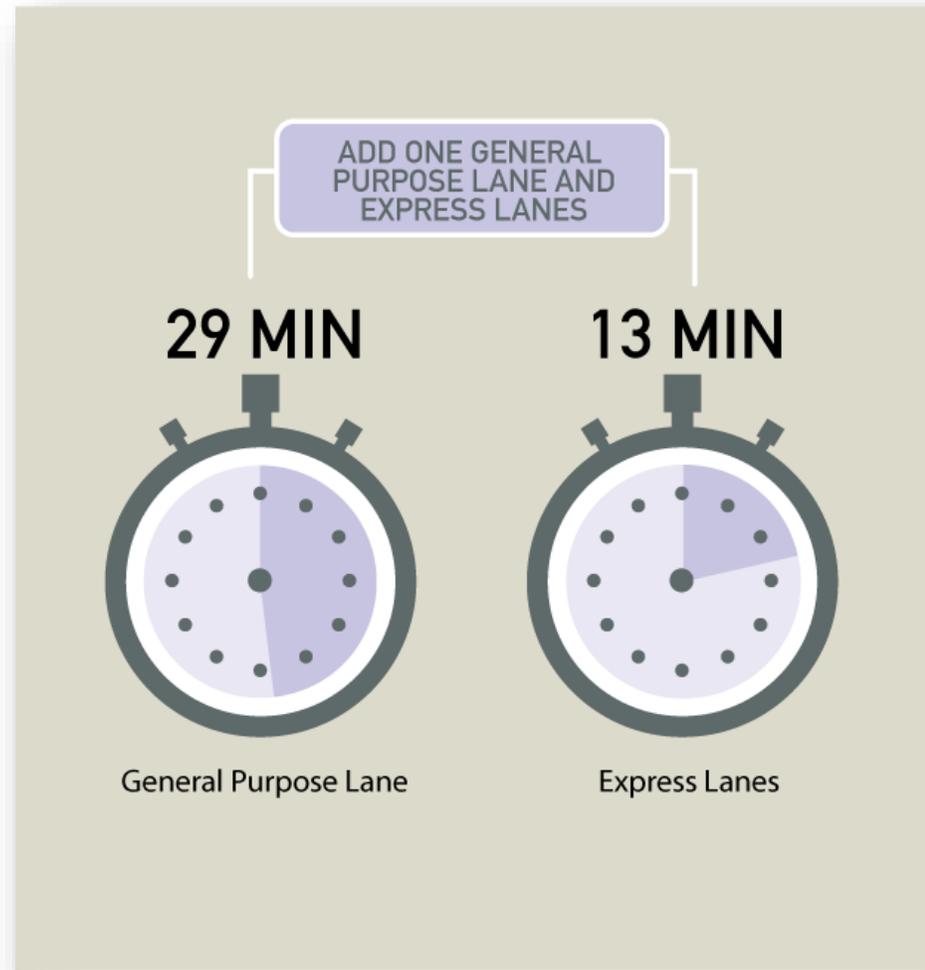


Project Location and Key Features



Project Travel Time Benefits

2040 travel time from State Route 73 to Interstate 605



Background

- On November 14, 2016, the Orange County Transportation Authority (OCTA) Board of Directors (Board) awarded the design-build (DB) contract to OC 405 Partners (OC 405)
- On January 31, 2017, OCTA executed the contract with OC 405 and issued Notice to Proceed (NTP) No. 1
- On June 26, 2017, the Board approved the Transportation Infrastructure Finance and Innovation Act (TIFIA) loan
- On July 27, 2017, OCTA issued NTP No. 2 to OC 405

Groundbreaking Ceremony



Construction Update



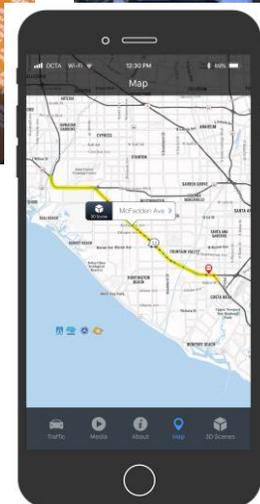
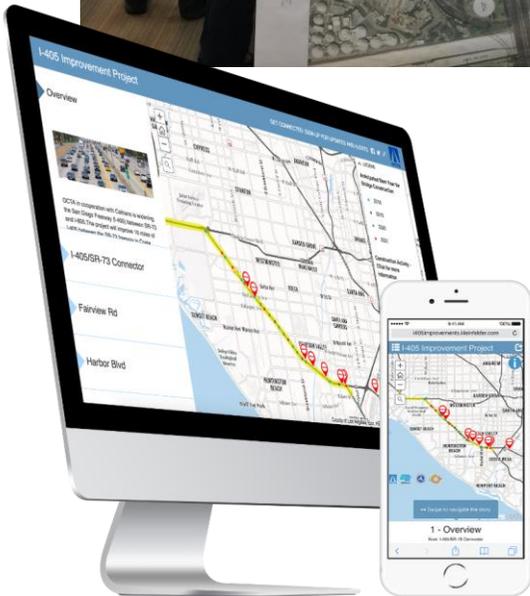
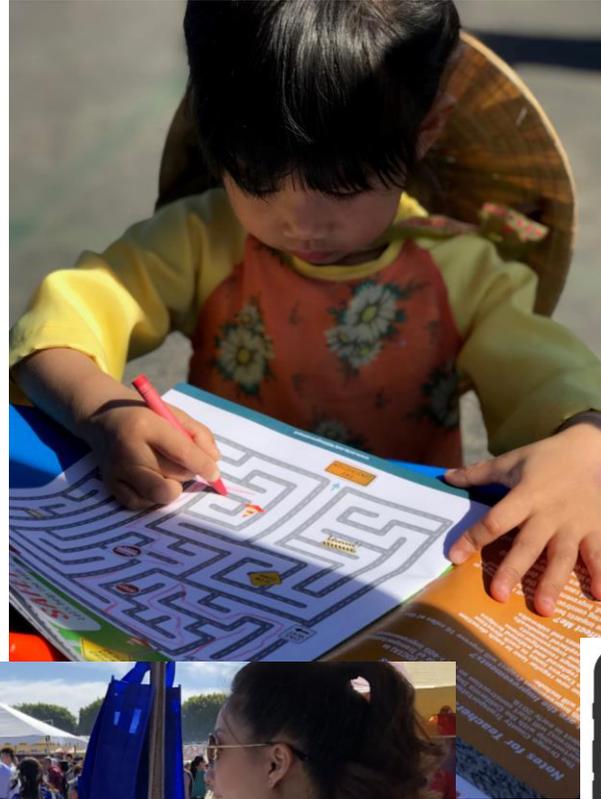
Additional Updates

- Completion of final detailed project schedule
- Design-builder currently completing the project design
- Toll lanes system integrator contract awarded on February 26, 2018
- First TIFIA loan requisition

Preliminary Bridge Construction Timeline



Ongoing Community Outreach



New Project Videos

- Now available on our website
- www.octa.net/405improvement
- There are two episodes; each one provides different information about various aspects of the 16-mile project.



Recent and Next Steps

Activity/Milestone	Date
DB Implementation	
Groundbreaking ceremony	January 26, 2018
Beginning of construction	March 6, 2018
Design and construction	2017-2023
Project, including 405 Express Lanes, opens	2023
Toll Lanes System Integrator Procurement	
Request for proposals released	August 28, 2017
Contract awarded	February 26, 2018
Contract execution and NTP	April 2018



April 2, 2018

To: Regional Planning and Highways Committee

From: Darrell E. Johnson, Chief Executive Officer

A handwritten signature in blue ink, appearing to read "Darrell Johnson", is placed to the right of the "From:" line.

Subject: 2018 Long-Range Transportation Plan Update

Overview

The Long-Range Transportation Plan provides Orange County's program of projects for the multi-county Regional Transportation Plan, prepared by the Southern California Association of Governments. The plan also serves as a policy framework for future transportation investments in Orange County. Initial model results presented in February 2018, along with ongoing activity at the state and regional levels, suggest that it would be appropriate to consider including priced managed lanes within the Long-Range Transportation Plan. Initial model results for the priced managed lane scenario are presented below for consideration.

Recommendation

Direct staff to assume priced managed lanes within the Trend 2040 scenario, recognizing that further study, interagency coordination, and public outreach are required as part of future planning efforts.

Background

The Orange County Transportation Authority (OCTA) is preparing the 2018 Long-Range Transportation Plan (LRTP) as input into the Southern California Association of Governments (SCAG) 2020 Regional Transportation Plan and Sustainable Communities Strategy (RTP/SCS). The 2018 LRTP will analyze travel conditions based on a 2040 horizon year, which assumes ten percent growth in population and 17 percent growth in employment in Orange County. These assumptions are based on projections from the Center for Demographic Research (CDR) at California State University, Fullerton.

In February 2018, model results were presented to the Board of Directors (Board) that compared carpool lane occupancy requirements of two passengers per vehicle versus three passengers per vehicle, under the financially-constrained (Trend 2040) scenario. The model results indicated that the two-passenger scenario fails to meet a federal performance standard that generally requires managed lanes to operate at 45 miles per hour during peak periods. The need to comply with this standard is triggered by the state's program to exempt qualified electric and plug-in hybrid vehicles from high-occupancy vehicle (HOV) lane occupancy requirements. However, the state is committed to maintaining this incentive program.

For example, in January 2018, Governor Jerry Brown signed Executive Order B-48-18 that calls for an increase from 350,000 zero-emission vehicles (ZEV) on the road today to five million by 2030. The state's 2016 ZEV Action Plan also highlights that allowing ZEVs access to HOV lanes is an important and effective strategy for meeting the state's ZEV goals.

If the standards are not met, sanctions could be imposed resulting in loss of federal funding and project delays. The California Department of Transportation (Caltrans) District 12 has acknowledged that increasing the occupancy requirement is necessary to comply; however, this results in an underutilized managed lane system. The 2018 LRTP model results presented in February 2018 support Caltrans' concern. The Trend 2040 – HOV 3+ scenario demonstrated that the managed lane system would comply with the federal standard; however, only about 30 percent of the capacity on managed lanes would be used.

As an alternative, Caltrans District 12 is pursuing a priced managed lane strategy that increases the occupancy requirement to three passengers, while also permitting other vehicles to use the managed lanes through a pricing strategy. The pricing strategy would manage the number of vehicles in the managed lane system, ensuring reliability for the users and compliance with the federal standard. It should be noted that Caltrans has recently initiated studies to implement priced managed lanes on Interstate 5. Additionally, many of OCTA's partner agencies are planning and implementing similar priced managed lane networks. This is occurring in neighboring counties, including Los Angeles, Riverside, and San Diego.

Taking all of this into consideration, a Trend 2040 scenario has been modeled to assess a priced managed lane alternative that is intended to: (1) address federal performance standards; (2) provide the public with an uncongested travel option; and (3) ensure consistent priced managed lane planning activities throughout the Southern California region.

The discussion below provides an overview of the initial model results utilizing a priced managed lane assumption.

Discussion

In Table 1, model results are shown for the Trend 2040 (financially constrained) managed lane scenarios, as well as the 2040 No Build that excludes the financially-constrained improvements. All scenarios include the 2040 growth forecast for Orange County, as prepared by CDR. The managed lane operating assumptions are summarized as follows:

- 2040 No Build (two-passenger requirement for managed lane access)
- Trend 2040 – HOV 2+ (two-passenger requirement for managed lane access)
- Trend 2040 – HOV 3+ (three-passenger requirement for managed lane access)
- Trend 2040 – Express (three-passenger requirement for free managed lane access and other vehicles have a priced option to access managed lanes)

Table 1: Trend 2040 – Managed Lanes Scenarios vs. 2040 No Build

Metrics (daily)	2040 No Build HOV 2+	Trend 2040 HOV 2+	Trend 2040 HOV 3+	<i>Trend 2040 Express</i>
Vehicle passenger delay per capita (minutes)	12.5	8.5	8.9	8.7
Vehicle passenger travel time per capita (minutes)	58.5	55.7	55.9	55.9
Delay as a percent of travel time	21.4%	15.3%	15.9%	15.5%
Mainline freeway – AM peak average speed (mph)	32.0	35.2	34.0	34.4
Managed lanes – AM peak average speed (mph)	41.3	48.6	62.5	56.8
Managed lanes – AM peak capacity utilization	83%	70%	30%	60%
Arterials – AM peak average speed (mph)	24.3	26.0	25.8	25.8

mph – miles per hour

As shown in Table 1, the Express scenario provides a balanced approach between Trend 2040 – HOV 2+, which does not meet the federal performance standard, and the Trend 2040 – HOV 3+, which results in the managed lanes being underutilized. The Express scenario improves the efficiency of the managed lane system, increasing capacity utilization from 30 percent to 60 percent, while also conforming with the federal standard. Furthermore, overall travel times and delays due to congestion are reduced compared to conversion to HOV 3+ alone. Finally, it should be noted that compared to HOV 3+, the Express scenario does more to benefit the LRTP goals of improving system performance and expanding system choices by providing the traveling public a reliable and uncongested travel option.

As previously noted, many of OCTA's partner agencies are already moving to priced managed lanes, including Caltrans District 12. If directed by the Board to use the Express scenario in the 2018 LRTP, OCTA can take more of an active or lead role in the planning for priced managed lanes in Orange County.

Next Steps

The Trend 2040 scenario selected by the Board will be incorporated into the draft 2018 LRTP. The results of the other scenarios will also be referenced to provide additional context regarding Orange County's managed lanes system. Additionally, the Innovation and Policy scenarios are being modeled and analyzed to help facilitate a discussion regarding how private-sector innovations, as well as potential policies being considered primarily by regional and state agencies, may impact travel behavior.

These results will also be incorporated into the draft 2018 LRTP to help generate ideas and input for consideration in the LRTP action plan, which outlines areas of focus for OCTA that will lead into the next LRTP cycle. The draft 2018 LRTP is currently scheduled for public review over summer 2018. The public review will conclude in early September to finalize the LRTP by fall 2018 and provide OCTA's submittal to SCAG for inclusion in the 2020 RTP/SCS.

Summary

An analysis of the financially constrained Trend 2040 scenario has been completed, which assumes operation of the managed lanes network as express lanes. The analysis indicates that conversion from HOV to express lanes would satisfy federal performance standards and improve the efficiency of the managed lane system. Pending Board direction, this will be used as the primary scenario within the draft 2018 LRTP. Staff will return to the Board to release the draft 2018 LRTP for public review. The public review will occur over the summer, concluding in early September.

Attachment

None.

Prepared by:



Greg Nord
Principal Transportation Analyst
(714) 560-5885

Approved by:



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

2018 Long-Range Transportation Plan Update



Trend 2040 - Results

Metrics (daily)	2015 Base Year	2040 No Build	Trend 2040
Delay as a percent of travel time	15.2%	21.4%	15.3%
Mainline freeway - AM peak average speed (mph)	35.9	32.0	35.2
Managed lanes - AM peak average speed (mph)	48.1	41.3	48.6
Arterials - AM peak average speed (mph)	25.7	24.3	26.0

These scenarios assume managed lane occupancy requirement of 2+

mph – miles per hour

Federal Performance Standards

- Federal regulations require HOV lanes to operate at 45+ mph during peak periods
- Most of Orange County's HOV lanes do not meet this standard

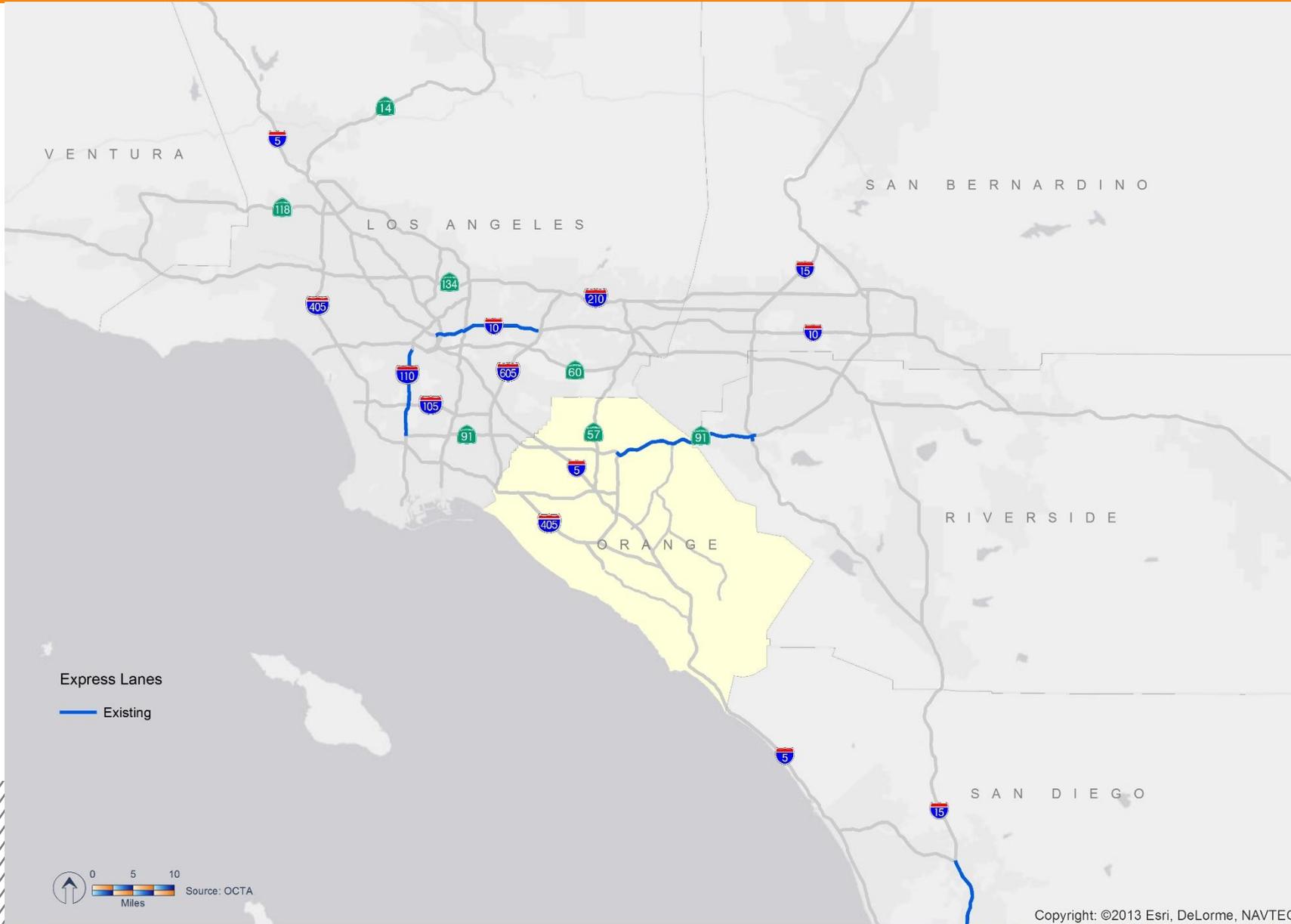


HOV – High-occupancy Vehicle

Trend 2040 - HOV 2+ vs HOV 3+

Metrics (daily)	Trend 2040 HOV 2+	Trend 2040 HOV 3+
Delay as a percent of travel time	15.3%	15.9%
Mainline freeway - AM peak average speed (mph)	35.2	34.0
Managed lanes - AM peak average speed (mph)	48.6	62.5
Managed Lane – AM peak capacity utilization	70%	30%
Arterials – AM peak average speed (mph)	26.0	25.8

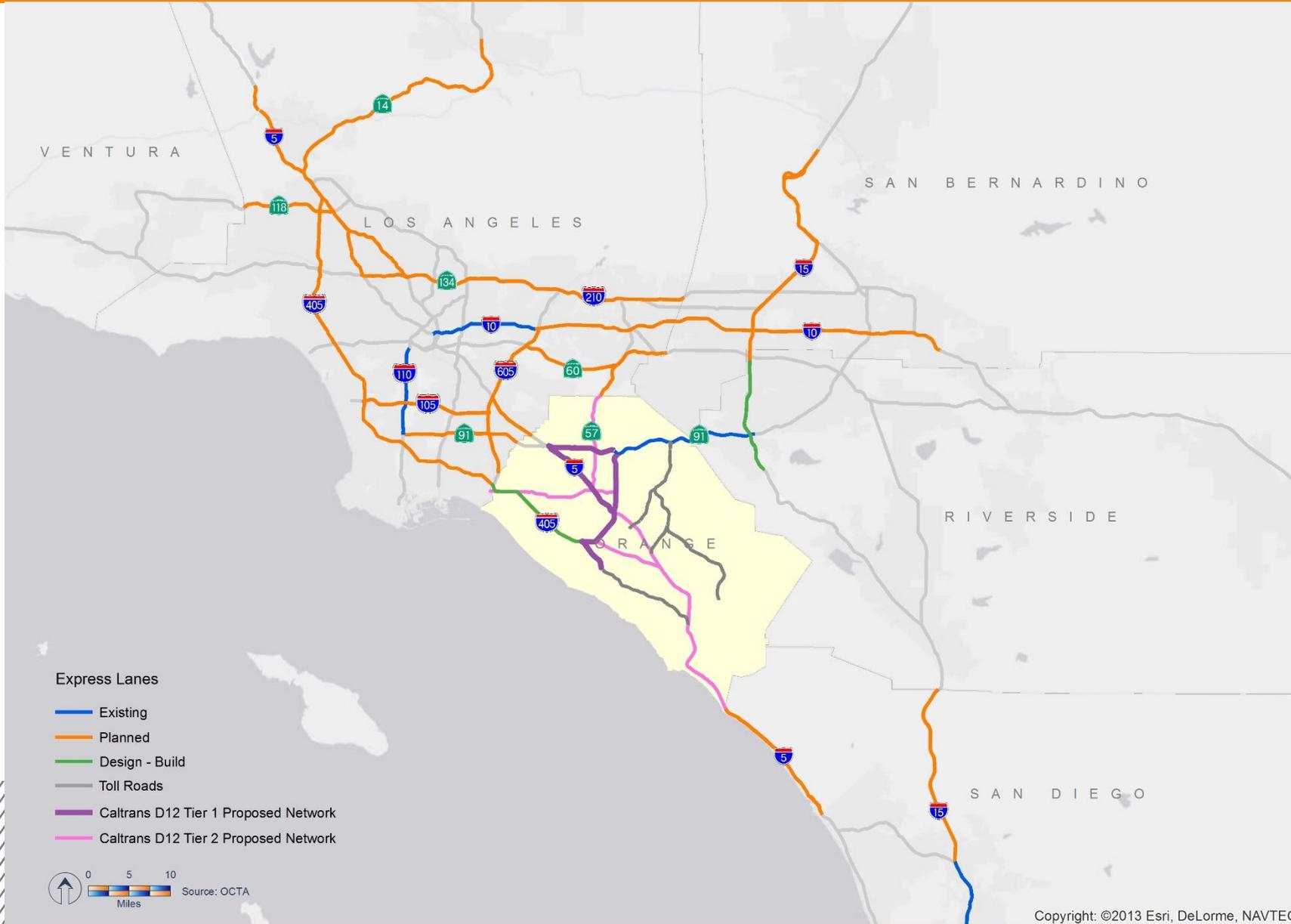
Southern California Existing Express Lanes



Planned Regional Express Lanes



Planned Caltrans Express Lanes



Caltrans – California
Department of Transportation

Planned Express Lanes - OC Focus



Managed Lanes Analysis

Metrics (daily)	2040 No Build HOV 2+	Trend 2040 HOV 2+	Trend 2040 HOV 3+	Trend 2040 Express
Delay as a percent of travel time	21.4%	15.3%	15.9%	15.5%
Mainline freeway - AM peak average speed (mph)	32.0	35.2	34.0	34.4
Managed lanes - AM peak average speed (mph)	41.3	48.6	62.5	56.8
Managed lanes – AM peak capacity utilization	83%	70%	30%	60%
Arterials - AM peak average speed (mph)	24.3	26.0	25.8	25.8

Managed Lanes Analysis - Summary

- Trend 2040 – HOV 2+
 - Does not meet federal performance standards
- Trend 2040 – HOV 3+
 - Managed lanes are underutilized
- Trend 2040 – Express
 - Conforms with federal performance standards
 - Improves efficiency of managed lanes
 - Provides a new and reliable option for motorists

Next Steps

Major milestones

Prepare Draft 2018 LRTP	Spring 2018
Release Draft for public review	Summer 2018
Finalize 2018 LRTP	Fall 2018

